UNIVERSITY OF HAWAII
BULLETIN

Volume XXVIII • Number 3 • June 1949

GENERAL CATALOGUE
1949-50
UNIVERSITY CALENDAR

1949

Sept. 19, Monday, Sept. 20, Tuesday  .... Freshman Orientation Period
Sept. 20, Tuesday  .... Registration of Seniors
Sept. 21, Wednesday  .... Registration of Juniors
Sept. 22, Thursday  .... Registration of Sophomores
Sept. 23, Friday  .... Registration of Freshmen
Sept. 24, Saturday—8:00 A.M.—1:00 P.M.  .... Registration of Graduate and
Sept. 26, Monday—2:30 P.M.—5:00 P.M.  .... Unclassified Students and Auditors

Sept. 26, Monday  .... Instruction begins
Oct. 8, Saturday  .... Last day of registration for new courses
Oct. 29, Saturday  .... Last day of withdrawal from courses without penalty
Nov. 1, Tuesday  .... First deficiency reports due
Nov. 11, Friday  .... Armistice Day (holiday)
Nov. 23, Wednesday  .... Last day for removal of "Incompletes"
Nov. 24, Thursday through Nov. 26, Saturday  .... Thanksgiving recess
Dec. 6, Tuesday  .... Second deficiency reports due
Dec. 21, Wednesday  .... Last day of instruction before Christmas recess

1950

Jan. 5, Thursday  .... Instruction resumes
Jan. 21, Saturday  .... Last day of instruction, first semester
Jan. 23, Monday  .... Final examinations begin
Jan. 30, Monday  .... Franklin D. Roosevelt's Birthday (holiday)
Feb. 1, Wednesday  .... First semester ends
Feb. 7, Tuesday  .... Registration of Seniors
Feb. 8, Wednesday  .... Registration of Juniors
Feb. 9, Thursday  .... Registration of Sophomores
Feb. 10, Friday  .... Registration of Freshmen
Feb. 11, Saturday—8:00 A.M.—1:00 P.M.  .... Registration of Graduate and
Feb. 14, Tuesday—2:30 P.M.—5:00 P.M.  .... Unclassified Students and Auditors
Feb. 13, Monday  .... Holiday following Lincoln's Birthday
Feb. 14, Tuesday  .... Instruction begins
Feb. 22, Wednesday  .... Washington's Birthday (holiday)
Feb. 25, Saturday  .... Last day of registration for new courses
Mar. 18, Saturday  .... Last day of withdrawal from courses without penalty
Mar. 21, Tuesday  .... First deficiency reports due
Mar. 25, Saturday  .... Charter Day
Mar. 27, Monday  .... Prince Kuhio Day (holiday)
Apr. 6, Thursday  .... Last day for removal of "Incompletes"
Apr. 7, Friday, Apr. 8, Saturday  .... Easter recess
Apr. 25, Tuesday  .... Second deficiency reports due
May 27, Saturday  .... Last day of instruction, second semester
May 29, Monday  .... Final examinations begin
May 30, Tuesday  .... Memorial Day (holiday)
June 7, Wednesday  .... Second semester ends
June 12, Monday  .... Holiday following Kamehameha's Birthday
June 14, Wednesday  .... Commencement
June 26, Monday  .... Registration for the summer session
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# BOARD OF REGENTS

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<th>Term Expires</th>
<th>Position</th>
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<tr>
<td>William P. Alexander</td>
<td>1951</td>
<td>Manager, Grove Farm Company</td>
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<tr>
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<td>Lihue, Kauai</td>
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<td>Katsuyuki Izumi</td>
<td>1953</td>
<td>Physician and Surgeon</td>
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<td></td>
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<td>Wailuku, Maui</td>
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<td>Fred K. Lam</td>
<td>1951</td>
<td>Physician and Surgeon</td>
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<td>Honolulu</td>
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<tr>
<td>W. Harold Loper, ex officio</td>
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<td>Superintendent, Department of Public Instruction</td>
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<td>Honolulu</td>
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<tr>
<td>J. Frank McLaughlin</td>
<td>1951</td>
<td>Judge, United States District Court</td>
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<td>Honolulu</td>
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<tr>
<td>Gregg M. Sinclair, ex officio</td>
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<td>President of the University</td>
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<td>Honolulu</td>
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<td>Philip E. Spalding</td>
<td>1953</td>
<td>President, C. Brewer and Company</td>
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<td>Honolulu</td>
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<td>Benjamin O. Wist</td>
<td>1953</td>
<td>Dean Emeritus, University of Hawaii</td>
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<td>Lanikai, Oahu</td>
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## OFFICERS OF THE BOARD

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<tr>
<td>Chairman</td>
<td>Philip E. Spalding</td>
</tr>
<tr>
<td>Vice-Chairman</td>
<td>J. Frank McLaughlin</td>
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<tr>
<td>Secretary</td>
<td>Paul S. Bachman</td>
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FACULTY AND STAFF
AS OF JUNE, 1949

ADMINISTRATION

GREGG M. SINCLAIR, LL.D. . . . . . . . . . . . . . . . . . . . . President of the University
KARL C. LEEBRIGHT, Ph.D. . . . . . . . . . . . . . . . . . . Vice-President and Veterans' Adviser
PAUL S. BACHMAN, Ph.D. . . . . . . . . . . . . . . . . . . Dean of the Faculties
THAYNE M. LIVESAY, Ph.D. . . . . . . . . . . . . . . . Dean of the College of Arts and Sciences
BRUCE WHITE, Ph.D. . . . . . . . . . . . . . . . . . . . Dean of Teachers College
JOSEPH F. KUNESH, C.E. . . . . . . . . . . . . . . Dean of the College of Applied Science
HAROLD A. WADSWORTH, B.S. . . . . . . . . . Dean of the College of Agriculture
ANDREW W. LIND, Ph.D. . . . . . . . . . . . . . . Dean of the Graduate Division
WILLARD WILSON, Ph.D. . . . . . . . . . . . . . . . Dean of Student Personnel
COLIN J. HERRICK, Ph.D. . . . . . . . . . . . . . . Acting Director of the Psychological and Psychopathic Clinic

JOHN H. BEAUMONT, Ph.D. . . . . . . . . . . . . Director of the Hawaii Agricultural Experiment Station
HOWRY H. WARNER, B.S. . . . . . . . . . . . . . . . . Director of the University Agricultural Extension Service
KATHARINE N. HANDLEY, M.S.W. . . . . . Director of the School of Social Work
ALBERT J. MCKINNEY, Ph.D. . . . . . . . . . . . Director of the University Extension Division

JOSEPH M. SKORPN, B.A. . . . . . . . . . . . . . . . . . . Treasurer
HELEN B. MACNEIL, M.A. . . . . . . . . . . . . . . . . . Registrar
CARL G. STROVEN, Ph.D. . . . . . . . . . . . . . . . . Librarian
HAROLD M. BITNER, M.A. . . . . . . . . . . . . . . . Director of Admissions and of the Bureau of Testing and Guidance

BARBARA M. CLARK, M.A. . . . . . . . . . . . . . . . . Director of the Bureau of Student Activities and Residences

THOMAS NICKERSON, B.A. . . . . . . . . . . . . . . Director of the Office of Publications and Information
NORMAN MELLER, LL.B. . . . . . . . . . . . . . . . . . Director of the Legislative Reference Bureau

INSTRUCTION


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ARTHUR A. AKINA, M.S., Lecturer in Government—B.A., Univ. of Southern California, 1938, M.S., 1940.
QUINTO J. ALBERTELLI, Sergeant First Class, Instructor in Military Science and Tactics.

ALICE H. ALLEN, Ph.D., Associate Professor of Psychology—B.A., Vassar College, 1926; Ph.D., Univ. of Michigan, 1929.

CARL B. ANDREWS, M.S., Professor Emeritus of Engineering—B.S., Rose Polytechnic Institute, 1908, M.S., 1909, C.E., 1917; M.S., Massachusetts Institute of Technology, 1928.


FRED E. ARMSTRONG, Ph.D., Professor of Agricultural Education—B.S., Clemson College, 1916; M.S., Univ. of Minnesota, 1921; Ph.D., Pennsylvania State College, 1940.

DOROTHY ASPINWALL, Ph.D., Assistant Professor of Romance Languages—B.A., Univ. of Alberta, 1933, M.A., 1939; Ph.D., Univ. of Washington, 1948.


PAUL S. BACHMAN, Ph.D., Professor of Government—B.S., Ohio State Univ., 1922; M.A., Univ. of Washington, 1925, Ph.D., 1927.

JAMES R. BAIRD, Ph.D., Associate Professor of English—B.A., Univ. of Tennessee, 1934, M.A., 1935; M.A., Yale Univ., 1942, Ph.D., 1947.

ALBERT H. BANNER, Ph.D., Assistant Professor of Zoology—B.S., Univ. of Washington, 1935; M.S., Univ. of Hawaii, 1940; Ph.D., Univ. of Washington, 1943.

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B.S., California Institute of Technology, 1938, M.S., 1939, Ph.D., 1941. (On leave
first semester 1949–50.)

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1915, M.S., 1942.

ALICE J. GUNN, M.S., Instructor in Home Economics—B.S., Univ. of Minnesota,
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Whittier College, 1934.

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GILBERT P. HAIGHT, Ph.D., Assistant Professor of Chemistry—B.A., Stanford Univ.,
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SIDNEY L. HALPERIN, Ph.D., Associate Professor of Psychology—B.A., Ohio State
Univ., 1930, M.A., 1931, Ph.D., 1946.

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M.S., Univ. of Wisconsin, 1927, Ph.D., 1930.

KATHARINE N. HANDLEY, M.S.W., Professor of Social Work—B.A., Pomona College,
1923; M.A., Stanford Univ., 1928; M.S.W., Univ. of Southern California, 1942.

D. ELMO HARDY, Ph.D., Associate Professor of Entomology—B.A., Brigham Young
Univ., 1937; Ph.D., Univ. of Kansas, 1941.

JAMES T. HEARD, Master Sergeant, Instructor in Military Science and Tactics.

HENRY D. HECKLINGER, First Lieutenant, Instructor in Military Science and Tactics.

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1924; M.A., Columbia Univ., 1940, Ph.D., 1944.

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M.S., 1923.

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M.A., Univ. of Pennsylvania, 1934, Ph.D., 1939.
ROBERT W. HIATT, Ph.D., Associate Professor of Zoology and Chairman, Department of Zoology and Entomology—B.A., San Jose State College, 1936; Ph.D., Univ. of California, 1941. (On leave first semester 1949-50.)

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WILFRED J. HOLMES, M.S., Professor of Engineering and Mathematics and Chairman, Department of Engineering and Mathematics—B.S., U.S. Naval Academy, 1922; M.S., Columbia Univ., 1929.

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BERNARD L. HORMANN, M.A., Assistant Professor of Sociology—B.A., Univ. of Hawaii, 1927, M.A., 1931. (On leave first semester 1949-50.)

CHARLES C. HOSKINSON, B.D., Lecturer in Religion—B.A., Oakland City College, 1932; B.D., Northern Baptist Theological Seminary, 1935.

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MALCOLM G. HUTTON, Corporal, Instructor in Military Science and Tactics.


HAROLD A. JAMBOR, M.A., Assistant Professor of Social Work—B.A., Reed College, 1935; M.A., Univ. of Chicago, 1939.


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DONALD D. JOHNSON, Ph.D., Assistant Professor of History—B.A., Univ. of California at Los Angeles, 1938; M.A., Univ. of Southern California, 1941, Ph.D., 1946.

VIRGINIA A. JONES, M.Ed., Associate Professor of Public Health Nursing and Chairman, Department of Nursing—R.N., Reid Memorial Hospital School of Nursing, 1920; B.S., Indiana Univ., 1933; M.Ed., Univ. of Hawaii, 1944.


EDWARD KAHALE, Lecturer in Hawaiian.


ROBERT M. KAMINS, M.A., Associate Professor of Economics and Business—B.A., Univ. of Chicago, 1941, M.A., 1948.


RUTH P. KENTZLER, M.A., Assistant Professor of Speech—B.A., Univ. of Wisconsin, 1917, M.A., 1926.


ALFONS L. KORN, M.A., Assistant Professor of English—B.A., Univ. of Oregon, 1927; B.A., Oxford Univ., 1930; M.A., Univ. of California, 1937.

ERICH O. KRAEMER, Ph.D., Assistant Professor of Economics and Business—M.A., Univ. of Hamburg, 1927, Ph.D., 1929.

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JOSEPH F. KUNESH, C.E., Professor of Engineering—B.S., Univ. of Wisconsin, 1914, C.E., 1930.
RALPH S. KUYKENDALL, M.A., Professor of History—B.A., College of the Pacific, 1910; M.A., Univ. of California, 1918.

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KAY Y. UEKAWA, B.S., Assistant in Extension, South Oahu—B.S., Univ. of Hawaii, 1947.
MASAKO UNO, B.S., Assistant in Extension, Kauai—B.S., Univ. of Hawaii, 1947.
HARVEY M. VOLLRATH, M.S., Assistant Specialist in Animal Husbandry—B.S., Colorado A. and M., College, 1929; M.S., Univ. of Minnesota, 1948.
HOWRY H. WARNER, B.S., Director—B.A., Pomona College, 1912; B.S., Univ. of California, 1913.
VIOLA E. WOODRUFF, B.S., County Agent, West Oahu—B.S., Ohio State Univ., 1935.
ROKURO YAMAGUCHI, B.S., Assistant County Agent, East Oahu—B.S., Univ. of Hawaii, 1942.
WARREN Y. J. YEE, B.S., Assistant County Agent, Maui—B.S., Univ of Hawaii, 1942.
BETTY K. K. ZANE, B.S., Assistant in Extension, East Hawaii—B.S., Univ. of Hawaii, 1946.

OFFICE OF STUDENT PERSONNEL

BARBARA M. CLARK, M.A., Director of the Bureau of Student Activities and Student Residences—B.S., Univ. of Minnesota, 1941, M.A., 1943.


WILLARD WILSON, Ph.D., Dean of Student Personnel—B.A., Occidental College, 1929; M.A., Columbia Univ., 1930; Ph.D., Univ. of Southern California, 1939.

LEGISLATIVE REFERENCE BUREAU

ROBERT G. DODGE, LL.B., Research Associate—B.S., Univ. of Idaho, 1942; M.S., Univ. of Denver, 1943; LL.B., Univ. of Washington, 1947.


NORMAN MELLER, LL.B., Director—B.A., Univ. of California, 1933, LL.B., 1936.

UNIVERSITY EXTENSION DIVISION


MILDRED BRIN KAI, M.A., Lecturer in English and Speech—B.S., Michigan State Normal College, 1937; M.A., Univ. of Michigan, 1941.


R. RAY SCOTT, Ph.D., Associate Professor of Adult Education—Ph.B., Hiram College, 1914; M.A., Columbia Univ., 1916; Ph.D., Ohio State Univ., 1932.


DOUGLAS S. YAMAMURA, Ph.D., Assistant Professor of Adult Education—B.Ed., Univ. of Hawaii, 1938, M.Ed., 1941; Ph.D., Univ. of Washington, 1949.
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 is University of Hawaii, Honolulu 14, 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 five 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, and the College of Business Administration. 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 services 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, 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.
GENERAL INFORMATION

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.

THE VOLCANO LABORATORY. On the island of Hawaii, the Laboratory is conducted in cooperation with the U.S. Geological Survey 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 HAWAI. 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 PAUAHI 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.

CAMPUS AND BUILDINGS

The principal buildings on the campus are the Administration Building, 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.

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 195,317 bound volumes and 405,973 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 and the Pacific Islands make the University of Hawaii an excellent place to study international relations, especially those concerning the Pacific area. The Library files include 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, baseball, and track practice, and military drill, also affords facilities for physical education and intramural 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
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 37.

**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 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.

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>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>ENGLISH</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>ALGEBRA</td>
<td>1 (Not required if the student had ninth-grade general mathematics in intermediate, i.e., junior high, school.)</td>
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<tr>
<td></td>
<td>ENGLISH—(in addition to the 3-unit minimum requirement in English)</td>
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<tr>
<td></td>
<td>SCIENCES—Physical, biological, and social</td>
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<tr>
<td></td>
<td>MATHEMATICS—(in addition to the 1-unit minimum requirement in mathematics)</td>
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<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>
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<tr>
<td>6</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>
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<td>Total</td>
<td>12</td>
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</tbody>
</table>

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. 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.
GENERAL INFORMATION

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. The effective date of withdrawal is the date recorded by the Business Office.

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, Grade-Point Ratios, Honors

The University recognizes work accomplished by students in terms of credits, grades, grade points, grade-point ratios, 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 time in non-laboratory courses is one hour in the classroom and two hours in preparatory work.

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 com-
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. 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.

Grade-point ratios are determined by dividing the total number of grade points by the total number of credits for which a student has been registered. Courses for which grades of W or I were recorded are not included in the computation of such ratios, nor are courses for which an F was recorded if the course was repeated with a passing grade.

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 Continued Registration

Scholastic accomplishment in the University of Hawaii is determined by the grade-point ratio (see above) at the end of any stated period, i.e., at the end of one semester, two semesters, etc.

Further registration is denied to the following classes of undergraduate 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, a minimum of one and one-half 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, 1944, and thereafter.)

4. Those who have failed to earn, after four semesters' attendance, a minimum of one and eight-tenths 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. (Students who have persistently absented themselves from speech classes will not be allowed to appear before the examining board to remove this deficiency.)

Students who become ineligible for further registration at the close of the second semester of any year may register for the succeeding summer session. The credits and grade points earned in such sessions will then be included in determining eligibility for further registration.

Students who have been dropped from the University may apply for readmission. Such applications should be submitted, in writing, to the chairman of the Committee on Scholastic Standing at least one month prior to the opening of the semester for which admission is requested. Usually readmission will not be granted until at least one semester has elapsed since action was taken in dropping the student. Only in unusual circumstances will a student be readmitted after having been dropped for the second time.

Whenever, in the opinion of the dean of a college, a student's work makes such action necessary, the dean may warn the student, or place him on the grade-point rule. The grade-point rule is the requirement that a student earn 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 by the Committee on Scholastic Standing 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 requirement for the baccalaureate (bachelor's) degree in all colleges is 130. In addition, the student must have earned at least twice as many grade points as the total of registered credits. (Students who entered prior to September, 1944, may proceed on the former basis of 264 grade points.)

**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 degree; or  
2. earn a minimum total of 24 residence credits during any four or five consecutive summer sessions just preceding the granting of the degree; 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.

**EXAMINATIONS**

No examinations (other than short quizzes) in courses are allowed during the two weeks just prior to the final examination period.

**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.

*These stipulations apply only to transfer students and part-time students who take more than the normal four years to complete the degree requirements.
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>Subject</th>
<th>Semester Hours</th>
<th>University of Hawaii Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>15</td>
<td>Chemistry 103, 149 (4 credits), 230 (4 credits)</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td>Physics 102</td>
</tr>
<tr>
<td>Biology</td>
<td>10</td>
<td>Zoology 100, 151, 261</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
<td>English 100 or 101</td>
</tr>
<tr>
<td>French, German, or Spanish</td>
<td>6</td>
<td></td>
</tr>
</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.

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 majority of medical schools are now requiring 90 credit hours.
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 (ASUH) 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 ASUH annual membership fee for undergraduates taking 10 or more semester hours. For other students the ASUH fee is optional. These fees are not collected for the summer session. Privileges that these fees purchase are described in the ASUH 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. Students who have satisfactorily completed three years of ROTC training in the Junior Division, and veterans with more than six months of military service, may be excused from Military Science 100 by the dean of a college upon the recommendation of the chairman of the Department of Military Science. Veterans with more than one year of service may receive credit for the basic courses, and are eligible for advanced training if selected and approved by the Department of Military Science. Military training in the junior and senior years is optional for selected students who have completed, or who have received credit for, the basic courses, provided the number of such students does not exceed the quota authorized by the Department of the Army. Completion of the four-year program leads to a commission in the Infantry or Field Artillery branches of the Officers' Reserve Corps.
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 11 members: three faculty members appointed by the President; three alumni members appointed by the Governing Board of the Alumni Association; three students—the President of the ASUH, and one senior and one junior appointed by the President of the ASUH, with approval of the Student Council; the Treasurer of the University, ex-officio; and the Director of Athletics, ex-officio. 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 university 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.
Admission to the University of Hawaii Hilo and Wahiawa Centers for credit is governed by University admission requirements (see pp. 35–38), and residence credit is granted for work completed at these centers.

The same admission rules apply to off-campus extension courses and correspondence courses for credit. 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 1949 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 ASUH fees. An elected council directs its activities. The *ASUH Handbook* describes the organization and functions in detail.

Among the activities in which the ASUH engages are athletics (football, baseball, track, basketball, swimming, and minor sports), debating, dramatics, a semi-weekly newspaper (*Ka Leo o Hawai‘i*), and a yearbook (*Ka Palapala*).

*Ka Leo o Hawai‘i* 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 Employment and Housing Counselor, Office of Student Personnel. The housing shortage, however, makes it impossible for the University to assure all students of living quarters.

Twenty-eight women students are housed at Hale Laulima, a cooperative women's dormitory. For the present this dormitory is reserved for residents of the Territory and mainland applications are not accepted. 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 Director of Residences.

Veteran men students and some non-veteran men students can find housing in the University's veterans' housing barracks. Information may be obtained by writing directly to Dr. K. C. Leebrick, Veterans' Adviser. Men students may also obtain comfortable lodgings at Atherton House, a YMCA dormitory adjoining the campus. Room rates range from $40 to $100 a semester. Further information concerning the accommodations may be obtained at Atherton House, 1810 University Avenue, Honolulu 14, Hawaii.

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

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. These estimates do not cover the cost of clothing, laundry, and other personal necessities.

Many students earn a small part of their expenses by working for their board and room in near-by homes, and on other part-time jobs. Students seeking such assistance should consult the Employment and Housing Counselor, Office of Student Personnel.

**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
- Helen Strong Carter Dental Fund
- Honolulu Civic Association Fund
- Inez Wheeler Westgate Fund
- Japanese Students’ Alliance Fund
- Mary L. Kelsey Fund
- Maui Women’s Club Fund
- McKinley Scholarship Fund
- Minnesota Club Fund
- Moir-Ross Health Fund
- N. G. B. Fund
- P. E. O. Sisterhood Fund
- Representatives Club Fund
- Rotary Club Fund
- Senior Class Fund
- Student Fund of Teachers College
- Te Chih Sheh Fund

**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 14, 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 Parmaltee 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; Pilot 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), and the Honolulu Japanese Chamber of Commerce scholarship.

**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); Hawaii Federation Young Buddhists Association; Hui Makaala; Hui O Na Wahine (Officers' Wives Organization of Schofield Barracks); Hoomana Kahana Club (of Mid-Pacific Institute); Pacific Fellowship (sponsored by the American Association of University Women); Maui Junior Chamber of Commerce; Pearl Harbor Naval Shipyard 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 ASUH activities.

BERNDT PRIZES FOR EXTEMPORANEOUS 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.

HAWAIIAN PINEAPPLE COMPANY SUMMER TRAVEL AWARD. An annual award, for two juniors in Home Economics, based on scholarship, extra-curricular activities, and ability. It provides a trip to the American Home Economics Convention, where the students assist with the Hawaiian Pineapple Company's exhibit, and visits to various educational institutions and commercial establishments employing home economists.
DANFORTH SUMMER FELLOWSHIP AWARD. An award by the Danforth Foundation and Ralston Purina Company of St. Louis, Missouri, for an outstanding junior in Home Economics. Transportation is provided from San Francisco to St. Louis. Representatives of 48 state universities spend two weeks in classes at the Ralston Plant, and two weeks in leadership training at the American Youth Foundation, Shelby, Michigan.
COLLEGE OF ARTS AND SCIENCES

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 pp. 35–38.)

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.

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. (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.
They are not counted in the total number of hours required for 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.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 100 or 101</td>
<td>English 150</td>
</tr>
<tr>
<td>Foreign language</td>
<td>Foreign language</td>
</tr>
<tr>
<td>Health &amp; Physical Education 101, 102</td>
<td>Government 150</td>
</tr>
<tr>
<td>History 100</td>
<td>Health &amp; Physical Education 103, 130</td>
</tr>
<tr>
<td>Military Science 100</td>
<td>History 110</td>
</tr>
<tr>
<td>Science</td>
<td>Military Science 101</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>Speech (as required)</td>
</tr>
</tbody>
</table>

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 or 150, 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, and foreign language to satisfy the requirements of History 100, History 110, 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 103, Entomology 170, Geology 150, 151, 152-153, Physics 100 or 102, Psychology 150, Survey 100, Zoology 100 or 110.

**MAJORS**

The following list indicates the departments in which students may major and the requirements for the major, viz., the total number of semester hours required: the specific courses in the department; and the related courses.

**ANTHROPOLOGY. Major requirement:** 27 semester hours. Required courses: Anthropology 150, Sociology 151, and an even distribution between regional courses (250 to 260) and topical courses (265 to 275). Related courses: Linguistics 250, 251, and others as selected with approval of the adviser.

**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 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. Six credits from the following courses in Economics may be counted toward the major: 223–224, 256, 261, 270, 277, 281, 296. Required courses: Business 150–151, 160–161, and Economics 256. Related courses: Economics 150–151 and others as selected, with approval of the adviser.

CHEMISTRY. Major requirement: 36 semester hours. Required courses: Chemistry 103, 149, 150, 230, 255. Related courses: 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. Six credits from the following courses in Business may be counted toward the major: 261, 263, 264, 265, 266, 267, 270–271, 282. Required courses: Economics 150–151, 256, 296. Related courses: as selected, with approval of the adviser.

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: as selected, with approval of the adviser. The language requirement should be met by French, German, Spanish, or Latin.


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

GEOGRAPHY. Major requirement: 27 semester hours. Required courses: Geography 150, 151, three continental courses, and one systematic course. Related courses: as selected, with approval of the adviser.

GERMAN. Major requirement: 30 semester hours. Required courses: German 100, 101, 200, 201. 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, 152, 153, 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, 200, 210, 280. Related courses: as selected, with approval of the adviser.

PSYCHOLOGY. Major requirement: 28 semester hours. Required courses: Psychology 150, 260, 264 or 267, 275, 295. Related courses: as selected, with approval of the adviser.


SOCIOLOGY. 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, 255, 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

**First Year**

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

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 149</td>
</tr>
<tr>
<td>English 150</td>
</tr>
<tr>
<td>French 101 or German 101 or 102</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103, 130</td>
</tr>
<tr>
<td>Military Science 101</td>
</tr>
<tr>
<td>Speech (as required)</td>
</tr>
<tr>
<td>Zoology 100, 151</td>
</tr>
</tbody>
</table>
THIRD YEAR
Chemistry 150, 230
Government 150
History 110 or 242
Physics 102
Psychology 150, 295
Zoology 261

This program meets medical school requirements as outlined by the American Medical Association (see p. 43), 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. 87) may major in any of the social sciences. They must have a minimum of 30 semester hours in social science, 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, and Recreation Leadership. These curriculums lead to the degree of Bachelor of Science. The first two years of an architecture program are offered.

**ADMISSION**

Some of the programs of this college require special preparation in addition to the requirements for admission to the University as a whole (pp. 35–38). 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 an aggregate of at least 130 semester hours of credit.
3. Have a 2.0 grade-point ratio for all registered credits. (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>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>FIRST YEAR</th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER HOURS</td>
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<td>SEMESTER HOURS</td>
</tr>
<tr>
<td>Chemistry 103</td>
<td>4</td>
<td>Chemistry 103</td>
</tr>
<tr>
<td>English 100 or 101</td>
<td>3</td>
<td>English 101</td>
</tr>
<tr>
<td>Health &amp; Physical Education 101</td>
<td>1</td>
<td>Health &amp; Physical Education 102</td>
</tr>
<tr>
<td>Mathematics 151</td>
<td>3</td>
<td>History 110</td>
</tr>
<tr>
<td>Mathematics 152</td>
<td>3</td>
<td>Mathematics 153</td>
</tr>
<tr>
<td>Mechanical Drawing 101</td>
<td>2</td>
<td>Mechanical Drawing 152</td>
</tr>
<tr>
<td>Military Science 100</td>
<td>1</td>
<td>Military Science 100</td>
</tr>
<tr>
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<td>Speech (as required)</td>
</tr>
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</table>

Total 18

Total 18
### First Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Civil Engineering 101</td>
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<tr>
<td>English 155</td>
<td>3</td>
</tr>
<tr>
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<tr>
<td>or 130</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 154</td>
<td>3</td>
</tr>
<tr>
<td>Military Science 101</td>
<td>1</td>
</tr>
<tr>
<td>Physics 104</td>
<td>5</td>
</tr>
<tr>
<td>Speech (as required)</td>
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<td>Total</td>
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</table>

### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Civil Engineering 251</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
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</tr>
<tr>
<td>or 130</td>
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<tr>
<td>Mathematics 155</td>
<td>3</td>
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<tr>
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<tr>
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<tr>
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### Summer Session

<table>
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<tr>
<td>Civil Engineering 227</td>
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### Third Year

<table>
<thead>
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<th>Hours</th>
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<tbody>
<tr>
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<tr>
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<td>3</td>
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<td>Civil Engineering 253</td>
<td>4</td>
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<tr>
<td>Economics 140</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 203</td>
<td>3</td>
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<tr>
<td>Elective</td>
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</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

**Electives:**
- Bacteriology 140
- Geology 150
- Speech 150

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering 228</td>
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</tr>
<tr>
<td>Civil Engineering 257</td>
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<td>Civil Engineering 277</td>
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<td>Civil Engineering 278</td>
<td>3</td>
</tr>
<tr>
<td>Physics 202</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>

**Electives:**
- Government 150
- Psychology 150
- Sociology 151

### Effective in 1950–51

- Hydrology
- Photogrammetry
- Advanced Materials Testing
- Hydraulic Structures
- Advanced Structures
- Advanced Fluid Mechanics

### Prearchitectural Program

Students intending to take a degree in Architecture must transfer to another institution at the beginning of the junior year.
## 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 makes the student eligible for the Bachelor of Science degree and certification as a Medical Technologist.

### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<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>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td>Zoology 100</td>
<td>4</td>
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</tbody>
</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.*

### MEDICAL TECHNOLOGY CURRICULUM (continued)

<table>
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<th>Hours</th>
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<tbody>
<tr>
<td>English 150 or 155</td>
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<tr>
<td>Health &amp; Physical Education 103</td>
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<tr>
<td>Mathematics 153*</td>
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<tr>
<td>Mechanical Drawing 152</td>
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<td>Military Science 101</td>
<td>1</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:** 18

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 150</td>
<td>4</td>
<td>Bacteriology 151</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 159</td>
<td>4</td>
<td>English 150 or Elective</td>
<td>3</td>
</tr>
<tr>
<td>English 150 or 155</td>
<td>3</td>
<td>Health &amp; Physical Education 103</td>
<td></td>
</tr>
<tr>
<td>or 130</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
<td>History 110</td>
<td>3</td>
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<tr>
<td>Zoology 260</td>
<td>3</td>
<td>Speech (as required)</td>
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<tr>
<td></td>
<td></td>
<td>Zoology 262</td>
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<td>Total</td>
<td>17</td>
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THIRD YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
<th>Course</th>
<th>Semester Hours</th>
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</thead>
<tbody>
<tr>
<td>Bacteriology 260</td>
<td>3</td>
<td>Bacteriology 264</td>
<td>3</td>
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<tr>
<td>Bacteriology 262</td>
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<td>4</td>
</tr>
<tr>
<td>Chemistry 232</td>
<td>4</td>
<td>Chemistry 266</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 253</td>
<td>3</td>
<td>Zoology 266</td>
<td>2</td>
</tr>
<tr>
<td>Zoology 291</td>
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<td>Elective</td>
<td>5</td>
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<tr>
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FOURTH YEAR

<table>
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<th>Semester Hours</th>
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<tbody>
<tr>
<td>Medical Technology 266</td>
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<td>Medical Technology 268</td>
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<tr>
<td>Medical Technology 267</td>
<td>12</td>
<td>Elective</td>
<td>4*</td>
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<tr>
<td></td>
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<tr>
<td>Total</td>
<td>16</td>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

NURSING CURRICULUMS

This program is designed to prepare graduate nurses for staff positions in public health nursing, for positions in clinical and nursing arts instruction, and for supervisory positions in schools of nursing.

In addition to the regular University entrance requirements, admission to the nursing curriculums requires: (1) graduation from a school of nursing approved by the University; (2) at least one year of successful experience as a graduate nurse; (3) registration as a nurse in the state, territory, or county where school of nursing is located; (4) personal and professional fitness for advanced nursing positions as shown by credentials, interviews, and tests; and (5) good health as evidenced by a physical examination satisfactory to the University of Hawaii.

PUBLIC HEALTH NURSING

FIRST YEAR

Graduates of approved schools of nursing are allowed at least 30 semester hours' credit and enter the second year of the curriculum if they have had no previous University work. Qualified nurses may enter the fourth year of the program.

* Summer sessions only.
### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology 150</td>
<td>3</td>
</tr>
<tr>
<td>Education 235</td>
<td>1</td>
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<tr>
<td>Education 250</td>
<td>3</td>
</tr>
<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103 or 130</td>
<td></td>
</tr>
<tr>
<td>Psychology 150</td>
<td>4</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 235</td>
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<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>English 101</td>
<td>3</td>
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<tr>
<td>Health &amp; Physical Education 103 or 130</td>
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<tr>
<td>Psychology 250</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 151</td>
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</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
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### Third Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Economics 140</td>
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### Fourth Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Household Science 270</td>
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</tr>
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<td>Nursing 280</td>
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<td>Nursing 282</td>
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<td>Nursing 291</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

In order to qualify for the degree, prospective public health nurses are required to complete 10 credits in field work (Nursing 290) following the fourth year.

### Nursing Education

#### First Year

Graduates of approved schools of nursing are allowed at least 30 semester hours' credit, and enter the second year of the curriculum if they have had no previous university work. Qualified nurses may enter the fourth year of the program.
### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
<th>Course</th>
<th>Semester Hours</th>
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<td>or 130</td>
<td>1</td>
<td>or 130</td>
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</tr>
<tr>
<td>Psychology 150</td>
<td>4</td>
<td>Sociology 151</td>
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TEACHERS COLLEGE

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. (See "Undergraduate Degree Requirements.")
(3) Have met all University degree requirements.
(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.
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. Ten of these credits must be in Education courses designed primarily for graduate students, including Advanced Educational Psychology and Philosophy of Education.

Professional certificate (non-degree) candidates register in Teachers College; candidates for the Master of Education degree register in the Graduate Division. (See p. 86.)

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

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| Third Year | |
| Education 235 | Education 235 |
| Education 237 | Education 238 |
| Education 283 | Education 284 |
| English 252 | English 252 |
| Sociology 250 | Household Science 156 |
| Speech 230 | Speech 262 |
| Elective | Elective |
| **Total** | **Total** |
| 17 | 17 |

| Fourth Year | |
| Education 239 | Education 254 |
| Education 289 | Education 255 |
| Education 298 | Education 298 |
| Health & Physical Education 230 | Health & Physical Education 230 |
| Psychology 292 | Psychology 292 |
| Speech 231 | Speech 265 |
| Elective | Elective |
| **Total** | **Total** |
| 16 | 16 |

| Fifth Year | |
| Education 340 | Dental Hygiene 354 |
| Education 361 | Education 395 |
| Education 390 | Education 390 |
| Psychology 351 | Psychology 351 |
| Social Work 200 | Social Work 200 |
| Speech 265 | Speech 265 |
| Elective | Elective |
| **Total** | **Total** |
| 17 | 16 |
### ELEMENTARY CURRICULUM

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<td>3</td>
</tr>
<tr>
<td>Survey 152 or Music 150</td>
<td>3</td>
<td>Speech 103</td>
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</tr>
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<td><strong>16 or 17</strong></td>
<td><strong>Total</strong></td>
<td><strong>16 or 17</strong></td>
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#### THIRD YEAR*

<table>
<thead>
<tr>
<th>COURSE</th>
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<th>SEMESTER HOURS</th>
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<tbody>
<tr>
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<td>1</td>
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<td>Education 241</td>
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<td>Education 286</td>
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<td>2</td>
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<td>Music 251</td>
<td>2</td>
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<td>3</td>
<td>Music 252</td>
<td>2</td>
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<td>Speech 262</td>
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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.
# General Catalogue, 1949-50

## First Semester

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<thead>
<tr>
<th>Course</th>
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<tr>
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<td>Geography</td>
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## Second Semester

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## Fifth Year

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## Secondary Curriculum

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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

#### First Semester

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<td>English 254</td>
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<td>Sociology 250</td>
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**Total: 17**

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<td>3</td>
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<tr>
<td>Health &amp; Physical Education 230</td>
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**Total: 17**

#### Third Year

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<td>Psychology 292</td>
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<td>Speech 231</td>
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**Total: 16**

#### Fourth Year

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<td>Education 254</td>
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<td>Education 255</td>
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**Total: 16**

#### Fifth Year

<table>
<thead>
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<td>Education 361</td>
<td>3</td>
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<td>Education 390</td>
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<td>Speech 265</td>
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**Total: 16**

#### Dental Hygiene Curriculum

##### First Year

<table>
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<td>English 101</td>
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<td>Health &amp; Physical Education 101</td>
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<tr>
<td>History 100</td>
<td>3</td>
</tr>
<tr>
<td>Household Science 150</td>
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</tr>
<tr>
<td>Speech 100</td>
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</tr>
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<td>Elective</td>
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</table>

**Total: 17**

*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, 268, 269, 284, 354 (instead of Education 354); English 235. 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.)
<table>
<thead>
<tr>
<th>First Semester</th>
<th>SECOND YEAR</th>
<th>Second Semester</th>
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<tr>
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<td>SEMESTER HOURS</td>
<td>SEMESTER HOURS</td>
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<td>English 150 or 152</td>
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<td>Bacteriology 151</td>
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<td>Health &amp; Physical Education 103</td>
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<td>History 110</td>
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<td>or 130</td>
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<td>Psychology 156</td>
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<td>Government 150</td>
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<td>Speech 102</td>
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<td>Psychology 185</td>
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<td>Zoology 100</td>
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<td>Household Science 272</td>
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<td>Speech 230</td>
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<td>Zoology 265</td>
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<td>Psychology 351</td>
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<td>Speech 265</td>
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<tr>
<td>Elective</td>
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<td>Total</td>
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</tbody>
</table>

*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."
COLLEGE OF AGRICULTURE

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. (Pp. 35–38.) 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. (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

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<thead>
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<th>FIRST YEAR</th>
<th>SECOND SEMESTER</th>
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<td>Chemistry 103</td>
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<td>English 100 or 101</td>
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<td>Military Science 100</td>
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### SECOND YEAR

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<tr>
<td>or 130</td>
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<td>History 110</td>
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### RECOMMENDED ELECTIVES

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

### THIRD YEAR

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<th><strong>FIRST SEMESTER</strong></th>
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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)

Business 263; Economics 281, 291; Zoology 253.
### VOCATIONAL AGRICULTURE

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#### Second Semester

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<tr>
<td>English 150</td>
<td>3</td>
<td>Botany 173</td>
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<td>or 130</td>
<td>English 150</td>
<td>3</td>
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<tr>
<td>History 110</td>
<td>3</td>
<td>Health &amp; Physical Education 103</td>
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<td>1</td>
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<td>4</td>
<td>Psychology 185</td>
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<tr>
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<td>Speech 103</td>
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#### Third Year

<table>
<thead>
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<td>Agriculture 254</td>
<td>3</td>
<td>Education 271</td>
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<td>Speech 231</td>
<td>1</td>
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<tr>
<td>Zoology 170</td>
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#### Recommended Electives


#### Fourth Year

<table>
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<th>Course</th>
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<th>Hours</th>
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<td>Education 275</td>
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<td>Elective</td>
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<td>Elective</td>
<td>14 or 15</td>
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<td>17 or 18</td>
<td><strong>Total</strong></td>
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#### Recommended Electives (in addition to those of the Third Year)

- Business 263; Economics 281, 291; Zoology 253.
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<tbody>
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<td>Chemistry 103</td>
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<td>4</td>
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<td>English 100 or 101</td>
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<td>English 101</td>
<td>3</td>
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<td>Health &amp; Physical Education 102</td>
<td>1</td>
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<td>Mathematics 150</td>
<td>3</td>
<td>History 110</td>
<td>3</td>
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<td>Military Science 100</td>
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<td>Speech (as required)</td>
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<td><strong>Total</strong></td>
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<td><strong>SECOND YEAR</strong></td>
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<td><strong>SECOND YEAR</strong></td>
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<td>Chemistry 149 or 159</td>
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<td>Botany 173</td>
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<td>1</td>
</tr>
<tr>
<td>or 130</td>
<td></td>
<td>or 130</td>
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<td>Military Science 101</td>
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<td>Military Science 101</td>
<td>1</td>
</tr>
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<td>Speech (as required)</td>
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<tr>
<td>Elective</td>
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<td>4 or 3</td>
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<td><strong>Total</strong></td>
<td>17</td>
<td><strong>Total</strong></td>
<td>17</td>
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</table>

**RECOMMENDED ELECTIVES**

Bacteriology 140 or 151, Geology 150, Mathematics 151, 157. If Chemistry 149 is elected, a year's work is required.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Agriculture 250</td>
<td>4</td>
<td>Agriculture 251</td>
<td>4</td>
</tr>
<tr>
<td>Agriculture 254</td>
<td>3</td>
<td>English 210</td>
<td>3</td>
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<tr>
<td>Zoology 170</td>
<td>4</td>
<td>Zoology 273</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>5 or 6</td>
<td>Elective</td>
<td>6 or 7</td>
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<td><strong>Total</strong></td>
<td>16 or 17</td>
<td><strong>Total</strong></td>
<td>16 or 17</td>
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**RECOMMENDED ELECTIVES**

Botany 253, 263, 273, 275, Business 263, Chemistry 150.

**SUMMER PRACTICE IN INDUSTRY—10 weeks**

<table>
<thead>
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<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Agriculture 281</td>
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<td>Agriculture 267</td>
<td>3</td>
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<tr>
<td>Elective</td>
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<td>Agriculture 282</td>
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<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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**RECOMMENDED ELECTIVES**

Agriculture 262, 268, Chemistry 230, and other upper-division courses as listed above.
## Technical Agriculture

### First Semester

<table>
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<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Botany 100 or Zoology 100</td>
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<td>Botany 100 or Zoology 100</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 103</td>
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<td>4</td>
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<tr>
<td>English 100 or 101</td>
<td>3</td>
<td>English 101</td>
<td>3</td>
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<tr>
<td>Health &amp; Physical Education 101</td>
<td>1</td>
<td>Health &amp; Physical Education 102</td>
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<tr>
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<td>Speech (as required)</td>
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Total: 17 or 18

### Second Semester

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<th>Course</th>
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<td>English 100 or 101</td>
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<tr>
<td>or 130</td>
<td></td>
<td>or 130</td>
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<tr>
<td>Mathematics 150</td>
<td>3</td>
<td>Mathematics 151</td>
<td>3</td>
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<td>Military Science 101</td>
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<td>Military Science 101</td>
<td>1</td>
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<td>Speech (as required)</td>
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<tr>
<td>Elective</td>
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Total: 17 or 18

### First Year

### Second Year

<table>
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<th>Course</th>
<th>Hours</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>Agriculture 250</td>
<td>4</td>
<td>Physics 102</td>
<td>4</td>
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<td>Agriculture 254</td>
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<td>Mathematics 150</td>
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Total: 17 or 18

### Third Year

<table>
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<th>Course</th>
<th>Hours</th>
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<th>Hours</th>
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<tr>
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<td>Elective</td>
<td>17 or 18</td>
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<td>Elective</td>
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Total: 17 or 18

### Fourth Year

<table>
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<th>Course</th>
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<th>Course</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Total: 17 or 18

### Majors

The following list indicates the fields of Technical Agriculture in which students in this curriculum may major. In each case the specifically required courses are listed as well as additional courses from which electives may be chosen with approval of the adviser.

**Animal Science. Major requirements:** Agriculture 151, 253, 257, 261; Bacteriology 151; Zoology 151—20 credits, and 16 credits selected from the following courses with approval of the adviser: Agriculture 152, 259, 292, 298; Bacteriology 260, 262; Chemistry 150, 230, 232; Zoology 170, 253, 260, 261, 262, 276, 291.
ENTOMOLOGY. Major requirements: Botany 173, 263; Chemistry 150, 230; Zoology 170, 273, 291—25 credits, and 11 credits selected from the following courses with approval of the adviser: Agriculture 162, 164, 267, 268, 281, 282, 291, 299; Bacteriology 151; Botany 102, 253, 282; English 210; Geography 262; Geology 150, 151; Zoology 240, 253, 254, 255, 257, 260, 262, 276.

POULTRY SCIENCE. Major requirements: Agriculture 152, 255; Bacteriology 151; Zoology 151, 170, 273—21 credits, and 15 credits selected from the following courses with approval of the adviser: Agriculture 151, 256, 257, 259, 281, 282; Chemistry 150, 230; Economics 140, 291; Zoology 253, 261.

SOIL SCIENCE. Major requirements: Agriculture 267, 268, 291, 299; Chemistry 150, 230—18 credits, and 18 credits selected from the following courses with approval of the adviser: Agriculture 162, 256, 281, 282; Bacteriology 151, 250; Botany 161, 273, 274, 275, 276; Chemistry 160, 232, 236, 250, 255, 271; Geography 150, 250; Geology 150, 151; Mathematics 151, 152; Philosophy 280.

TROPICAL HORTICULTURE. Major requirements: Agriculture 162, 278; Bacteriology 151; Botany 173, 263, 269—20 credits, and 16 credits from the following courses with approval of the adviser: Agriculture 164, 267, 268, 281, 282, 291, 292; Botany 102, 155, 161, 253, 268, 273, 275, 281; Chemistry 150, 230; Zoology 170, 273, 276.

CURRICULUMS IN HOME ECONOMICS

FIRST SEMESTER  

FIRST YEAR  

Semester Hours  

<table>
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<th>Course</th>
<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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<td>Art 143</td>
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<td>English 101</td>
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Total: 16

SECOND SEMESTER  

Semester Hours  

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<td>Economics 140</td>
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<tr>
<td>Household Science 102</td>
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<td>Home Economics 101</td>
<td>2</td>
</tr>
<tr>
<td>Psychology 156</td>
<td>3</td>
<td>Household Science 102</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 110</td>
<td>3</td>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>3 or 4</td>
<td>Elective</td>
<td>4 or 5</td>
</tr>
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</table>

Total: 17 or 18

* Chemistry 103 is required in the Foods and Nutrition curriculum.
In addition to the courses listed above, students in Home Economics must complete the requirements for special curriculums. Additional work is ordinarily devoted to courses relating to these special fields.

Four such special curriculums are offered. The major requirements and the additional recommended electives for each are listed below.

During the second year students in General and Vocational Home Economics should elect Bacteriology 140, Household Art 110 and Household Art 111, and students in Institutional Management should elect Bacteriology 151 and Chemistry 232.

Students intending to specialize in Clothing and Textiles, Dress Design, or Interior Decoration follow the General Home Economics curriculum, selecting electives according to their interests. Students interested in preparing for Agricultural Extension Service follow the Vocational Home Economics curriculum.

**GENERAL HOME ECONOMICS. Major requirements:** Art 171; History 110; Home Economics 201, 250, 252, 262, 291; Household Science 272; Sociology 151—27 credits, and 18 credits selected from the following courses with approval of the adviser: Art 140, 154—155, 160, 172, 175, 250—251, 270, 273; English 120—121, 260—261, 263; Household Art 152, 214, 255, 299; Household Science 260, 273, 299; Music 110, 111; Psychology 185, 250, 292; Sociology 250, 256.

**VOCATIONAL. Major requirements:** Art 171; Education 235, 250, 251, 253, 256; History 110; Home Economics 250, 251, 252, 262, 291; Household Science 272; Sociology 151 or 250—44 credits, and 14 credits selected from the following courses with approval of the adviser: Art 140, 154—155, 160, 172, 175, 250—251, 270, 273; Education 289; English 120—121, 260—261, 263; Home Economics 201; Household Art 152, 214, 255, 299; Household Science 260, 273, 299; Music 110, 111; Psychology 185, 250, 292; Sociology 151, 250, 256; Speech 230, 231, 265.

**INSTITUTIONAL MANAGEMENT. Major requirements:** History 110; Home Economics 250, 252, 291; Household Science 260, 261, 263, 265, 266, 272, 277; Sociology 151—38 credits, and 16 credits selected from the following courses with approval of the adviser: Art 140, 160, 171, 175, 250—251; English 120—121, 260—261, 263; Home Economics 201, 251*; 262; Household Art 110, 111; Household Science 250*, 264, 273, 299; Music 110, 111; Psychology 185, 256, 292; Sociology 256.

**FOODS AND NUTRITION. Major requirements:** Chemistry 149 or 159, 150, 230 (one semester), 232; History 110; Household Science 277, 299, 300; Mathematics 151—29 credits, and 15 credits selected from the following courses with approval of the adviser: Art 140, 160, 171, 172, 175, 250—251; English 120—121, 260—261, 263; Household Art 110, 111, 152, 214; Household Science 260, 273; Music 110, 111; Psychology 185, 250, 292; Sociology 250, 256.

**THE HAWAII AGRICULTURAL EXPERIMENT STATION**

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.

*Required by the American Dietetic Association for additional training in hospital dietetics.*
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, and a farm at Poamoho, 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, macadamia nuts, 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, 70 in number, operates out of 10 offices located as follows:

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

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.

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.
The College of Business Administration aims to provide an understanding of the structure, functions, and objectives of American business enterprise, and to train for active participation in the business and industrial activities of Hawaii.

For the first two years, all students follow a common program of required basic courses. During the junior and senior years, provision is made for specialization in the following curriculums: General Business, Accounting, Banking and Finance, Merchandising, Personnel and Industrial Relations, Office Management and Secretarial Training. The four-year program leads to the degree of Bachelor of Business Administration.

ADMISSION

Admission requirements are the same as those for admission to the University as a whole. (See pp. 35–38.)

DEGREE REQUIREMENTS

In order to qualify for the Bachelor of Business Administration 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 in other than introductory courses.
4. Have an aggregate of at least 130 semester hours of credit.
5. Have a 2.0 grade-point ratio for all registered credits.

CURRICULUMS

Only the first two years of the program will be offered in 1949–50; but beginning in September, 1950, the work of the junior year will be added.

<table>
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<tr>
<th>First Semester</th>
<th>First Year</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td></td>
<td>Semester Hours</td>
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<tr>
<td>Business 100 or Geography 151</td>
<td>3</td>
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<tr>
<td>Economics 150</td>
<td>3</td>
<td>Economics 151</td>
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<tr>
<td>English 100 or 101</td>
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<td>Health &amp; Physical Education 101</td>
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<td>History 100</td>
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<td>Military Science 100</td>
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<td>Military Science 100</td>
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<tr>
<td>Philosophy 110 or Government 150</td>
<td>3</td>
<td>Philosophy 110 or Government 150</td>
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<td>Speech (as required)</td>
<td>1</td>
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<td>Total</td>
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<td>First Semester</td>
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<td>Business 150</td>
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<td>Business 151</td>
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<td>English 109</td>
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<td>1 or 130</td>
<td>Health &amp; Physical Education 103</td>
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<tr>
<td>History 110 or Psychology 150</td>
<td>3 or 4</td>
<td>History 110 or Psychology 150</td>
</tr>
<tr>
<td>Military Science 101</td>
<td>1</td>
<td>Military Science 101</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
<td>Speech (as required)</td>
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</tbody>
</table>

Total: 16 or 17

Total: 16 or 17
GRADUATE DIVISION

The Graduate Division provides opportunities for further study, research, and professional training to students who have earned a bachelor's degree from an accredited institution of higher learning. Special emphasis is placed on the cultivation of scholarly attitudes and methods of research. The graduate program is not, however, merely an extension of work at the undergraduate level. More rigorous academic standards are applied and the student is permitted a greater degree of independence in the pursuit of knowledge.

The University offers graduate work leading to:

(1) The Doctor of Philosophy degree in certain basic sciences—chemistry, soil science, and marine zoology.

(2) The Master's degree in anthropology, bacteriology, botany, business, chemistry, economics, education, English, entomology, Far East studies, genetics, geography, government, history, nutrition, philosophy, physics, psychology, social work, 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. (See p. 67.)

(4) The graduate certificate in social work.

Students may likewise earn graduate credit at the University of Hawaii for transfer to other institutions.

ADMISSION

Students wishing to enroll for a full program of graduate work, whether as candidates for advanced degrees or as unclassified students, should make application to the Dean of the Division. This application should be accompanied by an official transcript of the undergraduate record, and of any graduate work completed at another institution.

Admission to the Graduate Division does not imply admission to candidacy for an advanced degree. Such admission is granted only after a committee representing the department in which the candidate proposes to work for an advanced degree is satisfied as to the adequacy of his undergraduate 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 degree is to be taken.

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

The Graduate Division reserves the right to deny at any time further registration to any student whose work is not of a grade sufficiently high to warrant continuation.

REGISTRATION AND GRADES

Graduate students may not register for more than sixteen credit hours in any semester, or for more than six credit hours in a six-week summer session. The number of credit hours which may be carried by student assistants is limited by the nature of their duties.

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

REQUIREMENTS FOR THE MASTER'S DEGREE

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

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 twelve 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 numbered 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 ten 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.

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, two typewritten copies 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.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is offered only in those fields in which the University, by virtue of its special facilities of teaching staff, library, and research equipment and its cooperative relations with other research institutions, can offer thorough advanced training.

The candidate for this degree is required to spend three academic years in graduate study, at least one of which must be at the University of Hawaii; to complete satisfactorily a program of research and study prescribed by the committee in charge of his candidacy; to pass a general qualifying examination, which includes a test of reading knowledge of both French and German, at least one academic year (nine months) prior to the awarding of the degree; to present a dissertation combining original research and scholarly analysis; and to defend successfully his thesis in a final examination.

Graduate students desiring to work for the Ph.D. should so indicate to the chairman of the department in which they expect to concentrate as early as possible after registration in the Graduate Division. An advisory committee of the faculty will be appointed to direct the subsequent program of courses and research of the candidate.

THE SCHOOL OF SOCIAL WORK

The University of Hawaii offers a two-year program in social work. The first year of graduate work is basic to all types of social work and is designed to familiarize the student with the fundamental principles underlying all fields of practice in the profession. Students who satisfactorily complete the first year (two semesters) are awarded a Certificate of Social Work. The curriculum for the Master of Social Work degree requires an additional year of graduate study (a total of four semesters).

Admission to the School of Social Work requires, in addition to completion of the undergraduate program (see p. 57), (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 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.

Candidates for the Graduate Certificate must complete satisfactorily the basic curriculum (at least 28 semester hours of designated courses), of which 6 credits are in field work and represent 450 clock hours of supervised experience in a social agency. Candidates for the Master of Social Work degree are required to complete a four-semester program (48 semester units) including at least 10 units of supervised field work (750 clock hours).
ANNOUNCEMENT OF COURSES
FOR 1949-50

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 intended for graduate students, but in a few cases qualified seniors may enroll with the consent of the instructor.

Heading each course description are the number and title of the course, the number of credits, the semester in which the course is given, and the instructor's name. Credits and semesters are indicated as follows: (3) I means 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 the beginning of each semester and the summer session.

AGRICULTURE

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

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

151 ANIMAL HUSBANDRY. (3) II. MR. HENKE
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.

152 POULTRY HUSBANDRY. (3) I. MR. BICE
An introduction to poultry husbandry. Two lectures and one laboratory period. Laboratory fee $2.00.

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

89
164 TRUCK CROP PRODUCTION. (3) I.
    Origin, description, and cultural requirements of the more important vegetable
crops of Hawaii. Two lectures and one laboratory period. Prerequisite: Botany 100;
Chemistry 103; credit or concurrent registration in Zoology 170. Laboratory fee
$3.00.

250 SOILS. (4) I.
    The basic principles of soil science. Origin, development, properties and manage­
ment of tropical soils including the classification of Hawaiian soils. Three lectures and
one laboratory period. Prerequisite: Chemistry 103. Laboratory fee $3.00.

253 DAIRYING. (3) II.
    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 lec­
tures and one laboratory period. Laboratory fee $1.00.

254 PRINCIPLES OF GENETICS. (3) I.
    Fundamental principles of genetics, including variations, their origins and inter­
actions, cytological basis of heredity, and an introduction to biometric methods. Three
lectures and one conference period. Prerequisite: one year of biological science.

255 ADVANCED POULTRY HUSBANDRY. (3) II.
    Recent advances in nutrition, breeding, and management of poultry, including
participation in seven farm practices at the poultry farm. Two lectures and one labora­
tory period. Prerequisite: Agriculture 152, 254, 257. Laboratory fee $2.00.

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

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

258 GENETICS LABORATORY. (1) I.
    Laboratory exercises to illustrate fundamental principles of genetics. Parallels
Agriculture 254. One laboratory-discussion period. Prerequisite: credit or concurrent
registration in Agriculture 254. Laboratory fee $5.00.

261 BEEF AND SWINE PRODUCTION. (3) II.
    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.
Laboratory fee $1.00. (Not offered 1949–50.)

262 ADVANCED GENETICS. (3) I.
    Principles and theories of genetics; methods and results of modification of germinal
materials, gene action, and a survey of recent advances in genetics. Prerequisite: Agriculture 254.

267 SOIL ANALYSIS. (3) II.
    Soil composition and fertility. Special attention to field trials, soil tests, and foliar
diagnosis in determining fertilizer requirements. Prerequisite: Agriculture 250.
268 **SOIL DIAGNOSIS LABORATORY.** (2) II. **MR. SHERMAN**
Laboratory and field tests designed to determine the effects of deficiencies and toxicities of plant nutrients and the fertilizer requirements of soils. Prerequisite: Agriculture 250; credit or concurrent registration in Agriculture 267. Laboratory fee $2.00.

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

278 **PRINCIPLES OF PLANT BREEDING.** (3) I. **MR. POOLE**
Selection, hybridization, and cytogenetics as applied to plant improvement. Two lectures and one laboratory period. Prerequisite: Agriculture 254.

281 **AGRICULTURAL MACHINERY.** (3) I. **MR. GUILLOU**
Tractors, trucks, and standard farm machinery; mechanical and electrical principles, selection, and maintenance. Two lectures and one laboratory period.

282 **ADVANCED AGRICULTURAL MACHINERY.** (3) II. **MR. GUILLOU**
Tractors, trucks, and plantation machinery; fuels, lubricants, efficiency, costs. Two lectures and one laboratory period. Prerequisite: Agriculture 281, or college physics and satisfactory mechanical experience.

291 **IRRIGATION PRACTICE.** (4) II. **MR. WADSWORTH**
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. Prerequisite: junior standing. Laboratory fee $1.00.

298 **SEMINAR IN ANIMAL NUTRITION.** (1) II. **MR. HENKE**
Recent investigations in animal nutrition; oral reports by students on special topics after a review of literature. Prerequisite: Agriculture 257; sufficient training in chemistry; consent of instructor.

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

300 **DIRECTED RESEARCH.** (Ar.) I and II.
Directed research in (a) Genetics—Mr. Storey; (b) Soil Physics—Mr. Wadsworth; (c) Tropical Horticulture—Mr. Beaumont.

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

302 **GENETICS SEMINAR.** (1) I and II. **MR. STOREY, MR. MAINLAND**
Presentation of reports upon research, or reviews of current literature on genetics and cytogenetics. May be repeated. Prerequisite: Agriculture 254, or consent of instructor.

304 **HORTICULTURAL SEMINAR.** (1) I and II. **MR. STOREY**
Presentation of reports upon research, or reviews of current literature in the general field of horticulture. May be repeated. Prerequisite: consent of instructor.
308 Soil Science Seminar. (1) II. **Staff**
Review of recent findings in soil science research in the fields of soil chemistry, physics, classification, fertility, bacteriology, and technology. Prerequisite: graduate standing.

309 Advanced Vegetable Crops. (4-4) Yr. **Mr. Frazier**
Production of vegetable crops. First semester, environmental factors; second semester, improvement of major vegetable crops by breeding and selection. Prerequisite: Botany 173; Agriculture 164, 250, 278 (may be taken concurrently). (Alternate years; not offered 1949-50.)

310 Systematic Vegetable Crops. (3) II. **Mr. Frazier**
Types, varieties, climatic adaptation, market quality, disease and insect resistance. Two lectures and one laboratory period. Prerequisite: Botany 100; Agriculture 164. Laboratory fee $5.00. (Alternate years; offered 1949-50.)

**ANTHROPOLOGY**

Associate Professors Mason, Luomala, Emory; Instructor Riesenberg.

150 Introduction to the Study of Man. (3) I and II. **Staff**
An introduction to the changing cultures and physical characteristics of preliterate peoples, as an aid to better understanding of current problems in human relations.

250 Hawaiian Culture. (3) II. **Mr. Emory**
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.

251 The Polynesians and Their Culture. (3) I. **Mr. Emory**
A study of indigenous peoples in Hawaii, Samoa, Tahiti, New Zealand, and other Polynesian areas. Their way of life and historical relationships to each other.

252 Peoples of the Pacific. (3) I. **Mr. Emory**
A survey of the peoples and cultures of the Pacific area—Polynesia, Micronesia, and Melanesia.

253 Micronesia in a Modern World. (3) II. **Mr. Mason**
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.

254 Peoples of Southern Asia. (3) I. **Miss Luomala**
Ethnology and social organization of India, Southeast Asia, and Malaysia. Discussion of cultural diffusion and contact within the area.

255 Peoples of Northern Asia. (3) II. **Miss Luomala**
Ethnology and social organization of Japan, China, Siberia, and Western Asia. Discussion of cultural diffusion and contact within the area.
256 THE AMERICAN INDIAN. (3) I.
MISS LUOMALA
Indian tribes and culture areas of North and South America, including the civilizations of Mexico, Central America, and Peru.

265 PRIMITIVE SOCIETY. (3) I.
MR. RIESENBERG
Study of diverse types of social organization with the aim of a better understanding of human society.

266 CULTURE CONFLICT IN PACIFIC DEPENDENCIES. (3) I.
MR. MASON
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.

267 PRIMITIVE RELIGION. (3) II.
MISS LUOMALA
Religious beliefs and practices in primitive society. Function of religion in society. Reading of monographs on religion of various tribes. (Not offered 1949-50.)

268 PRIMITIVE ART. (3) II.
MR. MASON
Survey of art forms and techniques of preliterate peoples of the world. Types of design, relations of art forms and culture.

270 ARCHEOLOGY. (3) II.
MR. EMORY
Methods and techniques of archeology. Excavation of prehistoric sites, preservation of materials, and interpretation of archeological data, with illustrations from Oceanic and Far Eastern studies. Practical field work in excavation and museum preparation.

271 ANTHROPOLOGICAL CLASSICS. (3) II.
MISS LUOMALA
Lectures, reading, and discussion of selected anthropological classics, both theoretical and descriptive, and their significance in the development of social science.

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

300 DIRECTED READING OR RESEARCH. (Ar.) I and II.
STAFF
Prerequisite: graduate standing; consent of instructor.

ART

PROFESSOR CHARLOT; ASSOCIATE PROFESSOR NORRIS; ASSISTANT PROFESSORS ROBINSON, HORAN, COX, UMBEL; 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. (3) I and II.
STAFF
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.
142-143 **ART FUNDAMENTALS.** (2-2) Yr. **STAFF**
Background material and studio practice to stimulate understanding of the arts. Lectures, museum visits, and studio work. Primarily for Teachers College and Home Economics students.

150-151 **DESIGN.** (2-2) Yr. **STAFF**
Elements of design and composition; study of line, mass, pattern, color, and texture. Lectures and studio problems. For Art majors and others interested in practice of the space arts. This course, or the equivalent in experience, is prerequisite to all advanced study.

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

156 **LETTERING.** (2) I. **MR. COX**
Introduction to the basic lettering skills. The historic development of lettering and type forms, and their appropriate use in layout. Lectures and studio work.

160 **CERAMICS.** (2) I and II. **MR. HORAN**
Building pottery forms by hand; ceramic sculpture and decorative techniques. Lectures and studio work. Limited to 20 students. Studio fee $10.00.

161 **CERAMICS.** (2) I and II. **MR. HORAN**
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. Lectures and studio work. Prerequisite: Art 160. Studio fee $10.00.

171 **ART IN THE HOME.** (2) I and II. **MISS UMBEL**
Applications of design in terms of space, form, arrangement, function, and taste. Prerequisite: Art 142-143 or 150-151, or consent of instructor. Limited to 20 students.

172 **INTERIOR DECORATION.** (2) I. **MISS ROBINSON**
Design, function, and color of interiors in relation to space, use, and taste. Shop and museum excursions. Prerequisite: Art 150-151; 171 recommended. (Not offered 1949-50.)

175 **TEXTILE DESIGN.** (2) I. **MISS ROBINSON**
Execution of individual problems in decoration, color, and texture related to fabrics. Prerequisite: Art 150-151. Studio fee $5.00. Limited to 20 students.

176 **WEAVING.** (2) I and II. **MISS ROBINSON**
Warping and threading of two and four harness looms. Study of pattern drafting and the uses of color and texture. Limited to 15 students. Studio fee $7.50.

180-181 **OIL PAINTING.** (2-2) Yr. **MR. CHARLOT**
Study of form, color, and design in oils. Prerequisite: Art 150-151 and 154-155, or consent of instructor. Studio fee $4.00 second semester.
ANNOUNCEMENT OF COURSES

250-251 Survey of the History of Art. (2-2) Yr.  Mr. Norris
Origins and development of architecture, sculpture, and painting from prehistoric times to the present. Lectures with lantern slides. Visits to Honolulu Academy of Arts.

256 Commercial Art. (2) II.  Mr. Cox
Application of visual fundamentals to commercial problems. Commercial techniques, layout, and design for general advertising purposes. Study of working methods from sketch to final use. Lectures and studio work. Prerequisite: Art 150-151, 154-155, 156.

257 Commercial Art. (Formerly 275.) (2) I.  Mr. Cox
Commercial art from the professional designer's point of view. Emphasis upon the limitations and possibilities of commercial art in problems related to the student's specialized interests. Packaging, display, spot designs, posters. Prerequisite: Art 256, 269, and at least one of the following: 180-181, 265, 268, 273.

260 Advanced Ceramics. (2) I and II.  Mr. Horan

261 Ceramic Research and Design. (2) I and II.  Mr. Horan
Experimentation with clay bodies and glazes, emphasizing local materials. Ceramic design with regard to functional and production limitations. Prerequisite: Art 260. Studio fee $10.00.

262 Creative Art for the Elementary Years. (2) II.  Miss Robinson
Individual and group projects to promote understanding of the creative use of art materials, tools, ideas, and their sources. Work in paint, clay, wood, etc. Limited to 30 students. Studio fee $3.00.

263 Creative Art for the Secondary Years. (2) II.  Mr. Cox
Similar to 262, but with emphasis on the problems of the secondary years. Limited to 30 students. Studio fee $1.00.

265 Water Color Painting. (2) I.  Mr. Norris
The technique of water color. Studio and outdoor painting. Prerequisite: Art 150-151 and 154-155.

268 Landscape Painting. (2) II.  Mr. Carpenter
Basic study of landscape in oils, including composition, color, and technique. Outdoor and studio painting. Prerequisite: Art 180-181.

269 Life Class. (2) I.  Mr. Charlot
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.

272 Illustration. (2) II.  Mr. Charlot
Individual interpretations of the principles of design and composition in book and story illustration. Use of various media, stressing the limitations and possibilities of the reproduction processes. Prerequisite: Art 180-181, 257, 265.
273 DESIGN MATERIALS. (2) II.  
Mr. Norris
The creative use of three-dimensional design materials such as wood, metals, fabrics, or their combinations. Prerequisite: Art 150–151 and 154–155. Studio fee $5.00.

274 COMMERCIAL ART FOR BUSINESS AND ECONOMICS STUDENTS. (2) II.  
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 1949–50.)

280–281 ADVANCED OIL PAINTING. (2–2) Yr.  
Mr. Charlot
Continuation of 180–181. Studio fee $4.00 second semester.

299 DIRECTED WORK. (Formerly 286–287) (Ar.) I and II. Staff  
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. Studio fee by arrangement for (c) only.

BACTERIOLOGY

ASSOCIATE PROFESSOR CHU; ASSISTANT PROFESSOR BUSHNELL.

140 APPLIED BACTERIOLOGY. (2) I and II.  
Mr. Chu
A survey of the principles and practical applications of bacteriology. May not be used as prerequisite to other bacteriology courses.

151 GENERAL BACTERIOLOGY. (4) I and II.  
Mr. Bushnell, Mr. Chu
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. Prerequisite: Botany 100 or Zoology 100; Chemistry 103. Desirable preparation: one semester of organic chemistry. Laboratory fee $6.00.

250 ECONOMIC BACTERIOLOGY. (2–2) Yr.  
Mr. Bushnell
Certain analytic and synthetic functions of microorganisms are considered in relation to industrial processes, dairying, food, and soil. One lecture and one laboratory period. Prerequisite: Bacteriology 151; one semester of organic chemistry. Laboratory fee $3.00 each semester.

260 MEDICAL BACTERIOLOGY. (3) I.  
Mr. Bushnell
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. Prerequisite: Bacteriology 151; one semester of organic chemistry.
262 LABORATORY IN MEDICAL BACTERIOLOGY. (2) I. MR. BUSHNELL, MR. CHU
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. Prerequisite: credit or concurrent registration in Bacteriology 260. Laboratory fee $6.00.

264 IMMUNOLOGY. (3) II. MR. BUSHNELL
Types of immunity, sera, vaccines, and antitoxins. Techniques of major diagnostic serological reactions. Two lectures and two laboratory periods. Prerequisite: Bacteriology 260. Laboratory fee $6.00.

299-300. BACTERIOLOGICAL PROBLEMS. (Ar.) I and II. STAFF
Pursuit of any advanced bacteriological problem; reading and laboratory work. May be repeated. Prerequisite: junior or senior standing; consent of instructor. Laboratory fee $6.00.

310 DETERMINATIVE BACTERIOLOGY. (2-2) Yr. MR. BUSHNELL
The systematic relationships among bacteria. One lecture with laboratory hours arranged. Prerequisite: consent of instructor. Laboratory fee $3.00 each semester.

BOTANY

PROFESSOR ST. JOHN; ASSOCIATE PROFESSORS ENGARD, LOHMAN; ASSISTANT PROFESSOR BRITTEN.

100 GENERAL BOTANY. (4) I and II. MR. ST. JOHN, STAFF
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. Laboratory fee $5.00.

102 SYSTEMATIC BOTANY OF FLOWERING PLANTS. (3) I. MR. ST. JOHN
Native and exotic Hawaiian flowering plants, their classification, history, distribution, use; synopsis of monocotyledons; preparation of an herbarium. One lecture and two laboratory periods. Prerequisite: Botany 100. Laboratory fee $3.00.

103 EVOLUTION. (2) I and II. MR. LOHMAN
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.

105 ECONOMIC PLANTS OF HAWAII (2) I and II. MR. ST. JOHN
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.
155 Plant Growth. (2) II.
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.

158 Mycology. (3) I. Mr. Lohman
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. Prerequisite: Botany 100. Laboratory fee $4.00. (Alternate years; offered 1949–50.)

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

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

162 Structure of Economic Plants. (3) II. Mr. Britten
A study of the anatomy of the important field and garden crop plants representative of Hawaiian agriculture. One lecture and two laboratory periods. Prerequisite: Botany 100. Laboratory fee $5.00. (Alternate years; offered 1949–50.)

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

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

253 Plant Ecology. (4) II. Mr. St. John
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. Prerequisite: Botany 102. Laboratory fee $3.00.

254 Advanced Taxonomy. (1) I. Mr. St. John
Synopsis of lower dicotyledons from Piperaceae to Rosaceae, with study of important families; plant distribution and independent identification of collections. Prerequisite: Botany 102.

258 Advanced Mycology. (3) I. Mr. Lohman
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. Prerequisite: Botany 158. Laboratory fee $4.00. (Alternate years; not offered 1949–50.)
263 PLANT PATHOLOGY. (3) II. 
Development of plant pathology; classification of plant diseases; relation of diseases to the environment; methods of investigating plant diseases; symptoms, etiology, and control measures. Two lectures and one laboratory period. Prerequisite: Botany 100 and consent of instructor. Laboratory fee $5.00. (Alternate years; offered 1949–50.)

264 PLANT PATHOLOGY TECHNIQUE. (3) II. 
Methods for the study of plant diseases: isolation, culture, inoculation; planning and interpretation of experiments. One lecture and two laboratory periods. Prerequisite: Botany 263. Laboratory fee $5.00. (Alternate years; not offered 1949–50.)

268 PLANT MICROTECHNIQUE. (3) II. 
Principles and methods of preparing plant materials for histological and cytological study: paraffin and smear techniques. One lecture and two laboratory periods. Prerequisite: Botany 100. Laboratory fee $8.00. (Alternate years; not offered 1949–50.)

269 PLANT ANATOMY. (3) I. 
Structure of vascular plants; origin and differentiation of tissues; relation of structure to function. One lecture and two laboratory periods. Prerequisite: Botany 100 and 268. Laboratory fee $5.00. (Alternate years; not offered 1949–50.)

273 ADVANCED PLANT PHYSIOLOGY—BIOPHYSICS. (3) I. 
Intensive work on physical aspects of plant physiology: nature of protoplasm; water relations; mineral absorption and utilization. Prerequisite: Botany 173; Chemistry 149; Physics 102. (Alternate years; not offered 1949–50.)

274 LABORATORY TECHNIQUE IN BIOPHYSICS. (2) I.
Parallels 273 and may be taken with it, but is not required. Two laboratory periods. Laboratory fee $5.00. (Alternate years; not offered 1949–50.)

275 ADVANCED PLANT PHYSIOLOGY—BIOCHEMISTRY. (3) II. 
Intensive study of chemical aspects of plant physiology: photosynthesis; nitrogen assimilation; fat metabolism, translocation and storage; enzymes; respiration; hormones. Prerequisite: Botany 173; Chemistry 149; Physics 102. (Alternate years; offered 1949–50.)

276 LABORATORY TECHNIQUE IN BIOCHEMISTRY. (2) II.
Parallels 275 and may be taken with it, but is not required. Two laboratory periods. Laboratory fee $5.00. (Alternate years; offered 1949–50.)

279 MORPHOLOGY OF CRYPTOGAMIC PLANTS. (3) I. 
Comparative morphology and classification of the major groups of algae, bryophytes, and pteridophytes, and their biological relations. Two lectures and one laboratory period. Prerequisite: Botany 100. Laboratory fee $3.00. (Alternate years; offered 1949–50.)

280 CYTOGENETICS. (3) I. 
The cytological basis of plant heredity. Prerequisite: Botany 100; Agriculture 254. Two lectures and one laboratory period. Laboratory fee $4.00. (Alternate years; offered 1949–50.)
281 CYTOLOGY. (3) I. MR. BRITTEN
The structure of the cell, its nucleus and cytoplasm. One lecture and two laboratory periods. Prerequisite: Botany 100. Laboratory fee $4.00. (Alternate years; not offered 1949–50.)

282 BIOLOGICAL PHOTOGRAPHY. (3) I. MR. BRITTEN
Photographic materials and methods; photography outdoors and in the laboratory; making lantern slides, photomicrographs, and scientific illustrations. Two lectures and one laboratory period. Students must have cameras. Prerequisite: inorganic chemistry; two semesters of biological science; consent of instructor. Laboratory fee $8.00. (Alternate years; not offered 1949–50.)

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

300 DIRECTED RESEARCH. (Ar.) I and II. STAFF
Prerequisite: graduate standing; consent of instructor. Laboratory fee $2.00.

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

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

365 TAXONOMY OF THE DICOTYLEDONS. (1) II. MR. ST. JOHN
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; offered 1949–50.)

367 TAXONOMY OF THE HIGHER DICOTYLEDONS. (1) II. MR. ST. JOHN
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; not offered 1949–50.)

378 NOMENCLATURE. (2) I. MR. ST. JOHN
A study of the laws of botanical nomenclature and their application by the case method, leading to a determination of the correct scientific names of plants. Prerequisite: Botany 202. (Alternate years; not offered 1949–50.)

BUSINESS

PROFESSORS ROBERTS, CAMERON; ASSOCIATE PROFESSORS HOEBER, GLOVER, FERGUSON, DODGE; ASSISTANT PROFESSORS KRAEMER, KIRKPATRICK, ADLER, TILLEY; INSTRUCTOR PIERSON; LECTURER LUKE.

100 BUSINESS CALCULATIONS. (3) I and II. MRS. PIERSON
Consideration of basic arithmetical processes and calculations such as simple and compound interest, discounts, and annuities. Designed to meet the minimum business needs.
150–151 ELEMENTARY ACCOUNTING. (4–4) Yr.  Mr. Glover, Mr. Adler
   Fundamental principles, including the accounting problems of single proprietorships, partnerships, and corporations. Two lectures and one laboratory and quiz period. Prerequisite: sophomore standing in the department or consent of instructor.

152–153 ELEMENTARY ACCOUNTING. (3–3) Yr.  Mrs. Tilley
   Equivalent of 150–151. Prerequisite: consent of instructor. Offered in the evening session only.

160–161 ELEMENTARY BUSINESS LAW. (3–3) Yr.  Mr. Hoeben, Mr. Dodge
   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.

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

177 TECHNIQUE OF SHORTHAND. (2) I.  Mrs. Tilley
   Dictation and transcription; advanced 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.

210 ELEMENTS OF INDUSTRIAL RELATIONS. (3) I.  Mr. Ferguson
   An examination of some of the basic problems in industrial relations, directed toward the needs of supervisory personnel. Special attention to grievance machinery and the handling of grievances at the foreman and upper levels. Prerequisite: consent of instructor.

250 INTERMEDIATE ACCOUNTING. (3) I.  Mr. Glover
   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. Prerequisite: C or better in Business 150–151 and Economics 150–151 or consent of instructor.

251 ADVANCED ACCOUNTING. (3) II.  Mr. Glover
   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.

252 INTERMEDIATE ACCOUNTING. (3) I.  Mr. Adler
   Equivalent of 250. Prerequisite: C or better in Business 150–151 or 152–153 and Economics 150–151, or consent of instructor. Offered in the evening session only.

253 ADVANCED ACCOUNTING. (3) II.  Mr. Adler
   Equivalent of 251. Prerequisite: C or better in Business 250 or 252, or consent of instructor. Offered in the evening session only.
254 COST ACCOUNTING. (3) I.  
Discussion of such aspects of cost accounting as sources of costs, cost units, cost gathering, and use of cost data. Prerequisite: credit or concurrent registration in Business 250 and Economics 150–151 or consent of instructor.

255 ANALYSIS OF FINANCIAL STATEMENTS. (3) II.  
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. Prerequisite: Business 150–151 and Economics 150–151 or consent of instructor.

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

257 MERCHANDISE ACCOUNTING AND CONTROL. (3) II.  
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. Prerequisite: Business 150–151 and Economics 150–151 or consent of instructor.

258 AUDITING. (3) I.  
The principles involved and the techniques employed in the conduct of a business audit. While the course embraces both theory and practice, the practical aspects of auditing are emphasized by means of problems and a practice case. Prerequisite: Business 250–251 or consent of instructor.

259 OFFICE ORGANIZATION AND MANAGEMENT. (3) II.  
Office functions; personnel; distribution of authority and responsibility; employment; compensation; efficiency measurement; procedure and layout; indexing and filing. Prerequisite: Business 150–151; Economics 150–151.

261 COLLECTIVE BARGAINING. (3) II.  
The underlying principles and concepts of collective bargaining and the collective bargaining agreement. Sample contracts examined and analyses made of the main provisions of agreements, including union status, general wage provisions, grievance machinery, seniority, contract enforcement, and other sections of the agreement.

263 PERSONNEL MANAGEMENT. (3) II.  
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.

264 PRINCIPLES OF BUSINESS. (3) I.  
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.
265 CORPORATION FINANCE. (3) II. Mr. Luke
Determination of capital requirements; sources and devices used to procure capital; marketing securities; control of capital disbursements; credit and income. Prerequisite: Business 150-151 and Economics 150-151 or consent of instructor.

266 INVESTMENTS AND INVESTMENT BANKING. (3) I. Mr. Kirkpatrick
Economic theory and tests of investment; investment credit analysis; mathematics of investment; tools of investment; types of investment institutions and their functioning. Prerequisite: Economics 150-151 and Business 150-151 or consent of instructor.

267 BUSINESS CYCLES AND BUSINESS FORECASTING. (3) II. Mr. Kirkpatrick
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.

270 PRINCIPLES OF MARKETING. (3) I. Mr. Hoeber
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. Prerequisite: Business 150-151 and Economics 150-151 or consent of instructor.

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

276 RETAIL MERCHANDISING. (3) I. Mr. Luke
Buying habits of retail customers; history of retailing; store organization and management; sales promotion. Prerequisite: Economics 150-151 or consent of instructor.

280 SALES MANAGEMENT. (3) II. Mr. Kraemer
Types of salesmanship; buying motives; personal sales methods; product; market; marketing methods; sales force; sales promotion; and adjustment of product to market. Prerequisite: Economics 150-151 and credit or concurrent registration in Business 270 or consent of instructor.

282 ELEMENTARY STATISTICS. (3) I and II. Mrs. Pierson
A study of statistical techniques and their application to business and economics. Sources of data, tabulation, charting, averages, dispersion, sampling, index numbers, analysis of time series, and correlation. Prerequisite: Economics 150-151 or consent of instructor.

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

300 DIRECTED READING OR RESEARCH. (2-2) Yr. Staff
Prerequisite: graduate standing; consent of instructor.
CHEMISTRY

PROFESSORS L. BILGER, E. BILGER; ASSISTANT PROFESSORS SMITH, NAUGHTON, Haight; INSTRUCTOR ZEITLIN.

100 CHEMISTRY. (3-3) Yr.
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.

103 GENERAL CHEMISTRY. (4-4) Yr. MR. SMITH, STAPP
A comprehensive treatment of chemistry with emphasis upon fundamental laws, principles, and methods. Three lectures and one laboratory period. Laboratory fee $10.00 each semester. Prerequisite: a year of high school algebra.

104 SURVEY OF CHEMISTRY. (4-4) Yr.
A course comprising fundamental laws, principles, and methods of general and organic chemistry. Three lectures and one laboratory period. Not a prerequisite to any chemistry course except 232. Prerequisite: a year of high school algebra. Limited to students in Agriculture, Home Economics, and Nursing.

149 ORGANIC CHEMISTRY. (4-4) Yr. MRS. BILGER, MR. ZEITLIN
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. Prerequisite: Chemistry 103. Laboratory fee $12.00 each semester.

150 QUALITATIVE ANALYSIS. (4) I. MR. HAIGHT
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. Prerequisite: Chemistry 103. Laboratory fee $11.00.

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

160 CHEMICAL CALCULATIONS. (3) II. MR. HAIGHT
An intensive course in the solution of problems based upon the fundamental laws and definitions of chemistry; computations and errors. Prerequisite: Chemistry 150; credit or concurrent registration in Mathematics 151; Mathematics 152 advised.

230 QUANTITATIVE ANALYSIS. (4-4) Yr. MR. NAUGHTON
Principles and practice of gravimetric and volumetric analysis, colorimetric and electrometric determinations. Two lectures and two laboratory periods. Prerequisite: Chemistry 150; Mathematics 151; Mathematics 152 advised. Laboratory fee $11.00 each semester. First half repeated second semester.
232 BIOCHEMISTRY. (4) I.  
Mr. Bilger  
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. Prerequisite: Chemistry 104 or first semester of 149, or 159. Laboratory fee $9.00.

236 AGRICULTURAL CHEMISTRY. (3) II.  
Mr. Smith  
Chemistry of the products and materials of Hawaiian agriculture, including sugar cane, pineapples, soils, fertilizers, stock feeds, insecticides, poultry and dairy products. Modern instrumental methods. One lecture and two laboratory periods. Prerequisite: first semester of Chemistry 149, or 159; one semester of 230. Laboratory fee $10.00.

238 ADVANCED INORGANIC CHEMISTRY. (3) I.  
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; not offered 1949-50.)

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

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

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

266 ADVANCED BIOCHEMISTRY. (3) II.  
Mr. Bilger  
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. Prerequisite: Chemistry 232; one semester of Chemistry 230. Laboratory fee $9.00.

271 COLLOIDAL CHEMISTRY. (3) I.  
An advanced study of the theory of the colloidal state of matter; applications in agriculture, medicine, biology, and industry. Demonstrations. Prerequisite: credit or concurrent registration in Chemistry 230. (Alternates with 238.)

281 HISTORY OF CHEMISTRY. (3) I.  
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. Prerequisite: Chemistry 149 or 159.
295 Chemical Literature. (2) I and II.  
Systematic use of the journals, texts, handbooks, dictionaries, tables, abstracts, and government literature of chemistry; special library problems. One lecture and one library period. Prerequisite: credit or concurrent registration in Chemistry 230. May be repeated.

300 Directed Research. (Ar.) I and II.  
Research in pure and applied chemistry. Prerequisite: senior or graduate standing and approval of the chairman of the department. Laboratory fee $5.00 per credit.

338 Atomic Structure and Nuclear Chemistry. (3) II.  
A detailed study of atomic structure from the quantum mechanical viewpoint; isotopes; nuclear reactions and atomic energy. Prerequisite: credit or concurrent registration in Chemistry 255; Mathematics 154; Physics 280 advised. (Alternates with 358; not offered 1949-50.)

355 Theoretical Organic Chemistry. (3) II.  
Electronic and quantum mechanical theories of the character of the chemical link; resonance; bond types; new physical methods of investigation of structure; electronic equations. Prerequisite: Chemistry 249; credit or concurrent registration in Chemistry 255.

358 Chemical Thermodynamics. (3) II.  
The first, second, and third laws of thermodynamics; thermodynamic functions in chemical systems. Prerequisite: credit or concurrent registration in Chemistry 255; Mathematics 154; Physics 102. (Alternates with 338.)

360 Seminar. (1-1) Yr.  
Papers and discussions on recent advances in chemistry. Prerequisite: senior or graduate standing, or consent of instructor. May be repeated.

CHINESE

Professor Wu; Associate Professor Taam; Instructor Chong; Lecturer Ching.

100 Elementary Chinese. (3-3) Yr.  
Study of some 500 basic Chinese characters; grammar and sentence construction; reading of simple Chinese stories.

101 Intermediate Chinese. (3-3) Yr.  
Study of 1,200 basic Chinese characters; selected reading of short essays; composition.

200 Third-Year Chinese. (3-3) Yr.  
Reading of newspapers and classics; composition and translation.

250-251 Chinese Literature in English. (3-3) Yr.  
Selections from classical and modern Chinese literature in English translation.
280–281 **CHINESE DRAMA IN ENGLISH. (3–3) Yr.**

Mr. Ching

A study of contemporary colloquial Peking drama and dramatic writings, with all source materials in English. Each member of the class will revise one play for possible workshop production. Students may enter the second semester.

293–294 **METHODS IN CHINESE STUDIES. (3–3) Yr.**

Mr. Taam

Study of the main fields of Chinese research, the special methods evolved, and the principal sources of bibliographical information. Prerequisite: junior standing.

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**CLASSICS**

**INSTRUCTOR FISHER.**

100 **ELEMENTARY LATIN. (3–3) Yr.**

Miss Fisher

Vocabulary and grammar, with reading and writing of simple Latin.

101 **INTERMEDIATE LATIN (3–3) Yr.**

Miss Fisher

Review of grammar; reading and composition.

106 **ELEMENTARY GREEK. (3–3) Yr.**

Fundamentals of Greek grammar; reading of short excerpts from classic Greek authors. Prerequisite: consent of instructor. (Not offered 1949–50.)

110 **NEW TESTAMENT GREEK. (3–3) Yr.**

A study of Greek grammar with special emphasis upon the vocabulary and idioms of the Koine Greek spoken at the time the New Testament was written. Intended for pre-ministerial students who desire Greek before beginning seminary work.

250–251 **CLASSICAL CIVILIZATION. (3–3) Yr.**

Miss Fisher

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.

260–261 **CLASSICAL LITERATURE. (3–3) Yr.**

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. (Not offered 1949–50.)

299 **DIRECTED READING. (3–3) Yr.**

Miss Fisher

Latin literature in translation. A study of the principal Roman poets and writers of prose.

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**DENTAL HYGIENE**

**INSTRUCTOR BICKERTON; LECTURERS ARAUJO, CONNER, DAWE, GLYNN, MAJOSKA, SMITH.**

The following Dental Hygiene courses may be elected by students in other colleges and curriculums: 251, 252, 256, 258, 260, 262, 264, 265.
200 **TOOTH MORPHOLOGY.** (1) I.  
*MRS. BICKERTON*  
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.

201 **DENTAL HYGIENE EDUCATION.** (1) II.  
*MRS. BICKERTON*  
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.

235 **DENTAL OPERATIVE TECHNIQUE.** (2) II.  
*MRS. BICKERTON*  
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.

251 **DENTAL ANATOMY.** (3) I.  
*MR. SMITH*  
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.

252 **DENTAL PROPHYLAXIS.** (1) I.  
*MR. CONNER*  
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.

254 **CLINICAL PRACTICE.** (5-5) Yr.  
*MRS. BICKERTON*  
Clinical prophylactic practice under supervision.

256 **DENTAL CARIES.** (2) II.  
*MR. CONNER*  
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.

258 **DENTAL HISTOLOGY.** (1) II.  
*MR. DAWE*  
A course embracing the sequential steps in the formation of the primary tissues. Special consideration of the origin and classification of dental tissues, enamel, dentine, cementum, pulp, and all the soft tissues of the oral cavity.

260 **ORAL PATHOLOGY.** (1) I.  
*MR. CONNER*  
The fundamentals of general pathology and its specific application to the diseases of the mouth. Mouth manifestations of communicable diseases. Alveolar abscess, fistulae, glandular involvement. Granulomas and systemic involvement—pyorrhea, gingivitis; diagnosis, causes, and prognosis.

262 **MATERIA MEDICA.** (2) I.  
*MR. MAJOSKA*  
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.
264  ORTHODONTICS. (1) II.  
MR. GLYNN
History, basic principles, normal occlusion of the teeth, malocclusion of the teeth; case analysis for classifications; etiology of malocclusion; the process of tooth eruption; and growth of the denture, cranium, and face.

265  RADIOGRAPHY. (1) II.  
MR. ARAUJO
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.

297  FIELD PROBLEMS IN DENTAL HYGIENE. (1) II.
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. (Not offered 1949-50.)

354  DENTAL HYGIENE INTERNSHIP. (14) I and II.  
MRS. BICKERTON
Supervised intern practice in the public schools.

ECONOMICS

PROFESSORS ROBERTS, SHOEMAKER, CAMERON; ASSOCIATE PROFESSORS HOEBER, FERGUSON, KAMINS; ASSOCIATE PROFESSORS KRAEMER, KIRKPATRICK.

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

140  INTRODUCTION TO ECONOMICS. (3) I and II.  
MR. HOEBER, MR. KAMINS
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 150-151.

150-151  PRINCIPLES OF ECONOMICS. (3-3) Yr.  
MR. HOEBER  
MR. KIRKPATRICK
Principles underlying consumption, production, exchange, and distribution of wealth; analysis of important current economic problems. Prerequisite: sophomore standing or consent of instructor.

223-224  HISTORY OF ECONOMIC INSTITUTIONS. (3-3) Yr.  
MR. CAMERON
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.

251  ECONOMIC PROBLEMS OF EUROPE. (3) I.  
MR. KRAEMER
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. (Not offered 1949-50.)
252 Economic Problems of the Far East. (3) I. Mr. Shoemaker
A study of the historic development of the economic systems of Japan, Korea, and China and an analysis of their economic problems. The economic effects of the war and a critical evaluation of postwar economic policies. (Not offered 1949-50.)

254 The Economic System of Soviet Russia. (3) II. Mr. Shoemaker
The economic history and problems of Russia, including a descriptive analysis of the Soviet economy in operation and a critical evaluation of its effectiveness. The effects of World War II on the Soviet economy, economic developments in Siberia, and Russia's economic relations with the Far East. (Not offered 1949-50.)

256 Money and Banking. (3) I. Mr. Kirkpatrick
Nature and history of money and of banking; characteristics of credit; monetary system of the United States; monetary standards; value of money; relation of money and credit to prices; banking system of the United States, including commercial banks, trust companies, savings banks, and related savings institutions.

261 Public Finance. (3) II. Mr. Hoeber

263 International Finance. (3) II. Mr. Kirkpatrick
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. Prerequisite: credit or concurrent registration in Economics 256.

265 Principles of Economic Control. (3) II. Mr. Shoemaker
Historic development, principles, and objectives of governmental control in the economic sphere; evaluation of such controls as related to the war and to postwar economic problems; critical comparison of controlled and competitive economic systems. (Not offered 1949-50.)

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

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

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

277 ECONOMICS OF MACHINE INDUSTRY. (3) II.  Mr. Cameron
Physical characteristics of machines; the place of science and invention in their
evolution; the history of their use; their adaptability to specific industries; their assist­
ance in production, and the effects of their use on costs, goods, management, mental
processes, labor, and international relationships.

279 DISTRIBUTION OF WEALTH AND INCOME. (3) II.  Mr. Cameron
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.

281 LABOR PROBLEMS. (3) I.  Mr. Roberts
A study of wages, hours, working conditions, employment, superannuation, sub­
standard workers, and other important problems common to all labor. Special attention
to an analysis of the fundamental factors affecting wage levels.

282 LABOR ORGANIZATION AND INDUSTRIAL RELATIONS. (3) II.  Mr. Roberts
Labor problems under unionism: types of unions; evolution of unions; member­
ship; 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.

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

285 INTERNATIONAL TRADE. (3) I.  Mr. Kraemer
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.

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

292 LAND ECONOMICS. (3) II.  Mr. Kraemer
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.

296 HISTORY OF ECONOMIC THOUGHT. (3) I.  Mr. Kirkpatrick
A general survey of economic thought from Adam Smith to the present with special
emphasis on the theory of value and distribution.

299 DIRECTED READING. (Ar.) I and II.  Staff
Prerequisite: consent of instructor.
300 Directed Reading or Research. (2-2) Yr. **Staff**
Prerequisite: graduate standing or consent of instructor.

310 Seminar in Labor Problems. (3) I. **Mr. Roberts**
Prerequisite: graduate standing or consent of instructor.

315 Seminar in Economic Problems. (3) I. **Mr. Shoemaker, Staff**
Prerequisite: graduate standing or consent of instructor. (Not offered 1949-50.)

**EDUCATION**

Professors White, Armstrong, Brown, de Laubenfels; Associate Professors Phillips, Porter, Clopton, Beyers, Haan; Assistant Professors Chun, Everly, Traut, Gardner, Larkin; Instructors Fitzsimmons, Schmidt, Davis, Pegrud, Tinker, Snow, Williams, Yang, Leach, Kaneshige, Crooker, Sueoka, Kiyosaki, Jenkins, Clonts, Johnson, Reed, Morris, Martin; Assistants Pirtle, Newton; Lecturer Woodruff.

Enrollment in Education courses is restricted to students in Teachers College except by special permission of the chairman of the department.

100 Orientation. (1-1) Yr. **Mr. Haan, Mr. Beyers**
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. Laboratory fee $1.00, first semester.

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

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

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

239 Natural and Social Sciences in the Preschool–Primary Curriculum. (2) I and II. **Mrs. Crooker**
The materials and procedures of these activities appropriate to children two to seven years of age.

240 Social Studies in the Elementary Curriculum. (2) I. **Miss Traut, Mrs. Fitzsimmons**
The scope and organization of the social studies in the elementary school curriculum. The development of social knowledge and understanding in childhood experience.
241 Mathematics and Science in the Elementary Curriculum. (3) II.
MRS. JENKINS, MISS SCHMIDT

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.

242 Hawaiian Natural History. (2–2) Yr.
MR. TINKER

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.

245 Science in the Secondary Curriculum. (2) I.
MR. KIYOSAKI

Purposes and procedures. The development of scientific attitude. Review of the major generalizations of the biological and physical sciences.

246 Mathematics in the Secondary Curriculum. (2) II.
MRS. MORRIS

Purposes and procedures. The development of basic mathematical concepts.

247 Social Studies in the Secondary Curriculum. (2) I.
MISS DAVIS

The scope and organization of social studies in the secondary school. The development of social knowledge and understanding.

248 Shopwork in the Elementary Curriculum. (2) I and II.
MR. WOODRUFF

A course designed to acquaint elementary teachers with materials, tools, and processes appropriate to childhood experience.

249 Teaching of Typewriting and Shorthand. (2) II.
MRS. TILLEY

Theory and methods of teaching typewriting and shorthand. Prerequisite: Business 170 and 177.

250–251 Secondary Education. (3–3) Yr.
MR. EVERLY, MR. MARTIN

Basic course dealing with major problems of secondary education.

252 Teaching Physical Education Activities. (2) I.
MR. BROWN

Methods and materials in the conduct of the physical activity program. Techniques in leadership, including the selection of activities and program evaluation.

253 Practice Teaching in Home Economics. (6) 1 and II.
MISS PHILLIPS

Observation, supervised teaching, and conferences. Prerequisite: senior standing; credit or concurrent registration in Home Economics 251.

254 Practice Teaching. (14) I and II.
MISS TRAUT, MR. EVERLY, MISS PEGRAM

Teaching experience supervised by staff members of the Teachers College Preschool, Elementary, and Intermediate Schools.

255 Seminar for Practice Teachers. (2) I and II.
MISS PORTER, MR. CLOPTON, MISS GARDNER

Study of problems arising from immediate experience as classroom teachers. To be taken concurrently with 254.
256 **SEMINAR FOR PRACTICE TEACHERS IN HOME ECONOMICS.** (2) I and II.  
*Miss Phillips*

Study of problems arising from immediate experience as classroom teachers.

265 **ADMINISTRATION OF THE GUIDANCE PROGRAM.** (2) II.  
*Mr. Beyers*

The organization and administration of guidance in the school, with special reference to the place of the principal in the program. Prerequisite: employment as principal or assistant principal, or approval of department chairman. (Not offered 1949-50.)

266 **MATERIALS AND RESOURCES OF GUIDANCE.** (2) II.  
*Mr. Beyers*

Sources of information; professional organizations and personnel; the material aids to counseling; the research function of the counselor.

270 **AGRICULTURAL PROJECT WORK.** (3) II.  
*Mr. Armstrong*

The project as an educational device in all-day, young farmer, and adult farmer classes; classroom correlation; plans, records, reports, and accounts.

271 **PRINCIPLES OF VOCATIONAL EDUCATION.** (3) II.  
*Mr. Armstrong*

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.

274 **TEACHING VOCATIONAL AGRICULTURE.** (3) I.  
*Mr. Armstrong*

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.

275 **PRACTICE TEACHING IN VOCATIONAL AGRICULTURE.** (3) I and II.  
*Mr. Armstrong*

Full-time observation and teaching under supervision for six weeks in selected centers. Prerequisite: credit or concurrent registration in 274.

283–284 **PRESCHOOL–PRIMARY EDUCATION.** (3–3) Yr.  
*Miss Gardner*

Basic course dealing with major problems in the education of children of ages two to seven.

285–286 **ELEMENTARY EDUCATION.** (3–3) Yr.  
*Miss Porter, Mr. Haan*

Basic course dealing with major problems in the education of children of ages seven to twelve.

289 **HISTORY OF EDUCATION.** (Formerly 350.) (3) I and II.  
*Mr. Clopton*

Survey of the history of educational thought and practice as a basis for the study of modern school problems.

290–291 **TEACHING OF SLOW LEARNERS.** (2–2) Yr.  
*Mr. Haan*

A study of the social, psychological, and procedural problems involved in the teaching of slow learners. Students may enter the second semester.
296  HISTORY OF EDUCATION IN HAWAII. (2) II.  MR. WHITE
Review of the social, economic, religious, and political background which brought about an American public school system in Hawaii. Events of the present century that have influenced education in Hawaii; industry and immigration; Organic Act and legislation; political trends. (Not offered 1949–50.)

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

299  DIRECTED READING. (Ar.) I and II.  STAFF

300  DIRECTED READING OR RESEARCH. (Ar.) I and II.  STAFF
Individual reading or research in the same fields as in 299. Prerequisite: graduate standing; consent of the chairman of the department and of instructor concerned.

340  PHILOSOPHY OF EDUCATION. (3) I and II.  MR. CLOPTON
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.

345  SEMINAR IN PHILOSOPHY OF EDUCATION. (2) II.
Social and psychological theory involved in controversial educational issues. Prerequisite: Education 340 or equivalent and consent of instructor. May be repeated for credit by permission of instructor. (Not offered 1949–50.)

354  INTERNSHIP. (14) I and II.  MR. ARMSTRONG, MISS PORTER, MR. CLOPTON, MISS GARDNER, MISS PHILLIPS
Full-time teaching under special supervision in selected public schools. Restricted to fifth-year students.

361  EVALUATION IN EDUCATION. (3) I and II.  MR. CHUN
Theory and techniques of evaluation in education; practice in the use of testing devices. Laboratory fee $1.00.

363  SEMINAR IN EDUCATIONAL ADMINISTRATION. (2) I.
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. (Not offered 1949–50.)

365  THE SUPERVISION OF INSTRUCTION. (2) II.
The supervisory work of the principal; the place of supervision; organization for supervisory service; techniques. Restricted to administrators and prospective administrators. Prerequisite: consent of instructor. (Not offered 1949–50.)
369 **SEMINAR IN SPEECH PEDAGOGY.** (3) I. **MR. SMITH**  
Review of literature in the field and analysis of present and local problems facing the teacher of speech.

376 **SEMINAR IN VOCATIONAL EDUCATION.** (2) I and II. **MR. ARMSTRONG**  
Individual study of special problems in vocational education.

380 **RESEARCH AND THESIS WRITING.** (3) I. **MR. WHITE**  
Research techniques and thesis development; designed to assist students in thesis preparation. Prerequisite: Education 340, 361, 390; Psychology 351; consent of instructor.

390 **PUBLIC SCHOOL ADMINISTRATION.** (2) I and II. **MR. EVERLY**  
State and territorial organization for administrative control of public education; federal relations; Hawaiian school law and Department of Public Instruction regulations.

395 **SEMINAR FOR INTERN TEACHERS.** (2) I and II. **MISS PORTER,** **MR. CLOPTON,** **MISS GARDNER**  
Problems arising from the classroom experiences of intern teachers. Restricted to fifth-year students.

396 **SEMINAR IN CURRICULUM IMPROVEMENT.** (2) I. **STAFF**  
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.

**ENGINEERING**

**PROFESSORS KUNESH, HOLMES, BENNETT, URQUHART; ASSOCIATE PROFESSORS TOWNES, NICHOLS; ASSISTANT PROFESSORS MCCALL, DANIEL, EVANS, WACHTER; INSTRUCTORS ROBERTSON, ELSTNER, FONDAHL.**

**CE 101** **PLANE SURVEYING.** (4-4) Yr. **MR. DANIEL, MR. FONDAHL**  
Use of chain, tape, level, and transit; map platting and computations. Two lectures and two field or drafting periods. Prerequisite: Mathematics 150; Mechanical Drawing 101. Laboratory fee $2.00 each semester.

**CE 227** **ROUTE SURVEYING.** (3-3) Yr. **MR. DANIEL**  
Reconnaissance; preliminary survey; paper location; curve computations; field location; platting profiles; determining grade lines; earthwork computations for location of railroad or highway. One full-day period. Prerequisite: Civil Engineering 101. Laboratory fee $2.00. (Also offered in the summer session.)

**CE 228** **WATER SUPPLY AND WATER WORKS.** (Formerly first semester of 229.) (3) I. **MR. BENNETT**  
Hydrology; collection, distribution, and treatment of public water supplies, including fire protection; conservation and administration. Prerequisite: Civil Engineering 255 or consent of instructor.
CE 229 SEWERAGE AND WASTE DISPOSAL. (Formerly included 228.) (3) II.

Mr. Bennett

Planning, construction, operation, and maintenance of public sanitation facilities, including drainage, flood control, and refuse disposal. Prerequisite: Civil Engineering 255 and 228, or consent of instructor.

CE 231 SOIL MECHANICS. (2) I.

Mr. Evans

Physical factors in earth pressure phenomena; soil phenomena in earthwork operations and foundation work. Prerequisite: credit or concurrent registration in Civil Engineering 253.

CE 251 ANALYTIC AND APPLIED MECHANICS—STATICS. (Formerly first half of 252.) (3) II.

Mr. Evans, Mr. Fondaahl

Stresses in joint structures; effect of forces on bodies at rest. Prerequisite: Physics 104.

CE 252 ANALYTIC AND APPLIED MECHANICS—DYNAMICS. (Formerly included 251.) (3) I.

Mr. Evans, Mr. Fondaahl

Work, energy, and power; effect of forces on bodies in motion. Prerequisite: Civil Engineering 251.

CE 253 STRENGTH OF MATERIALS. (4) I.

Mr. Wachter

Direct stress, shear, flexure, and torsion. Theory of beams and columns.

CE 255 HYDRAULICS. (4) II.

Mr. Wachter

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. Prerequisite: credit or concurrent registration in Civil Engineering 252.

CE 257 HIGHWAY ENGINEERING. (Formerly 153.) (3) II.

Mr. Kunesh

Design, construction, and maintenance of streets and highways; planning, financing, etc. Prerequisite: Civil Engineering 227, 231, and 253 or consent of instructor. (To be changed to first semester—1950–51.)

CE 276 STRUCTURAL THEORY. (3) I and II.

Mr. Bennett

Moving loads, influence lines, rigid frames, portals, and arches; by methods of work and slope deflection. Cross method, etc. Two lectures and one design period. Prerequisite: Civil Engineering 253.

CE 277 STRUCTURAL DESIGN. (3) II.

Mr. Bennett

Design and detailing of beams, columns, girders, bridges, mill buildings; in wood and steel, including welded structures. One lecture and two design periods. Prerequisite: Civil Engineering 276. (To be changed to first semester—1950–51.)

CE 278 INDETERMINATE STRUCTURES. (3) I.

Mr. Bennett, Mr. Urquhart

Methods of slope-deflection and moment distribution; secondary stresses. Analysis of swing, cantilever, and arch bridges. Prerequisite: Mathematics 155 and Civil Engineering 276. (Not offered 1949–50.)
CE 279 REINFORCED CONCRETE. (3) I and II. MR. URQUHART

Basic theory of reinforced concrete, including the design of highway bridges and retaining walls of concrete and masonry. Two lectures and one design period. Prerequisite: Civil Engineering 253.

CE 280 REINFORCED CONCRETE DESIGN. (Formerly second semester of 279.) (3) II. MR. URQUHART

Continuation of 279. Foundations; buildings, including flat-slab, ribbed, etc., rigid frames, box culverts, and other indeterminate structures. Two lectures and one design period.

CE 291 ENGINEERING ECONOMY. (2) II. MR. ELSTNER, MR. FONDAHL

Research, economics, and finance of engineering projects. Prerequisite: Economics 140. (Not offered 1949–50.)

CE 292 CONTRACTS AND SPECIFICATIONS. (2) I. MR. KUNESH

The legal aspects of engineering contracts and specifications, with special reference to local requirements. Prerequisite: senior standing. (To be changed to second semester—1950–51.)

MD 101 MECHANICAL DRAWING. (2) I. MR. McCALL, MR. ROBERTSON

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. Laboratory fee $1.00.

MD 152 DESCRIPTIVE GEOMETRY. (2) I and II. MR. McCALL, MR. ROBERTSON

Geometry of engineering drawing; intersections and development of surfaces. Two three-hour drafting periods. Prerequisite: Mechanical Drawing 101 or Architectural Engineering 103.

ME 202 MATERIALS OF ENGINEERING AND LABORATORY. (2) II. MR. HOLMES, MR. ELSTNER

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. Prerequisite: credit or concurrent registration in Civil Engineering 252. Laboratory fee $5.00.

ME 203 MATERIALS OF ENGINEERING AND LABORATORY. (3) I. MR. HOLMES, MR. ELSTNER

Properties and requirements of iron, steel, other metals, and wood; various tests of timber and metals. Prerequisite: credit or concurrent registration in Civil Engineering 253. Laboratory fee $5.00.

ME 282 STEAM MACHINERY. (3) I. MR. HOLMES

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. Prerequisite: Physics 104. (To be changed to second semester—1950–51.)
ANNOUNCEMENT OF COURSES

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

AE 102 ARCHITECTURAL DESIGN. (3–3) Yr.  Mr. Nichols
Elementary architectural design of buildings and their details, rendered in wash and color. Prerequisite: Architectural Engineering 101, 103.

AE 103 ARCHITECTURAL DRAWING. (Formerly MD 103.) (3–3) Yr.  Mr. Nichols
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. Laboratory fee $1.00 each semester.

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

ENGLISH

PROFESSORS WILSON, STROVEN, GUERARD; ASSOCIATE PROFESSORS COLLINS, COALE, DAY, GREEN, BAIRD; ASSISTANT PROFESSORS KORN, BOUSLOG, STEMPEL; INSTRUCTORS BERGSTROM, GEISER, LEIB, CASTRO, OBBEE, RUH, GEORGE, ODOM, HUNTSBERRY, ABRUMS, BILSBORROW, MILLER, MANEY, BLOMFIELD, HODGE.

100 COMPOSITION. (3) I and II.  STAFF
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 101 except for additional time given to remedial work.

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

109 BUSINESS ENGLISH. (3) II.  STAFF
Theory and practice in forms of communication important in the modern business world: letters, reports, analyses, special studies, and records. Open only to students in Business Administration.

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

150 INTRODUCTION TO ENGLISH LITERATURE. (3–3) Yr.  STAFF
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.
152  **INTRODUCTION TO LITERATURE.** (3–3) Yr.  
   **MR. COALE**  
   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.

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

202  **ADVANCED COMPOSITION.** (3–3) Yr.  
   **MR. COLLINS**  
   First semester: expository forms, including the essay. Second semester: descriptive and narrative forms, including the short story. Current literary forms, and encouragement and criticism of experiments in creative writing. Students may enter the second semester with consent of the instructor. Prerequisite: an average of C in English 100 or 101.

204  **ADVANCED ENGLISH GRAMMAR.** (2) II.  
   **MR. COALE**  
   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.

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

206  **INTRODUCTION TO WORLD LITERATURE.** (3) II.  
   **MR. GUERARD**  
   An introductory course in literary theory. Open to all students especially interested in literature.

207  **LITERATURE AND LANGUAGE.** (3) II.  
   **MR. GUERARD**  
   The interaction of language and literature; the problem of translation; the problem of international communication.

210  **REPORT WRITING.** (3) I and II.  
   **MR. LEIB**  
   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.

216  **PLAYWRITING.** (3) II.  
   **MR. WILSON**  
   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.

217  **FICTION WRITING.** (3) II.  
   **MR. DAY**  
   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. Prerequisite: consent of instructor. (Alternate years; not offered 1949–50.)

222  **ELEMENTS OF PUBLISHING.** (3) I.  
   **MRS. BLOMFIELD**  
   Theory and practice of publishing; mechanical aspects of printing processes, type faces, typographical display, type calculations, illustrations.
223 NEWS EDITING. (3) II. MRS. BLOMFIELD
   Copyreading, headline writing, news and advertising display, use of illustrations, responsibilities of the editor.

240 HISTORY OF LITERARY CRITICISM. (3) II. MR. DAY
   Chief theories of literary criticism, with readings (in English) from Plato to the present. (Alternate years; offered 1949-50.)

252 LANGUAGE ARTS IN THE PRESCHOOL–PRIMARY CURRICULUM. (2-2) Yr. MISS REED, MISS JOHNSON
   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.

253 LANGUAGE ARTS IN THE ELEMENTARY SCHOOL. (2–2) Yr. MR. COALE
   Fundamentals in the teaching of reading and expression; special attention given to planning, materials, and present problems. Open only to students in Teachers College.

254 LANGUAGE ARTS IN THE SECONDARY SCHOOL. (2–2) Yr. MR. COALE
   Fundamentals in the teaching of reading, literature, and language at the junior high school level; special attention to problems of speech, usage, and vocabulary. Open only to students in Teachers College.

255 LITERATURE IN THE ELEMENTARY SCHOOL. (2) I and II. MRS. GEISER
   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.

260–261 AMERICAN LITERATURE. (3–3) Yr. MR. STROVEN
   A chronological survey of American literature from colonial times to the twentieth century; 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.

263 LITERATURE OF THE PACIFIC. (3) II. MR. STROVEN
   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.

270 CHAUCER. (3) I. MR. GREEN
   A study of the life, times, and major works of Chaucer, with emphasis on The Canterbury Tales. (Alternate years; offered 1949–50.)

272 HISTORY OF THE ENGLISH LANGUAGE. (3) I. MR. GREEN
   The growth and development of the English language; its sources, forms, mutations, and standards of usage. (Alternate years; not offered 1949–50.)

274 THE ENGLISH DRAMA TO 1642 (EXCLUSIVE OF SHAKESPEARE). (3) I. MR. DAY
   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; offered 1949–50.)
275 NONDRAMATIC ELIZABETHAN AND SEVENTEENTH-CENTURY ENGLISH LITERATURE (1558-1660). (3) I.  
Mr. Korn  
Principal nondramatic authors and works from the accession of Elizabeth to the Restoration. (Alternate years; not offered 1949-50.)

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

280 RESTORATION AND EIGHTEENTH-CENTURY LITERATURE. (3) II.  
Mr. Korn  
A study of neo-classical and pre-romantic writings from 1660 to 1789. (Alternate years; not offered 1949-50.)

282 POETRY AND PROSE OF THE ROMANTIC MOVEMENT IN ENGLAND. (3) I.  
Mr. Day  
An intensive study of the principal writings of the period 1780-1832, exclusive of the novel. (Alternate years; not offered 1949-50.)

284 VICTORIAN LITERATURE (EXCLUSIVE OF THE NOVEL). (3) II.  
Mr. Bouslog  
A study of the principal English authors and works of the period 1832-1900. (Alternate years; not offered 1949-50.)

285 THE ENGLISH NOVEL TO 1832. (3) I.  
Mr. Korn  
Principal English novels and novelists from the beginnings to 1832. (Alternate years; offered 1949-50.)

286 THE ENGLISH NOVEL, 1832–1900. (3) II.  
Mr. Korn  
Principal English novels and novelists from 1832 to the turn of the century. (Alternate years; offered 1949-50.)

287 MODERN DRAMATIC LITERATURE. (3–3) Yr.  
Mr. Wilson  
First semester: British and continental drama from Ibsen's immediate predecessors to the present; second semester: American drama. (Alternate years; offered 1949-50.)

288 CONTEMPORARY EUROPEAN LITERATURE. (3) I.  
Mr. Day  
Representative works of the leading British and continental novelists and British poets since 1900.

289 CONTEMPORARY AMERICAN LITERATURE. (3) II.  
Mr. Day  
Representative works of the leading American novelists and poets since 1900.

299 DIRECTED READING. (Ar.) I and II.  
Staff  
Open only to English majors. Prerequisite: consent of the department chairman.

300 DIRECTED READING OR RESEARCH. (2) I and II.  
Staff  
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.
310 Seminar in American or English Literature. (2) II. **Staff**
Special study of problems, authors, or periods in English or American literature. Prerequisite: graduate standing or consent of instructor.

313 Seminar in Bibliography and Research Methods. (1) I and II. **Staff**
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.

**FRENCH**

Professor Pecker; Assistant Professors Elliott, Shepard, Aspinwall.

100 **Elementary French.** (3-3) Yr. **Staff**
Grammar, phonetics, diction, and reading of easy prose and poetry.

101 **Intermediate French.** (3-3) Yr. **Staff**
Review of grammar, composition, and reading from selected modern authors. Prerequisite: one year of French in college or two years in preparatory school.

201 **Modern French Literature.** (3-3) Yr. **Mr. Pecker**
Novel, biography, drama; composition and diction. Prerequisite: two years of college French or the equivalent.

250 **Classic Drama.** (2-2) Yr. **Mr. Pecker**
Rapid reading of plays of Moliere, Racine, and Corneille. Prerequisite: three years of college French or the equivalent.

270 **French Literature Between the Two World Wars** (2-2) Yr. **Mr. Pecker**
Prerequisite: three years of college French or the equivalent. (Not offered 1949-50.)

299 **Directed Reading.** (Ar.) Yr. **Mr. Pecker**
Reading of the latest French publications. Prerequisite: consent of instructor.

**GEOGRAPHY**

Associate Professors Manchester, Bowers.

150 **Elements of Geography.** (3) I. **Mr. Manchester**
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.

151 **Economic Geography.** (3) I and II. **Mr. Manchester**
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.
250 CARTOGRAPHY. (3) I. MR. MANCHESTER
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. (Not
offered 1949–50.)

252 GEOGRAPHY OF NORTH AMERICA. (3) II. MR. BOWERS
Regional geography of the United States and Canada; geographic aspects of the
historic and economic development of the continent and of contemporary problems.
(Not offered 1949–50.)

255 GEOGRAPHY OF ASIA. (3) I. MR. BOWERS
The physical regions of Asia and their human occupancy; interrelationships with
other areas and the geographic background of current problems.

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

257 GEOGRAPHY OF CHINA. (3) II. MR. BOWERS
The peoples and environment of China studied on a regional basis, with emphasis
on the occupancy and use of the land.

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

260 GEOGRAPHY OF HAWAII. (2) II.
The regional study of the geography of Hawaii. A detailed study of the people
and resources of the land. Prerequisite: Geography 150. (Not offered 1949–50.)

261 WORLD GEOGRAPHIC PATTERNS. (3) I and II. MR. BOWERS
A comparative study of the physical characteristics and human use of the world's
geographic regions, with discussion of teaching methods and materials. For prospective
teachers.

262 WEATHER AND CLIMATE. (3) I. MR. BOWERS
Study of the basic elements of meteorology and climatology. Two lectures and
one laboratory period.

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

264 GEOGRAPHY OF INDIA AND SOUTHEAST ASIA. (3) II. MR. BOWERS
Description of the major geographic regions of India and Southeast Asia, with
study of the geographic factors functional in the history, politics, and economics of
the area.

271 POLITICAL GEOGRAPHY. (3) II. MR. BOWERS
Geographic background of international politics and national power; emphasis on
areas currently in the news.
ANNOUNCEMENT OF COURSES

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

300 DIRECTED RESEARCH. (Ar.) I and II. Prerequisite: consent of instructor.

302 MICRONESIA. (3) I. Physical character of the islands of Micronesia and their occupancy and use by man.

310 SEMINAR IN GEOGRAPHY. (Ar.) I and II. Prerequisite: consent of instructor.

GEOLOGY

PROFESSOR PALMER.

150 PHYSICAL GEOLOGY. (3) I. Materials composing the earth; operation and effects of geologic agents. Prerequisite: sophomore standing or consent of instructor.

151 HISTORICAL GEOLOGY. (3) II. History of the earth, of its continents and ocean basins, and of its inhabitants. Prerequisite: Geology 150.

152-153 LABORATORY GEOLOGY. (1-1) Yr. Identification of minerals and rocks, reading of topographic and geologic maps, and study of important fossil forms. One laboratory period. Prerequisite: credit or concurrent registration in Geology 150 or 151. Laboratory fee $1.00 each semester.

254 ECONOMIC GEOLOGY. (3) I. Distribution, nature, and origin of deposits of metallic and non-metallic minerals. Prerequisite: Geology 150.

255 GEOLOGY OF GROUND WATER. (2) II. Origin, amount, circulation, recovery, and quality of ground water. Demonstrations. Prerequisite: Geology 150. Course fee $1.00.

260 PHYSIOGRAPHIC REGIONS OF THE UNITED STATES. (3) I. Two lectures and one laboratory period. Prerequisite: Geology 151. (Not offered 1949-50.)

262 VOLCANOLOGY. (3) II. Classification, eruptive types, products, structures, and distribution of volcanoes. Prerequisite: Geology 150; credit or concurrent registration in Physics 100, 102, or 104. (Not offered 1949-50.)

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

300 DIRECTED READING. (Ar.) I and II. Prerequisite: graduate status and consent of instructor.
GERMAN

ASSOCIATE PROFESSOR MUELLER; ASSISTANT PROFESSOR JENSON.

100 ELEMENTARY GERMAN. (3-3) Yr. STAFF
Grammar developed from easy reading material; exercises in reading and translation. Laboratory work in conversation and composition for those desiring it (no extra credit).

101 INTRODUCTION TO GERMAN LITERATURE. (3-3) Yr. STAFF
Readings from modern and classical authors; grammar review; vocabulary building; composition and conversation.

102 SCIENTIFIC GERMAN. (3-3) Yr. MISS MUELLER, MISS JENSON
Accurate reading of scientific German over a wide range; emphasis on sentence construction and vocabulary building.

200 CLASSICAL GERMAN LITERATURE. (3-3) Yr. MISS MUELLER
Selected works from Lessing, Goethe, and Schiller. German themes based on reading. (Alternate years; not offered 1949-50.)

201 MODERN GERMAN LITERATURE. (3-3) Yr. MISS MUELLER
Readings primarily in the fields of drama and narrative, covering the period from 1890 to the present. German themes based on reading.

202 ADVANCED SCIENTIFIC GERMAN. (Ar.) Yr. MISS MUELLER
Sight translation in various fields; collateral reading in student's field of specialization. Prerequisite: two years of college German; consent of instructor. May be repeated once.

299 DIRECTED READING. (Ar.) Yr. MISS MUELLER
Designed to round out student's knowledge of German literature. Prerequisite: German 200 or 201.

GOVERNMENT

PROFESSORS BACHMAN, LEEBRICK, SPELLACY, SAUNDERS; INSTRUCTOR BRIDGHAM; LECTURER AKINA.

150 AMERICAN NATIONAL GOVERNMENT. (3) I and II. MR. BACHMAN, MR. SAUNDERS, MR. SPELLACY
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.

235 AMERICAN CONSTITUTIONAL SYSTEM. (Formerly 160.) (3) II. MR. SPELLACY
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.
238 ELEMENTS OF POLITICS AND GOVERNMENT. (3) I. MR. SAUNDERS
An introduction to the terms and principles of political science. The meaning of law, liberty, constitutionalism, democracy, etc.

240 DEMOCRACY AND COMMUNISM. (3) I. MR. SAUNDERS
Survey of the ideological and institutional development of the present rivals for man's allegiance.

241 CONTEMPORARY POLITICS. (2) I and II. MR. SAUNDERS
The world of politics as illustrated by current national and international events. (Not offered 1949–50.)

248 AMERICAN STATE GOVERNMENT. (3) II. MR. SPELLACY
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; not offered 1949–50.)

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

253 INTERNATIONAL LAW. (3) I. MR. BRIDGHAM
A study of the nature and development of international law, emphasizing recent trends toward a modern law of nations.

254 MUNICIPAL GOVERNMENT. (3) I. MR. SPELLACY
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; offered 1949–50.)

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

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

261 INTERNATIONAL ORGANIZATION. (3) II. MR. BRIDGHAM
A study of the problems involved in the development of international government, with special emphasis on the United Nations Organization.

262 GOVERNMENT AND POLITICS OF THE FAR EAST. (3) II. MR. BRIDGHAM
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.

263 INTERNATIONAL RELATIONS OF THE FAR EAST. (3) I. MR. BRIDGHAM
The position of eastern Asia in the postwar world and the problems of adjustment that face Japan, China, and other nations of this region.
264 POSTWAR INTERNATIONAL PROBLEMS. (3) I. MR. BRIDGHAM
Background and study of the major issues of wartime and postwar diplomacy, with emphasis upon conflicting US-USSR policies in the United Nations, in Europe, and in the Middle East.

266 EUROPEAN GOVERNMENTS. (3) I. MR. SAUNDERS
Comparison of the political systems of Great Britain, France, and the Soviet Union with the United States; some attention to other countries.

267 AMERICAN FOREIGN RELATIONS. (3) II. MR. BRIDGHAM
A study of the historical, institutional, political, and economic influences on the formation and execution of contemporary American foreign policy.

271 GOVERNMENT OF DEPENDENCIES. (3) II. MR. LEEBRICK
National and legal status; relations with the United Nations and with the supervising national government; local government. (Not offered 1949-50.)

282 INTRODUCTION TO PUBLIC ADMINISTRATION. (3) I. MR. SPELLACY
Relationship of administration to policy-forming agencies; organization of administrative staffs; centralization of responsibility.

283 PERSONNEL ADMINISTRATION. (3) I. MR. AKINA
The organization and administration of civil service systems; the recruitment, classification, discipline, and status of civil servants; and related matters.

284 ADMINISTRATIVE LAW. (3) II. MR. SPELLACY
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.

286 STATE AND LOCAL ADMINISTRATION. (3) II. MR. SPELLACY
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, and police.

288 METHODS AND PROBLEMS OF RESEARCH IN PUBLIC ADMINISTRATION. (3) II. MR. SPELLACY
Individual projects in cooperation with the Legislative Reference Bureau, to acquaint the student with practical problems confronting the public service. Enrollment restricted to students of the Public Administration Program who are within two semesters of graduation.

290 MODERN POLITICAL PHILOSOPHY. (3) II. MR. SAUNDERS
The principles of government as expounded by great thinkers of the Occident from 1600 to the present. The doctrines of fascism, communism, and democracy.

300 DIRECTED READING AND RESEARCH. (Ar.) I and II. STAFF
Individual problems in the field of government. Prerequisite: consent of instructor.

302 SEMINAR IN INTERNATIONAL RELATIONS. (2) II. MR. BRIDGHAM
Prerequisite: consent of instructor.
303 **SEMINAR IN GOVERNMENT AND POLITICS OF THE FAR EAST. (2) I.**

Prerequisite: consent of instructor.

Mr. Leebick

304 **SEMINAR IN PUBLIC LAW. (2) I.**

Prerequisite: consent of instructor.

Mr. Spellacy

307 **SEMINAR IN POLITICAL THEORY. (2) II.**

Prerequisite: consent of instructor.

Mr. Saunders

310 **SEMINAR IN PUBLIC ADMINISTRATION. (2) II.**

Prerequisite: consent of instructor.

Mr. Spellacy

**HAWAIIAN**

Assistant Professor Elbert; Lecturer Kahale.

100 **ELEMENTARY HAWAIIAN. (3-3) Yr.**

Elements of the language.

Mr. Elbert, Mr. Kahale

101 **INTERMEDIATE HAWAIIAN. (3-3) Yr.**

Review of Hawaiian grammar.

Mr. Kahale

**HEALTH AND PHYSICAL EDUCATION**

Professor Brown; Assistant Professors Gay, Saake, Kaulukukui; Instructors Gibson, Sakamoto, Barkley, Gallon, Gustuson, O'Brien, Naumu, Randall.

101 **INDIVIDUAL AND TEAM SPORTS. (1) I.**

Tennis and volleyball for men; swimming and basketball for women. Two class periods. Activities and locker fee $3.00.

Staff

102 **INDIVIDUAL AND TEAM SPORTS. (1) II.**

Swimming and basketball for men; tennis and volleyball for women. Two class periods. Activities and locker fee $3.00.

Staff

103 **INDIVIDUAL AND TEAM SPORTS. (1) I and II.**

Archery, dancing, and golf. Two class periods. For sophomores. Activities and locker fee $3.00.

Staff

105 **RESTRICTED ACTIVITIES. (1) I and II.**

For students who are physically handicapped and unable to take the regular courses. Admittance only upon recommendation of University physician. Two class periods. Activities and locker fee $3.00.

Miss Gay, Staff

111 **INTERMEDIATE SWIMMING. (1) I.**

For students who have met the basic requirements in swimming and desire to develop additional skills in swimming and diving.

Mr. Sakamoto
115 TUMBLING AND APPARATUS. (1) I. MR. GUSTUSON
Exercises on mats and heavy apparatus suitable for use with child and adult groups. Activities and locker fee $3.00.

120 MUSIC AND RHYTHMS IN PHYSICAL EDUCATION. (2) II. MISS GAY
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. Activities and locker fee $3.00.

121 MODERN DANCE. (2) I and II. MISS RANDALL
An introduction to modern dance techniques, with emphasis on fundamentals. Activities and locker fee $3.00.

130 PERSONAL HYGIENE. (1) I and II. STAFF
Scientific health information as a basis for hygienic living. Personal health problems. One lecture and one personal conference.

132 PERSONAL HEALTH. (2) I. MISS GAY
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.

140 NATURE AND FUNCTION OF PLAY. (2) I. MR. SAAKE
The place of play in community and school life and its application to the various age groups.

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

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

217 ATHLETIC COACHING—BASEBALL AND TRACK. (2) II. MR. KAULUKUKUI
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.

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

221 PHYSICAL EDUCATION FOR ELEMENTARY SCHOOLS. (2) I. MISS O'BRIEN
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. Activities and locker fee $3.00.

222 PHYSICAL EDUCATION FOR SECONDARY SCHOOLS. (2) II. MISS O'BRIEN
Activities and methods in programs for the junior and senior high school levels. Three class periods. Activities and locker fee $3.00.
225 THE TEACHING OF INDIVIDUAL SPORTS. (2) I. MISS GAY
Organization and teaching techniques for such athletic activities for girls as tennis, archery, badminton, golf, etc., on the secondary level. Three class periods.

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

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

232 PUBLIC HEALTH PROBLEMS. (2) I.
Deals with health problems of the community and the responsibility of individuals, groups, and organizations for public health. (Not offered 1949-50.)

234 SAFETY PROCEDURES IN PHYSICAL EDUCATION. (2) I. MR. SAAKE
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.

241 SOCIAL RECREATION. (2) II. MISS GIBSON
Activities and leadership techniques for parties, socials, etc.

246 OFFICIATING IN ATHLETICS. (1-1) Yr. MR. GALLON
The techniques used by officials in the various sports. Practice in officiating is included.

247 FESTIVALS AND PAGEANTS. (2) II.
This course deals with the development of mass productions of a dramatic nature suitable for school and community recreation organizations. (Not offered 1949-50.)

249 CAMP LEADERSHIP. (2) II. MR. BROWN, STAFF
Program development and procedures used in the modern camping movement. Relationships with educational and other agencies.

250 RECREATION LEADERSHIP. (2-2) Yr. MR. BROWN, STAFF
Students are assigned to recreational agencies for orientation. One hour per week is devoted to discussion of individual and group problems.

252 FIELD WORK IN RECREATION. (5-5) Yr. MR. BROWN, STAFF
Students are assigned to recreational agencies for work experience. One hour each week is devoted to discussion of problems. Prerequisite: consent of instructor. For Recreation majors only.

263 INTRAMURAL ATHLETICS. (2) I. MR. BROWN
Organization, program, and procedures used in conducting the sports program for students outside of regular class hours.

265 MEASUREMENT IN PHYSICAL EDUCATION. (3) I. MR. BROWN
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. (Not offered 1949-50.)
269 PHYSICAL EDUCATION PROGRAM IN SCHOOLS. (2) II. MR. BROWN
Designed to meet the needs of school administrators, supervisors, and others concerned with the organization, program content, and function in the modern school curriculum. (Not offered 1949-50.)

280 ANATOMY IN PHYSICAL EDUCATION. (3) I. MR. BROWN
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.

285 PHYSIOLOGY IN PHYSICAL EDUCATION. (3) II. MR. SAAKE
The basic essentials in physiology and physiology of activity necessary in teaching desirable health practices; selection of activities to meet individual and group needs. Designed primarily for leaders in physical education and recreation but open to others.

290 SEMINAR IN PHYSICAL EDUCATION AND RECREATION. (3) I and II. MR. BROWN
Study and discussion of individual and group problems in the fields of physical education and recreation. (Not offered 1949-50.)

HISTORY

PROFESSOR KUYKENDALL; ASSOCIATE PROFESSORS HUNTER, SAKAMAKI, WHITE; ASSISTANT PROFESSORS MURPHY, JOHNSON, DELZELL.

100 WORLD CIVILIZATION. (3-3) Yr. MR. DELZELL, MR. MURPHY,
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.

110 INTRODUCTION TO AMERICAN HISTORY. (3) I and II. MR. HUNTER, MR. JOHNSON
The religious, cultural, and social backgrounds of the American people. Prerequisite for advanced courses in American history.

201 HISTORY OF THE FAR EAST. (3-3) Yr. MR. SAKAMAKI
Survey of the political, social, and economic history of the Far East as a unit.

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

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

211 CONSTITUTIONAL HISTORY OF ENGLAND. (3) I. MR. HUNTER
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. (Alternate years; not offered 1949-50.)
213 HISTORY OF MODERN RUSSIA. (3) I. 
MR. DELZELL
A survey of all aspects of Russian history and civilization from the beginning to the Bolshevik Revolution.

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

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

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

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

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

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

245 DIPLOMATIC HISTORY OF THE UNITED STATES. (3) I. 
MR. HUNTER
History of American foreign policy since the Civil War, with emphasis upon recent developments. (Alternate years; offered 1949–50.)

246 AMERICAN THOUGHT AND CULTURE. (3) II. 
MR. HUNTER
An advanced course on American social customs, institutions, and intellectual pursuits. (Alternate years; offered 1949–50.)

250 HISTORY OF EARLY CIVILIZATION IN THE FAR EAST. (3) I. 
MR. SAKAMAKI
Study of the origins of the peoples and cultures in Eastern Asia.

251 HISTORY OF THOUGHT IN JAPAN. (3) II. 
MR. SAKAMAKI
Major schools of thought and important thinkers, social reformers, economists, statesmen, and educators of Japan.

252 CONSTITUTIONAL HISTORY OF THE UNITED STATES. (3) II. 
MR. HUNTER
The genesis, drafting, ratification, and development of the federal Constitution. (Alternate years; not offered 1949–50.)
253–254 History of Hispanic America. (3–3) Yr. Mr. Johnson
The political, economic, and social development of the Hispanic American Repub­lics from colonial times to the present; emphasis on the ABC powers and international relations of the Western Hemisphere.

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

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

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

277 The Pacific Region in Modern Times. (2–2) Yr. Mr. Kuykendall
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 1949–50.)

285 Russia in Asia. (3–3) Yr. Mr. White
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.

295 Cultural History of China. (3–3) Yr. Mr. White
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 1949–50.)

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

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

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

313 Seminar in Historiography. (3) II. Mr. Hunter
The history of history and historians. Open to seniors and graduate students.

315 Seminar in Japanese History. (3) II. Mr. Sakamaki
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.
316 SEMINAR IN CHINESE HISTORY. (3) I. MR. WHITE
Guidance in the use of Chinese historical materials. (Not offered 1949-50.)

HOME ECONOMICS

PROFESSOR MILLER; ASSOCIATE PROFESSORS GRUELLE, PHILLIPS, JONES; ASSISTANT PROFESSORS BOATMAN, UMBEL; INSTRUCTORS BARTOW, DOUTY, GUNN, SHUDLICK, OWENS.

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

GENERAL COURSES (HE)

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

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

HE 201 CONSUMER EDUCATION. (2) I. MISS DOUTY
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. Prerequisite: Economics 140 or 150.

HE 250 HOUSEHOLD MANAGEMENT. (3) I. MRS. GRUELLE
Contribution of homemaker and family members to better home living; management of time, energy, and money; housing; selection, arrangement, and care of equipment. Two lectures and one laboratory period. Prerequisite: junior standing.

HE 251 HOME ECONOMICS EDUCATION. (3) II. MISS PHILLIPS
Curriculum content, teaching procedures, and current educational philosophies and practices as they apply to home economics education. Prerequisite: Psychology 150 or 156; junior standing.

HE 252 CHILD CARE AND TRAINING. (3) I. MISS WILLIAMS
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. Prerequisite: Home Economics 101; Psychology 150 or 156.
HE 262 EDUCATION FOR FAMILY LIFE. (3) I.
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.

HE 291 HOME-MANAGEMENT HOUSE LABORATORY. (4) I and II.
Living with a group of four to six students in a supervised house for six weeks; practical application of training in home economics, meal preparation, time and money management, human relationships. Students share subsistence cost. Prerequisite: Home Economics 250, 272, and senior standing.

HE 300 DIRECTED READING OR RESEARCH. (Ar.) I and II. STAFF
(a) Agricultural Extension; (b) Clothing and Textiles; (c) Foods and Nutrition; (d) Home Economics Education; (e) Home Management; (f) Institutional Management. Prerequisite: consent of department chairman and instructor concerned.

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

HOUSEHOLD ART (HA)

HA 110 CLOTHING AND TEXTILES. (3) I and II. MISS UMBEL
Principles of selection and construction. Study and use of commercial patterns; principles of fitting; fundamentals of textiles; use and care of sewing machine. One lecture and two laboratory periods. Prerequisite: Household Art 150 for Home Economics majors; others may register with consent of instructor. Laboratory fee $2.00.

HA 111 CLOTHING AND TEXTILES. (3) I and II. MISS DOUTY
Construction techniques, design principles, and fitting applied to alteration and renovation problems. Consideration of children's clothing. Two laboratory periods. Prerequisite: Household Art 110, 150. Laboratory fee $2.00.

HA 150 CLOTHING SELECTION. (3) I and II. MISS DOUTY
Study of clothing needs for freshman students. Wardrobe planning and clothing selection with emphasis on design principles, color, individual needs, and grooming; cost and care of clothing. Two lectures and one laboratory period. Laboratory fee $2.00.

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

HA 214 CLOTHING DESIGN AND CONSTRUCTION. (Formerly 114.) (2-2) Yr. MISS DOUTY
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. Prerequisite: Household Art 110, 111, 150. Laboratory fee $3.00 each semester.
HA 255 ADVANCED CLOTHING. (2) II. MISS DOUTY
Consideration of fabrics, designs, and techniques in advanced problems of clothing construction; study and use of commercial patterns. Two laboratory periods. Pre-requisite: Household Art 111. Laboratory fee $2.00.

HA 299 PROBLEMS IN CLOTHING AND TEXTILES. (Ar.) II. STAFF
Independent investigation of a problem in clothing or textiles in which the student has a special interest. Prerequisite: Household Art 110, 111, 150, 214; Art 171 or equivalent; consent of instructor and department chairman.

HOUSEHOLD SCIENCE (HS)

HS 102 ADVANCED FOOD PREPARATION AND SERVING. (3-3) Yr. MRS. GRUELLE, MRS. BARTOW
Economics of food selection; experimental food preparation; meal planning and serving. One lecture and two laboratory periods. Prerequisite: Household Science 150; Chemistry 100 or 103. Laboratory fee $5.00 each semester. Sections limited to 16 students each.

HS 150 ELEMENTARY FOOD PREPARATION. (3) I and II. MRS. BARTOW, MISS GUNN
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. Laboratory fee $5.00. Sections limited to 16 students each.

HS 156 SURVEY OF NUTRITION. (2) I and II. MISS GUNN
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.

HS 250 DIET AND DISEASE. (3) II.
Diet therapy under abnormal conditions. Two lectures and one laboratory period. Prerequisite: Household Science 277. Laboratory fee $2.00.

HS 260 QUANTITY COOKERY. (3) I. MISS OWENS
Food problems of institutions; preparation and serving of food in large quantities, menu planning, and food costs. One lecture and two laboratory periods. Prerequisite: Household Science 102.

HS 261 INSTITUTIONAL MANAGEMENT. (3) II. MISS OWENS
Organization and administration of food departments of institutions such as college cafeterias, college residence halls, and hospitals. Prerequisite: Household Science 260.

HS 263 INSTITUTIONAL BUYING. (3) I. MRS. SHUDLICK
Selection and purchase of foods and equipment for an institution. Two lectures and one laboratory period. Prerequisite: credit or concurrent registration in Household Science 260.
HS 264 PROBLEMS IN HOSPITAL DIETETICS OR INSTITUTIONAL MANAGEMENT. 
(4) I and II. 
MRS. BOATMAN 
Field practice for senior and graduate student dietitians in an approved institution. 
Prerequisite: Household Science 260, 277; consent of instructor.

HS 265 INSTITUTIONAL ACCOUNTS. (3) II. 
MRS. SHUDLICK 
Principles of accounting applied to management of school cafeterias, tearooms, 
residence halls, and other food service units. One lecture and two laboratory periods. 
Prerequisite: Household Science 260.

HS 266 PROBLEMS IN RESIDENCE HALL MANAGEMENT. (Ar.) I and II. 
MRS. BOATMAN 
Planning and directing preparation of meals in a university women's residence hall; 
directing of housekeeping in residence hall. Prerequisite: Household Science 260, 
261, 263, 265, and 277.

HS 270 NUTRITION FOR NURSES. (3) I. 
MISS GUNN 
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.

HS 272 ELEMENTARY NUTRITION. (4) I. 
MISS GUNN 
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. Prerequisite: Household Science 102 or consent of instructor. Laboratory 
fee $5.00.

HS 273 FOOD HABITS IN HAWAII. (4). II. 
MRS. GRUELLE 
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. Prerequisite: Household Science 272. Laboratory fee $5.00.

HS 277 ADVANCED NUTRITION. (3) II. 
MISS MILLER 
Energy, protein, and mineral metabolism; chemical and physical properties, and 
nutritional significance of the vitamins. Simple animal feeding experiments. Two 
lectures and one laboratory period. Prerequisite: Household Science 272; Chemistry 
232. Laboratory fee $5.00.

HS 299 DIRECTED RESEARCH IN EXPERIMENTAL COOKERY. (Ar.) I and II. 
STAFF 
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.

HS 300 DIRECTED RESEARCH IN NUTRITION. (Ar.) I and II. 
MISS MILLER 
Problems according to preparation of each student; nutritional investigations; animal 
and human feeding experiments. Prerequisite: Household Science 200; consent of 
instructor. Laboratory fee $5.00 each semester.

HS 301 DIETARY STUDIES. (Ar.) I and II. 
MISS MILLER 
Individual, group, family and/or institutional studies of food habits and the nutritive 
value of diets. Prerequisite: Household Science 200; consent of instructor. Open 
to qualified seniors.
HS 305 LABORATORY METHODS IN NUTRITION. (3) I and II. MISS MILLER, STAFF

Growth experiments with laboratory animals; vitamin determinations by chemical, biological, and microbiological methods; food analyses; basal metabolism; balance experiments with animals or humans. Prerequisite: Household Science 200; Chemistry 230, 232.

HS 350–351 SEMINAR IN NUTRITION. (1–1) Yr. MISS MILLER

Review of current literature; preparation of reports; reviews of articles on assigned topics. Prerequisite: consent of instructor.

JAPANESE

ASSOCIATE PROFESSOR UYEHARA; ASSISTANT PROFESSOR MATSUMOTO; INSTRUCTOR WATANABE.

100 ELEMENTARY JAPANESE. (3–3) Yr. STAFF

Reading and translation of language readers. Study of Katakana, Hiragana, and simple Chinese characters; composition and oral exercises.

101 INTERMEDIATE JAPANESE. (3–3) Yr. STAFF

Reading and translation of language readers. Study of more Chinese characters; composition; advanced oral exercises.

203 JAPANESE TRANSLATION AND INTERPRETATION. (3–3) Yr. MR. UYEHARA


260 JAPANESE LITERATURE IN ENGLISH. (2–2) Yr. MR. UYEHARA

Historical analysis of Japanese thought through literature. Study of classics and contemporary works; drama; poetry; etc.

299 DIRECTED READING OR RESEARCH. (Ar.) I and II. MR. UYEHARA

KOREAN

LECTURER PARK.

100 ELEMENTARY KOREAN. (3–3) Yr. MR. PARK

Conversation, elements of grammar, reading.

101 INTERMEDIATE KOREAN. (3–3) Yr. MR. PARK

Conversation, reading, and writing. Some Chinese characters.

LIBRARY SCIENCE

ASSISTANT PROFESSOR CRAWFORD; INSTRUCTOR GEISER.

260 LIBRARY OBSERVATION AND PARTICIPATION. (1–1) Yr. MISS CRAWFORD, MRS. GEISER

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
libraries. Students expecting to specialize in Library Science must register concurrently for Library Science 262 the first semester and English 255 the second semester. Students may enter second semester.

262 ORGANIZATION AND ADMINISTRATION OF SCHOOL LIBRARIES. (3) I. MISS CRAWFORD

Methods of organizing various types of library materials and keeping essential records. Objectives and contributions of the school library to the educational program.

268 CATALOGUING AND CLASSIFICATION. (3) I. MISS CRAWFORD

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.

269 ADVANCED CATALOGUING. (2) II. MISS CRAWFORD

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: typing ability; Library Science 268; consent of instructor.

284 BOOK SELECTION AND READING GUIDANCE. (3) II. MRS. GEISER

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.

286 PROMOTING LIBRARY USE. (2) II. MISS CRAWFORD

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. Prerequisite: Library Science 284; consent of instructor. (Alternates with 290: offered 1949-50.)

290 SCHOOL LIBRARY PROBLEMS. (2) II. MISS CRAWFORD

Emphasis upon problems of the teacher-librarian in relation to selection, organization, and circulation of books, pamphlets, pictures, periodicals, and recordings. Prerequisite: Library Science 262 or equivalent. (Alternates with 286; not offered 1949-50.)

354 LIBRARY INTERNSHIP. (14) I and II. MISS CRAWFORD, MRS. GEISER

Full-time service in laboratory or public school libraries under special supervision. Restricted to fifth-year students. Prerequisite: Library Science 260, 262, 268, 284; Education 254.

LINGUISTICS

ASSISTANT PROFESSOR ELBERT.

250 INTRODUCTION TO LINGUISTICS. (3) I. MR. ELBERT

The origin and development of linguistic science; principles and techniques of linguistics. Training in phonetics, with native speakers of modern European and Oceanic languages as informants. Dialect geography.
251 Linguistic Analysis. (3) II. MR. ELBERT
Descriptive linguistics, with emphasis on phonemic and morphological analysis; structural comparison of languages. Language as an aspect of culture. Ethnolinguistics and the use of linguistics by anthropologists. Prerequisite: Linguistics 250, or consent of instructor.

260–261 Survey of Pacific Languages. (3–3) Yr. MR. ELBERT
A brief description of the language types in Oceania. The linguistic picture correlated with the history of migrations. Field techniques in recording texts of Polynesian, Micronesian, and other Malayo–Polynesian languages, with emphasis on phonetics and phonemics. Problems of morphology in Oceania. Prerequisite: junior standing or consent of instructor.

MATHEMATICS

Professors Holmes, Stelson; Associate Professor Townes; Assistant Professors Gregory, McCall, Evans, Wachter; Instructors Robertson, Mookini, Elstner, Fondaahl, Davis.

150 Plane Trigonometry. (3) I and II. STAFF
Prerequisite: two years of high school algebra; one year of plane geometry.

151 College Algebra. (3) I and II. STAFF
Prerequisite: two years of high school algebra; one year of plane geometry.

152 Plane Analytical Geometry. (3) I and II. STAFF
Prerequisite: Mathematics 150; credit or concurrent registration in Mathematics 151.

153 Differential Calculus. (3) I and II. MR. STELSON, MR. GREGORY, MR. WACHTER
Includes infinite series. Prerequisite: Mathematics 152.

154 Integral Calculus. (3) I and II. MR. STELSON, MR. TOWNES, MR. MOOKINI
Includes space geometry. Prerequisite: Mathematics 153.

155 Differential Equations. (3) II. MR. STELSON, MR. TOWNES, MR. GREGORY
The formulation and solution of ordinary differential equations. Applications to chemistry and physics. Prerequisite: Mathematics 154.

156 Spherical Trigonometry. (2) II. MR. HOLMES
Prerequisite: Mathematics 150 or the equivalent.

157 Elementary Statistics. (3) I. MR. TOWNES
Averages, frequency distributions, and allied statistical functions; probability theory. Designed for prospective statistical workers with a limited mathematical background.
252-253 ADVANCED CALCULUS AND DIFFERENTIAL EQUATIONS. (3–3) Yr.

Theory and application of ordinary, total, and partial differential equations. Fourier and other series; hyperbolic functions. Prerequisite: Mathematics 155 or the equivalent.

254-255 APPLICATIONS OF HIGHER MATHEMATICS. (3–3) Yr.

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. (Not offered 1949–50.)

280 STATISTICAL METHODS. (3) II.


299 DIRECTED READING. (Ar.) I and II.

Theory of the complex variable. Prerequisite: consent of instructor.

MEDICAL TECHNOLOGY

LECTURER OISHI.

266 MEDICAL TECHNOLOGY. (4) Summer Session.

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. Prerequisite: Bacteriology 262, 264. Laboratory fee $5.00.

267-268 MEDICAL TECHNOLOGY. (12–12) Yr.

Student technician training in a cooperating laboratory under the supervision of a qualified director. Prerequisite: Medical Technology 266.

MILITARY SCIENCE AND TACTICS

PROFESSOR BOND; ASSOCIATE PROFESSOR BOWER; ASSISTANT PROFESSORS WARNER, PRINCE, HECKLINGER; INSTRUCTORS RICHARDSON, PERCEFULL, HEARD, CABRAL, NICK, ALBERTELLI, BUDDE, POMROY.

Military Science 100 and 101 must be taken by every physically qualified male student who is an American citizen. An alien may register for the basic courses at his own expense with the consent of the chairman of the department. 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.

MS 100 (ROTC) FIRST-YEAR BASIC COURSE. (1–1) Yr.

Introduction to Military Science. Elements of national power, leadership, drill, and exercise of command. Three hours a week. Special uniform and awards fee 50 cents (not refundable).
ANNOUNCEMENT OF COURSES

MS 101 (ROTC) SECOND-YEAR BASIC COURSE. (1–1) Yr. COLONEL BOND, STAFF

Introduction to branch technique (Field Artillery or Infantry), leadership, drill, and exercise of command. Three hours a week. Special uniform and awards fee 50 cents (not refundable).

MS 200 (ROTC) FIRST-YEAR ADVANCED COURSE. (3–3) Yr. COLONEL BOND, STAFF

Branch tactics and technique, leadership, drill, and exercise of command. Five hours a week. Open to selected students. Prerequisite: Basic course or equivalent. Special uniform and awards fee 50 cents (not refundable).

MS 201 (ROTC) SECOND-YEAR ADVANCED COURSE. (3–3) Yr.

MILITARY SCIENCE 200. Special uniform and awards fee 50 cents (not refundable).

MS 250 (ROTC) SUMMER CAMP. (2) COLONEL BOND, STAFF

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 deferment is authorized.

MUSIC

ASSOCIATE PROFESSOR RIAN; ASSISTANT PROFESSORS MCCLAIN, VINE, SMITH; INSTRUCTORS KAHANANUI, TUCK.

110 MUSIC APPRECIATION. (3) I and II. MR. MCCLAIN, MR. TUCK

An introduction to music from the listener's point of view, with emphasis on orchestral literature from the classical through the modern period. Emphasis on listening to recorded music. Course fee $2.00.

111 MUSIC APPRECIATION. (3) II. MR. TUCK

A study of music from the listener's point of view with emphasis on opera, ensemble music, and modern trends. Prerequisite: Music 110. Course fee $2.00.

150 RUDIMENTS OF MUSIC. (3) I and II. MR. MCCLAIN

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.

159 INSTRUMENTAL MUSIC. (1–1) Yr. MR. MCCLAIN

Intended for students preparing to teach instrumental music. Designed to give a basic knowledge of the instruments of the band and orchestra.

160–161 THEORY. (3–3) Yr. MR. TUCK

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.
170-171 HISTORY AND LITERATURE OF MUSIC. (3-3) Yr.  
Mr. Tuck  
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.

209 UNIVERSITY CHORUS. (1) I and II.  
Mr. Vine  
Three times a week. May be repeated.

210 UNIVERSITY A CAPPELLA CHOIR. (1) I and II.  
Mr. Rian  
Three times a week. May be repeated.

251-252 MUSIC IN THE ELEMENTARY CURRICULUM. (2-2) Yr.  
Mrs. Kahananui  
Organization and direction of music in childhood experience. A survey of materials and procedures.

260-261 ADVANCED THEORY. (3-3) Yr.  
Miss Smith  
Advanced harmony and analysis. Harmonizing melodies, written work, and keyboard exercises. Special emphasis on modulation and use of discords. The elements, forms, characteristics, and structures of the various types of eighteenth, nineteenth, and twentieth century music. Prerequisite: Music 160-161.

265 SIMPLE COUNTERPOINT. (3) I.  
Miss Smith  
Writing in the five species in two, three, and four parts. Prerequisite: Music 160-161, 260-261.

266 BAND. (1) I and II.  
Mr. McClain  
Three times a week. May be repeated.

267 ORCHESTRA. (1) I and II.  
Mr. Tuck  
Three times a week. May be repeated.

268 COMPOSITION. (3) II.  
Miss Smith  
Free treatment of musical motives. Study of masterpieces. Composing in the different vocal and instrumental forms. Students admitted only upon recommendation of the department. Prerequisite: Music 160-161, 170-171, 210, 266, or approval of the department chairman.

270-271 CONDUCTING. (3-3) Yr.  
Mr. Rian  
Designed to prepare conductors for school, community, and church music. Training and organizing choral and instrumental groups, ensemble singing and playing, conducting technique, and choral and instrumental literature. Prerequisite: Music 160-161, 170-171, 210, 266, or approval of the department chairman.

280-281 ORCHESTRATION. (3-3) Yr.  
Mr. Rian  
A course in arranging and composing for band, orchestra, and chamber groups. Prerequisite: Music 160-161, 170-171, 260-261, 266, 270-271, or approval of the department chairman.

285-286 SCHOOL MUSIC. (3-3) Yr.  
Mr. Rian  
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. Prerequisite: Music 160-161, 170-171. (Not offered 1949-50.)
ANNOUNCEMENT OF COURSES

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 occurring 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, or the equivalent.

Piano—Play any major or minor scale in octaves, in sixteenth at M. M. quarter note-112; Bach Two Part Invention or a dance from one of the suites; a sonata by Haydn, or Mozart; a modern composition as difficult as 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

One lesson each week (half hour) . . . . . . . . . . . . . . . . . $ 65.00
Two lessons each week (half hour each) . . . . . . . . . . . . . . . . . $125.00

COURSES

90 INDIVIDUAL INSTRUCTION. (0-0) Yr. STAFF
For students who fail to meet the minimum requirements of proficiency expected for college freshmen in piano, voice, organ, or orchestral instruments.

149 INDIVIDUAL INSTRUCTION. (Ar.) Yr. STAFF
Piano, organ, voice, or orchestral instruments at the freshman level.

169 INDIVIDUAL INSTRUCTION. (Ar.) Yr. STAFF
Piano, organ, voice, or orchestral instruments at the sophomore level.

249 INDIVIDUAL INSTRUCTION. (Ar.) Yr. STAFF
Piano, organ, voice, or orchestral instruments at the junior level.
269 INDIVIDUAL INSTRUCTION. (Ar.) Yr.  
Piano, voice, organ, or orchestral instruments at the senior level.  

349 INDIVIDUAL INSTRUCTION. (Ar.) Yr.  
Piano, voice, organ, or orchestral instruments at the graduate level.  

NURSING

ASSOCIATE PROFESSOR JONES; LECTURERS LEE, FISHER, CONNOR, LYNN, URBAIN, WILBAR, MACBRIDE.

250 WARD MANAGEMENT. (3) I.  
Miss Fisher  
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.

251 WARD TEACHING. (3) II.  
Miss Fisher  
The place of the ward supervisor and head nurse in carrying out the objectives of the general educational program of the school of nursing. Opportunities, methods, and relationships involved in teaching students on the ward to plan for individualized nursing care.

253 COMPARATIVE NURSING PROCEDURE. (3) II.  
Miss Fisher  
Evaluation of basic nursing procedures, with emphasis upon underlying scientific principles.

254 LEGAL ASPECTS OF NURSING. (2) II.  
Miss Jones  
A study of legislation as it affects the development of the status of nurses, nursing and nursing education, and the legal aspects of the nurse's relationships to the hospital, the patient, and the community. (Not offered 1949-50.)

255 ADVANCED PHARMACOLOGY. (2) II.  
Miss Fisher  
The study of drugs; new developments in drug therapy; the responsibility of the nurse in the administration of drug therapy, with emphasis on how it may be taught to nursing students. (Not offered 1949-50.)

257 ECONOMICS OF NURSING SERVICE. (2) I.  
Miss Fisher  
Some economic problems of hospitals as community agencies; analysis of current economic situations as they affect nursing service and nursing education. (Not offered 1949-50.)

260 PRINCIPLES OF SUPERVISION. (3) I.  
Miss Jones  
A study of the fundamental principles of supervision and their application to situations in nursing, with emphasis on the improvement of service through the growth of the individual worker.

261 TEACHING NURSING ARTS. (2) I.  
Miss Fisher  
A study of the aims and scientific principles underlying nursing procedures. Analysis of the methods, content, and materials used in teaching nursing arts. Pre-requisite: Education 235 and 250–251, or consent of instructor.
263 SOCIAL AND HEALTH ASPECTS OF NURSING. (2) I and II. MISS JONES
A study of how the resources of the hospital and other community agencies may be used to develop the nurse's understanding of the patient's needs as a member of a family and a community, and the nurse's responsibility to help him meet those needs.

264 CURRICULUM DEVELOPMENT IN SCHOOLS OF NURSING. (2) II.
Study and analysis of curriculums in nursing education; the development of curriculums in relation to objectives, selection and organization of content, and methods and evaluation of the program. Prerequisite: Education 235 and 250–251. (Not offered 1949–50.)

266–267 CLINICAL EXPERIENCE IN SPECIAL FIELDS. (3–3) Yr. MISS JONES, STAFF
One semester of supervised experience and study in a selected clinical program in nursing, followed by a semester of practice as supervisor in the same service. Prerequisite: Nursing 250 or 251, or consent of instructor.

268 SUPERVISED PRACTICE. (3) II.
Observation and supervised participation in a teaching or supervisory situation involving nursing procedures. Prerequisite: Nursing 250–251 and 260 or 261. (Not offered 1949–50.)

280 PUBLIC HEALTH NURSING. (4–4) Yr. MISS JONES
The development, functions, methods, techniques, and relationships of public health nursing; emphasis on the social, preventive, and teaching aspects of service to the family and the community.

281 HEALTH TEACHING IN NURSING. (2) II. MISS JONES
Basic principles underlying teaching and learning; selection and organization of materials used in health teaching; methods used with groups and individuals.

282–283 PRINCIPLES OF PUBLIC HEALTH AND PREVENTIVE MEDICINE. (3–3) Yr. MR. LEE, MR. WILBAR, MISS CONNOR
Principles of public health and preventive medicine and their application in protecting and promoting the health and welfare of citizens through organized community effort. Maintenance of proper health for mother, infant, and child is stressed.

290 FIELD PROGRAM. (10) I and II. MISS JONES, MISS MACBRIDE, FIELD STAFF
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.

291–292 INTERVIEWING IN PUBLIC HEALTH NURSING. (2–2) Yr. MRS. URBAIN
General principles of interviewing as demonstrated through the use of actual case material from public health nursing records. Runs concurrently with 293–294, and material is chosen to illustrate dynamics of behavior as they occur in that course.

293–294 DYNAMICS OF EMOTIONAL AND SOCIAL DEVELOPMENT. (2–2) Yr. MR. LYNN
The various aspects and successive stages of emotional and social development of the child. Normal sequences of parent–child relations are considered first, followed by a study of the abnormal arrestments and disturbances which the public health nurse can detect and help correct. Runs concurrently with 291–292.
PHILOSOPHY

Professors Moore, Shimer, Suzuki, Wu; Assistant Professor McCarthy.

100 INTRODUCTION TO PHILOSOPHY. (3) I and II.  
Mr. Shimer,  
Mr. McCarthy

The problems, methods, and fields of philosophy.

110 BUSINESS ETHICS. (3) I and II.  
Mr. Moore

A consideration of basic ethical concepts as applied to business enterprise and the professions.

150 HISTORY OF PHILOSOPHY. (3) I.  
Mr. Moore

Western philosophy from the era of great Greek thinkers to the Renaissance. Prerequisite: sophomore standing.

151 MODERN PHILOSOPHY. (3) II.  
Mr. Moore

Western philosophy from the Renaissance to the present day. Desirable preparation: Philosophy 150.

200 ETHICS—PHILOSOPHIES OF LIFE. (3) I.  
Mr. Moore

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.

201 ETHICS—PROBLEMS OF CONDUCT. (3) II.  
Mr. Moore

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.

210 CONTEMPORARY PHILOSOPHY. (3) II.  
Mr. Shimer

A study of recent developments in European and American philosophy. Prerequisite, one of the following: Philosophy 100, 150, 151, 252.

252 TYPES OF PHILOSOPHY. (3) I.  
Mr. McCarthy

Study of such basic philosophies as Naturalism, Idealism, Mysticism, Pragmatism, Skepticism, etc.

253 PROBLEMS OF PHILOSOPHY. (3) II.  
Mr. McCarthy

Persistent specific problems of philosophy, primarily those concerning nature, man, God, etc.

262 AESTHETICS. (3) I.  

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. (Not offered 1949–50.)

265 PHILOSOPHY, EAST AND WEST. (3) II.  
Mr. Moore

An introductory survey of the basic systems and methods of Eastern and Western philosophy, with special attention to similarities and contrasts.
270 INDIAN PHILOSOPHY. (3) I. MR. MOORE
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.

271 CHINESE PHILOSOPHY. (3) I. MR. WU
A historical survey of the important philosophical schools and tendencies in China, ancient and modern.

273 MODERN CHINESE POLITICAL THOUGHT. (3) II. MR. WU
A consideration of modern Chinese political thought as it has developed in relation to classical Chinese philosophy and to recent political programs and institutions.

275 PHILOSOPHY OF RELIGION. (3) I. MR. SHIMER
The sources and validity of beliefs associated with various great religions. Consideration of concepts of God, immortality, evil, redemption, conscience, prayer, mystical experience, revelation, miracles, sacred writings, and the like. Analysis of the relation of science, philosophy, theology, and religion, and of religion to individual and social life.

280 ELEMENTARY LOGIC (3) I. MR. McCARTHY
An introduction to deductive and inductive logic. Conditions, problems, and difficulties of valid reasoning and clear thinking in science, argumentation, and ordinary discourse.

282 TAOIST PHILOSOPHY. (3) I. MR. SHIMER
A detailed study of the metaphysical, ethical, political, religious, and aesthetic teaching of the great Taoist thinkers. (Not offered 1949-50.)

283 BUDDHIST PHILOSOPHY. (3) I. MR. SUZUKI
Buddhist philosophy in India, China, Korea, and Japan, and its influence on Far Eastern culture and thought.

286 PHILOSOPHY OF SCIENCE. (3) I. MR. McCARTHY
Historical survey of the development of the methodology of the physical and social sciences from the Renaissance to the present. Particular attention to the methodological and metaphysical principles of Copernicus, Galileo, Descartes, Newton, Darwin, and Einstein.

287 SCIENTIFIC METHOD. (3) II. MR. McCARTHY
A systematic study of the methods and grounds of reliable knowledge in the natural and social sciences and in philosophy.

288 SYMBOLIC LOGIC (3) II. MR. McCARTHY
A survey of the methods and forms of modern logic, with attention to the nature of the deductive system and the relationship between logic and mathematics. Prerequisite: Philosophy 280 or twelve credits in mathematics.

299 DIRECTED READING. (At.) I and II. STAFF
Reading, consultations, and written or oral reports; intended for advanced students and those with special interests. Prerequisite: consent of instructor.
304 Seminar in Buddhist Philosophy. (2) I.
Advanced study in Buddhist philosophy with emphasis on Zen. Prerequisite: consent of instructor.

PHYSICS

Professor Eller; Associate Professor Miyake; Instructor Toupin; Assistant Steiger.

100 Elements of Physics. (3-3) Yr. Mr. Miyake
Designed to meet the needs of students who do not intend further study of physics. May not be used as prerequisite to advanced courses. Two lectures and one demonstration period. Prerequisite: credit or concurrent registration in Mathematics 150.

102 College Physics. (4-4) Yr. Mr. Toupin
Three lectures and one laboratory period. Prerequisite: Mathematics 150 and credit or concurrent registration in Mathematics 151. Laboratory fee $6.00 each semester.

104 Engineering Physics. (5-5) Yr. Mr. Eller
Three lectures, one laboratory period, and one problem working period. Prerequisite: Mathematics 153; concurrent registration in Mathematics 154. Laboratory fee $6.00 each semester.

151 Fundamentals of Communication. (3) I. Mr. Miyake
A general electricity course covering both DC and AC theory and applications with emphasis on communication circuits. Two lectures and one laboratory period. Prerequisite: Mathematics 150. Laboratory fee $6.00.

153 Principles of Radio. (3) II. Mr. Miyake
Fundamentals of radio theory and design, and construction of radio receiving and amplifying equipment. Two lectures and one laboratory period. Prerequisite: Physics 151. Laboratory fee $6.00.

202 Electrical Engineering. (3-3) Yr. Mr. Eller
Electric power circuits and machinery, and the application of thermionic devices in power equipment. Two lectures and one laboratory period. Prerequisite: senior standing in Engineering; Physics 275 desirable preparation. Laboratory fee $6.00 each semester.

254 Advanced Radio (3) I. Mr. Miyake
Advanced radio theory and practice. Theory and design of the more complex radio equipment, including transmitters. Two lectures and one laboratory period. Prerequisite: Physics 153; Mathematics 154. Laboratory fee $6.00.

255 Light. (3) II. Mr. Toupin
Principles of geometric and physical optics. Prerequisite: Physics 275.
256 **OPTICS LABORATORY. (1) II.**
Mr. Toupin
Experiments in geometric and physical optics. One laboratory period. Prerequisite: credit or concurrent registration in Physics 255. Laboratory fee $6.00.

258 **ELECTRONICS. (3) II.**
Mr. Miyake
The theory and applications of electronic phenomena and electronic devices. Prerequisite: Physics 275.

259 **SEISMOLOGY. (3) II.**
Mr. Eller
A study of sources and causes of earthquakes, transmission of seismic waves through the earth, and instruments used for their recording. Prerequisite: Physics 102; Mathematics 154.

260 **GEOPHYSICS. (3) I.**
Mr. Toupin
Studies in applied geophysics, including terrestrial magnetism, atmospheric electricity, and the ionosphere. Prerequisite: Physics 102; Mathematics 154.

262 **SOUND. (3) I.**
Mr. Miyake
Theory of sound and its applications. Prerequisite: Physics 102; Mathematics 154.

263 **THEORETICAL MECHANICS. (3) II.**
Mr. Eller
Principles of statics and dynamics. Prerequisite: Physics 102; Mathematics 154.

270 **HEAT. (3) II.**
Mr. Miyake

275 **ELECTRICITY AND MAGNETISM. (4) I.**
Mr. Eller
Theory of electric and magnetic phenomena. Methods of electric and magnetic measurements. Three lectures and one laboratory period. Prerequisite: Physics 102; Mathematics 154. Laboratory fee $6.00.

280 **A SURVEY OF MODERN PHYSICS. (3) I.**
Mr. Toupin
The discoveries and advances in physics in the twentieth century, with some historical review of the discoveries of the nineteenth century. Prerequisite: Physics 275; Mathematics 155.

281 **ATOMIC AND NUCLEAR PHYSICS. (3) II.**
Mr. Toupin
A study of the structure of the atom and its nucleus, radioactivity, and the energy relationships involved. Prerequisite: Physics 280.

299 **READING OR LABORATORY WORK IN ADVANCED PHYSICS. (Ar.) I and II.**
Staff
Prerequisite: consent of instructor.

300 **DIRECTED READING OR RESEARCH. (Ar.) I and II.**
Staff
Prerequisite: graduate standing in physics; consent of instructor.

302 **THEORETICAL PHYSICS. (3–3) Yr.**
Mr. Eller
The dynamics of rigid bodies and fluids, origin of spectra, and electromagnetic theory. Prerequisite: Mathematics 253; advanced work in mechanics, light, and electricity and magnetism.
PORTUGUESE

Assistant Professor Elliott.

100 Elementary Portuguese. (3-3) Yr. Mr. Elliott
Conversation, essentials of grammar, reading of a Brazilian novel; emphasis upon
differences between the speech of Portugal and that of Brazil. (Alternate years; not
offered 1949-50.)

101 Intermediate Portuguese. (3-3) Yr. Mr. Elliott
Introduction to Portuguese literature; study of Os Lusiadas; selected readings from
representative authors of Portugal and Brazil. Review of grammar; conversational
practice. Prerequisite: Portuguese 100 or the equivalent.

PSYCHOLOGY

Professors Livesay, Herrick, White; Associate Professors Forbes, Beyers,
Allen, Morsh; Assistant Professors Peixotto, Vinacke, Springer, Bitner,
Briggs; Instructor Nitta.

Psychology 150 (or the equivalent) is prerequisite to all other courses in Psychol­
ogy, with the exception of 100 and 156.

100 Psychology of Effective Study. (3) I and II. Mr. Bitner, Miss Nitta
The application of psychological principles to effective study. Problems in self­
management and college adjustment.

150 General Psychology. (4) I and II. Mr. Livesay, Mr. Forbes,
Mr. Morsh, Mr. Vinacke, Mr. Briggs, Mrs. Springer
A survey of the facts and principles fundamental to human behavior. Individual
differences, personality, motivation, sensation, emotion, learning, and thinking. Three
lectures and one laboratory period. Laboratory fee $1.00.

156 Introduction to Psychology. (3) I. Mrs. Springer
Similar to 150 but with particular attention to the topics of importance to pros­
pective teachers. Lectures and demonstrations. Open only to Teachers College and
Home Economics students.

185 Developmental Psychology. (3) I and II. Mrs. Springer, Mr. Briggs
Emotional, mental, physical, and social development of the child from infancy
through adolescence; interests and abilities at the different age levels.

250 Applied Psychology. (3) II. Mr. Forbes
Application of psychological principles to problems of personal efficiency and to
the fields of education, law, medicine, traffic safety, and aviation.

254 Principles of Guidance. (3) I. Mr. Bitner
Psychological bases; methods and scope of educational, vocational, and personal
guidance. Prerequisite: Psychology 260, 264, 292, and 295.
256 BUSINESS AND INDUSTRIAL PSYCHOLOGY. (3) I. MR. FORBES
Psychological factors involved in advertising, salesmanship, selection and control of personnel, job analysis, fatigue and efficiency of workers, and accident analysis and safety.

257 PRINCIPLES OF COUNSELING. (3) II. MR. BEYERS
Counseling as a technique in individual guidance. Need; objectives; psychological bases of counseling; procedures; available services. Prerequisite: Psychology 254 or consent of instructor.

258 GROUP TECHNIQUES OF GUIDANCE. (3) II. MR. BEYERS
The structure and behavior of social groups; the group as an instrument for studying and modifying individual behavior. Prerequisite: Psychology 185 and 254 or consent of instructor.

260 STATISTICAL TECHNIQUES IN PSYCHOLOGY. (3) I and II. MRS. SPRINGER
Use of statistical techniques in psychological problems: measures of central tendency and variability; graphic methods; reliability of measures and scores; zero order correlation.

264 PSYCHOLOGICAL MEASUREMENTS. (3) II. MR. BRIGGS
The construction, validation, and administration of psychological tests; interpretation and application of scores; familiarization with various types of group tests. Prerequisite: Psychology 260.

267 EXPERIMENTAL PSYCHOLOGY. (3) I and II. MR. FORBES
Training in laboratory techniques. Experiments in cutaneous and kinesthetic sensation, reaction time, vision, audition, and motor and verbal learning processes. Desirable preparation: Psychology 260 or the equivalent. Laboratory fee $2.00.

270 PHYSIOLOGICAL PSYCHOLOGY. (3) I. MR. MORSH
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.

272 PSYCHOLOGY OF LEARNING. (3) I. MR. BRIGGS
A study of the major conditions influencing learning and forgetting; the role of motivation, rewards, and practice; theoretical interpretations of the learning process.

275 SYSTEMATIC PSYCHOLOGY. (3) II. MR. BRIGGS
The various systems of psychology: structuralism, functionalism, behaviorism, purposivism, Gestalt, and the various dynamic psychologies.

280 SOCIAL PSYCHOLOGY. (3) II. MR. VINACKE
The psychology of human relations; psychological factors that determine the behavior of an individual in his social relationships.

283 PSYCHOLOGY OF PERSONALITY. (3) I and II. MR. VINACKE
The development of personality; components of personality; critical evaluation of research on various aspects of personality.
286 POLITICAL PSYCHOLOGY. (3) I. 
Mr. Vinacke
A study of political behavior in individuals and groups: the voter, the politician, political parties; psychological problems which arise in the conduct of the government.

290 CLINICAL PSYCHOLOGY. (3) I and II. 
Miss Peixotto
Methods and scope of clinical psychology; available individual tests and other instruments used in measuring intelligence and personality factors; the use and meaning of scores in child and adult cases; applications to psychological diagnosis. Prerequisite: Psychology 260 and 264.

292 MENTAL HYGIENE. (3) I and II. 
Mr. Morsh
Conditions requisite to mental health and satisfactory social adjustment; causes and means of preventing maladjustments and neuroses.

295 ABNORMAL PSYCHOLOGY. (3) I and II. 
Mr. Morsh
The nature and causes of psychoneuroses and psychoses; abnormalities of intelligence; incipient abnormal traits manifested in everyday life; psychotherapy.

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

300 DIRECTED READING OR RESEARCH. (Ar.) I and II. 
Prerequisite: graduate standing.

320 SEMINAR IN METHODS OF RESEARCH. (2) I. 
Mr. Forbes
The fundamentals of research and thesis preparation. Applications to specific problems. Prerequisite: consent of instructor.

321 GENERAL SEMINAR. (2) II. 
Mr. Forbes
Selected topics as determined by the needs and interests of the group. Presentation and discussion of thesis problems. Prerequisite: consent of instructor.

351 ADVANCED EDUCATIONAL PSYCHOLOGY. (2) I and II. 
Mr. White
Application of experimental evidence in psychology to major educational problems; the bearing of recent psychological theories upon education.

356 PROBLEMS IN CLINICAL PSYCHOLOGY. (3) I and II. 
Mr. Herrick, Mrs. Allen
Clinical case studies: histories; selection of tests; interview methods; interpretations; recommendations and follow-up. Prerequisite: consent of instructor.

362 INDIVIDUAL INTELLIGENCE TEST TECHNIQUES. (3) I. 
Staff
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.

364 PROJECTIVE TECHNIQUES—INTRODUCTORY. (3) I.
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.
367 PROJECTIVE TECHNIQUES—ADVANCED. (3) II.
Discussions supplementing intensive clinical practice, with emphasis upon the interpretations of projective test results. Prerequisite: consent of instructor. Laboratory fee $3.00. (Not offered 1949–50.)

382 HISTORY OF PSYCHOLOGY. (3) I. MR. BRIGGS
The development of psychology from ancient to modern times, with particular attention to the origins of the various theories. (Not offered 1949–50.)

RELIGION

PROFESSOR ZEIGLER; LECTURERS MARK, KWOCK.

150 INTRODUCTION TO THE STUDY OF RELIGION. (3) I. MR. ZEIGLER
The nature of religion and its relationship to other areas of life and thought.

151 PROBLEMS IN RELIGIOUS THOUGHT. (3) II. MR. ZEIGLER
The ways in which religious faith has been undergirded by rational thought; emphasis upon modern developments.

200 OLD TESTAMENT SURVEY. (3) I. MR. MARK
The Old Testament from the literary and philosophical points of view; emphasis on practical values of the book for life today.

201 NEW TESTAMENT SURVEY. (3) II. MR. MARK
The New Testament from the literary and philosophical points of view; emphasis on practical values of the book for life today.

208 THE LIFE OF JESUS. (2) I. MR. ZEIGLER
A study of the known life of Jesus; emphasis on the great central issues.

209 THE TEACHINGS OF JESUS. (2) II. MR. ZEIGLER
A study of the known teachings of Jesus; their philosophical and practical implications.

210 LIVES AND TEACHINGS OF THE OLD TESTAMENT PROPHETS. (2) I. MR. ZEIGLER
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.

215 HISTORICAL DEVELOPMENT OF THE BIBLE. (2) II.
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 1949–50.)

240–241 CHRISTIAN CHURCH IN HISTORY. (3–3) Yr. MR. ZEIGLER, MR. KWOCK
Survey of the history of the church as an institution; its relationship to other lines of human development. (Not offered 1949–50.)
250-251 A COMPARATIVE STUDY OF RELIGIONS. (3-3) Yr.   MR. KWOCK, MR. ZEIGLER
       Origin, development, literature, practices, and major ideas of the great religions. Reading in the sacred literature of the great religions.

261 RELIGION AND PSYCHOLOGY. (3) II.   MR. ZEIGLER
       Analysis of religious behavior from the psychological point of view, dealing with its appearance in its most significant forms.

271 RELIGION AND LITERATURE. (2) II.
       Interpretations of religion that have appeared in the literature of the English-speaking world. (Not offered 1949-50.)

272-273 RELIGION AND THE ARTS. (3-3) Yr.   MR. MARK
       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. (Not offered 1949-50.)

SOCIAL WORK

PROFESSOR HANDLEY; ASSOCIATE PROFESSOR LYLE; ASSISTANT PROFESSOR JAMBOR; LECTURER GUENSBERG.

200 THE FIELD OF SOCIAL WORK. (3) I and II.   MR. JAMBOR
       A non-professional orientation course intended to acquaint the student with the philosophy, scope, and aims of contemporary social work. Prerequisite: junior standing.

305 SOCIAL CASE WORK. (3) I.
       An introduction to the basic principles and processes of social case work. Selected case records used as material for study and discussion.

306 SOCIAL CASE WORK. (2) II.
       A continuation of 305, with special emphasis upon social diagnosis and skill in the treatment of case work problems. To be taken concurrently with 360-361. Prerequisite: Social Work 305.

308 SOCIAL GROUP WORK. (3) I.   MISS LYLE
       An introduction to the basic principles and processes of group work.

309 SOCIAL GROUP WORK. (2) II.   MISS LYLE
       A continuation of 308, with emphasis on program development and the leader's role in the group work process. To be taken concurrently with 360-361. Prerequisite: Social Work 308.

310 DYNAMICS OF HUMAN BEHAVIOR. (2) II.   MR. GUENSBERG
       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.
315 Community Organization. (2) II. Miss Lyle
Methods and processes used in the field of community organization in social work. A description and analysis of types of agencies and services primarily concerned with social welfare planning.

325 Child Welfare. (2) II.
Survey of the development of specialized services for children in both public and private fields, including the consideration of current practice. Illustrative material from the various fields of child welfare service.

330 Health and Disease (2) I.
This course emphasizes social work problems associated with illness; the personal and social implications of illness and of the treatment of diseases.

350 Introduction to Public Welfare. (2) I. Mrs. Handley
The development of the field of public welfare with major emphasis upon the public assistance programs. Historical background and current developments.

351 Social Insurance. (2) II. Mr. Jambor
A study of old age, unemployment, workmen's compensation, invalidity, and health insurance. Social insurance legislation and administration, with consideration of coverage, contributions, and benefits.

352 Social Statistics and Research. (2) I. Mr. Jambor
Problems and procedures in social research that are part of social work administration and planning. Application of elementary statistical techniques to the particular problems of describing the social needs and social services of the community.

353 Legal Aspects of Social Work. (2) II.
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.

355 Public Welfare Administration. (2) II. Mrs. Handley
Public welfare services with reference to federal-state-local relationships; problems of organization, administration, responsibility and authority. Policies with respect to integration, centralization, finance, research, planning, and staff development.

360-361 Supervised Field Work. (3-3) Yr. Staff
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.

362-363 Advanced Supervised Field Work. (4-4) Yr. Staff
Field work placement in a social agency selected with reference to aptitudes, choice, or needs of the student. To be taken concurrently with an advanced course in social work method (case work, group work, or community organization). Limited to full-time students.
365 ADVANCED SOCIAL CASE WORK. (2) I.
Case discussion of generic case work concepts as they apply in work with emotionally disturbed individuals; evaluation of treatment processes and factors which affect the case worker’s function. To be taken concurrently with 362.

366 SEMINAR IN SOCIAL CASE WORK. (2) II.
The analysis and evaluation of case material contributed from the student’s experience and from selected records.

370 ADVANCED SOCIAL GROUP WORK. (2) I.
Group work as a method of and resource in social treatment. Analysis and evaluation of the group work process with use of selected records. To be taken concurrently with 362. (Not offered 1949–50.)

371 SEMINAR IN SOCIAL GROUP WORK. (2) II.
Analysis and evaluation of case material contributed from the student’s experience and from selected records. (Not offered 1949–50.)

375 ADVANCED SOCIAL PSYCHIATRY. (2) I. MR. GUENSBERG
The dynamics of behavior in the neuroses and in functional and organic psychoses, with emphasis on current treatment processes.

380 SEMINAR IN PUBLIC WELFARE ADMINISTRATION. (2) I. MRS. HANDLEY
An analysis of current problems and practices in the organization and administration of public welfare services.

383 ADMINISTRATION OF SOCIAL WORK AGENCIES. (2) II. MR. JAMBOR
Administration of social work agencies with emphasis upon the relationship between structure and function. Problems of internal administration such as personnel management, program direction, research and planning, budget control, and public relations.

385 METHODS OF SUPERVISION IN SOCIAL CASE WORK. (2) II.
The supervisory process in social work as it relates to the field of social case work. Open to agency workers who are potential or actual supervisors. (Alternate years; not offered 1949–50.)

386 METHODS OF SUPERVISION IN SOCIAL GROUP WORK. (2) II. MISS LYLE
The principles, methods, and problems of supervision in social agencies as they relate to the field of social group work. Open to agency workers who are potential or actual supervisors. (Alternate years; offered 1949–50.)

387 CURRENT PRACTICE IN COMMUNITY ORGANIZATION AGENCIES. (2) I. MISS LYLE
A seminar primarily for students specializing in community organization, including those taking field work in that area. Neighborhood organizations, recent trends toward citizens' councils, health committees, and regional councils in both public and private welfare fields. (Alternate years; offered 1949–50.)

390 CULTURAL FACTORS IN SOCIAL WORK PRACTICE. (2) I.
The significance of psychocultural factors in the development of personality and behavior. Records which illustrate cultural diversity and conflicts as they relate to social work practice. Prerequisite: Social Work 310 and Sociology 262. (Not offered 1949–50.)
399 SEMINAR IN RESEARCH. (2) I.  
Mr. Jambor  
Principles of objective fact-finding, primary and secondary sources of social data, sampling, organization of material, relationship to an advisory committee or expert technical consultant, and preparation of a report or thesis.

SOCIOMETRY

PROFESSORS LIND, GLICK; ASSOCIATE PROFESSOR CHENG; ASSISTANT PROFESSOR HORMANN; INSTRUCTOR YAMAMOTO.

151 INTRODUCTION TO THE STUDY OF SOCIETY. (3) I and II.  
Mr. Lind,  
Mr. Hormann, Mr. Yamamoto  
An orientation course. The basic social relationships and the corresponding social structures.

250 COMMUNITY FORCES. (3) I.  
Mr. Lind, Mr. Yamamoto  
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.

252 THE COMMUNITY. (3) I.  
Background for the study of community problems; the role of the family, church, school, and class. Social structures analyzed and compared.

253 RURAL SOCIOLOGY. (3) I.  

254 THE URBAN COMMUNITY. (3) II.  
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. (Not offered 1949-50.)

255 SOCIAL DISORGANIZATION. (3) II.  
Mr. Hormann  
The factors in contemporary society that condition personal and social disorganization; an introduction to problems of conflict, delinquency, dependency, and degeneracy. Field trips.

256 RACE AND CULTURE CONTACTS IN HAWAII. (3) II.  
Mr. Yamamoto  
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.

257 RACE RELATIONS IN THE PACIFIC. (3) I.  
Mr. Glick  
A survey of typical situations of race and culture contacts in the Pacific area.

258 RACE RELATIONS. (3) II.  
Mr. Glick  
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.
259 PEOPLES AND INSTITUTIONS OF JAPAN. (3) II. MR. YAMAMOTO
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.

262 SOCIAL CONTROL. (3) I. MR. GLICK
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.

263 PUBLIC OPINION AND THE COMMUNITY. (3) II.
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.

265 CRIMINOLOGY. (3) I. MR. CHENG
The nature, causes, and treatment of crime with special attention to juvenile delinquency; theories of punishment and rehabilitation; modern preventive work. Prerequisite: Sociology 151.

266 SOCIAL INSTITUTIONS. (3) I. MR. CHENG
The natural history of institutions; the origin, structure, functions, growth, and decline of certain contemporary institutions.

267 THE FAMILY. (3) I and II. MR. GLICK, MR. CHENG
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.

268 HUMAN MIGRATIONS. (3) II. MR. CHENG

269 PERSONALITY AND CULTURE. (3) I.
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.

270 POPULATION AND SOCIETY. (3) I.
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.

271 HUMAN ECOLOGY. (3) I. MR. YAMAMOTO
Basic concepts, principles, and techniques of human ecology. Factors affecting distribution and movement of population, utilities, and social institutions. Prerequisite: Sociology 151.

272 COLLECTIVE BEHAVIOR. (3) II. MR. GLICK
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.
273 SOCIAL MOVEMENTS. (3) II. 
A study of the development of social movements and their relation to social change.

274 SOCIAL CHANGE. (3) I. MR. CHENG
The nature of and the major factors affecting social change; war as illustrating social change; the role of invention and science; social forecasting.

275 AMERICAN SOCIETY IN TRANSITION. (3) II.
The major trends in American society, particularly as reflected in the war and postwar periods.

277 PEOPLES AND INSTITUTIONS OF CHINA. (3) II. MR. CHENG
An analysis of the original culture of China as rooted in her social philosophies and institutions, and manifested in the characteristic traits of her people. The nature and effect of the impact of Western culture.

282 METHODS OF SOCIAL RESEARCH. (3) II. MR. GLICK
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.

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

300 DIRECTED READING OR RESEARCH. (Ar.) I and II. STAFF
Prerequisite: graduate standing; consent of instructor.

351 GRADUATE SEMINAR. (2–2) Yr. MR. LIND, MR. HORMANN
Open to senior and graduate students with consent of instructor.

SPANISH

PROFESSOR PECCKER; ASSISTANT PROFESSOR ELLIOTT; INSTRUCTORS ROTH, KNOWLTON.

100 ELEMENTARY SPANISH. (3–3) Yr. STAFF
Conversation, essentials of grammar, Spanish and Latin-American readings; emphasis upon the oral aspect of the language.

101 MODERN SPANISH LITERATURE. (3–3) Yr. MRS. ROTH, MR. KNOWLTON
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.

252 MODERN SPANISH NOVEL. (2) I. MR. PECKER
Rapid reading; advanced work in composition and conversation; review of grammar. Prerequisite: two years of college Spanish or the equivalent.

253 MODERN SPANISH DRAMA. (2) II. MR. PECKER
Rapid reading of modern Spanish plays; continued work in composition, diction, and conversation. Prerequisite: Spanish 252.
254-255  LATIN–AMERICAN LITERATURE. (2–2) Yr.  
Mr. Pecker
Emphasis on Mexico. Advanced composition; outside reading on assigned topics. Prerequisite: two years of college Spanish or the equivalent. (Not offered 1949–50.)

299  DIRECTED READING. (Ar.) Yr.  
Mr. Elliott
Reading of the latest Spanish publications. Prerequisite: consent of instructor.

SPEECH

PROFESSORS SMITH, WISE, BORCHERS; ASSOCIATE PROFESSORS PARRY, ERNST; ASSISTANT PROFESSORS CARR, KRANTZ, TRAPIDO, KENTZLER, HIGHLANDER; INSTRUCTORS AWAMURA, BENTLEY, BLOMPIELD, BREMEMAN, EWBank, FUJIMOTO, LARSON, LEFFORGE, RAMSEY, WONG; ASSISTANT JENKINS.

100  FUNDAMENTALS OF SPEECH. (1) I and II.  
Staff
A general introduction to speech as communication. Information concerning speech and speech production; discussion of standards of acceptable student practice in speech performance. Personal conferences required. Required of all freshmen in Teachers College and of freshmen in other colleges unless excused. Course fee $1.00.

101  SOUNDS AND RHYTHMS OF SPOKEN ENGLISH. (1) I and II.  
Staff
Intensive training in the sounds and rhythms of general American speech. Continued emphasis on the effective communication of ideas. Personal conferences required. Required of all freshmen in Teachers College and of freshmen in other colleges unless excused. Course fee $1.00.

102  DEVELOPMENT OF ORAL SKILL. (1) I and II.  
Staff
The effective use of speech sounds and rhythms in practical speaking situations. Attention to correct English idiom and grammar. Personal conferences required. Required of all sophomores in Teachers College and of sophomores in other colleges unless excused. Course fee $1.00.

103  ORAL COMMUNICATION. (1) I and II.  
Staff
Practical experience in using speech communication in a wide variety of forms. Personal conferences required. Required of all sophomores in Teachers College and sophomores in other colleges unless excused. Course fee $1.00.

140  DRAMATIC PRODUCTION. (3–3) Yr.  
Mr. Trapido, Mr. Ernst
A basic course for those interested in any aspect of backstage work or stage direction. Staging, lighting, properties, costumes, make-up, business, and publicity. Co-ordinated with the productions of the University Theatre Guild.

150  PUBLIC SPEAKING. (3) I and II.  
Staff
Basic principles of speech composition and delivery; preparation and delivery of speeches with attention to principles studied; special attention to individual problems.

151  ADVANCED PUBLIC ADDRESS. (3) I and II.  
Mr. Lefforge
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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Principles of Effective Reading. (3) I.</td>
<td>Mr. Smith</td>
<td>Study of relationship between silent and oral reading with intensive practice in getting and giving meanings from the printed page.</td>
</tr>
<tr>
<td>204</td>
<td>Training of the Speaking Voice. (2) I and II.</td>
<td>Miss Kentzler</td>
<td>A study of the physical and physiological bases of voice production with emphasis on the vocal problems of nasality, inaudibility, and monotony. Prerequisite: Speech 100 and permission of the instructor or recommendation of the department.</td>
</tr>
<tr>
<td>220</td>
<td>Phonetics. (3) I.</td>
<td>Mr. Wise</td>
<td>English phonetics as applied to articulation, standards of pronunciation, the teaching of speech, speech correction, and dialect study.</td>
</tr>
<tr>
<td>221</td>
<td>Principles of Speech Correction. (3–3) Yr.</td>
<td>Mr. Parry</td>
<td>First semester: types of therapy employed in minor disorders of speech with attention to dialectal problems; second semester: rehabilitation employed in major disorders of speech. Prerequisite: consent of instructor.</td>
</tr>
<tr>
<td>222</td>
<td>Speech Therapy. (3) I.</td>
<td>Mr. Parry</td>
<td>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.</td>
</tr>
<tr>
<td>223</td>
<td>Advanced Speech Therapy. (3) II.</td>
<td>Mr. Parry</td>
<td>Continuation of 222. The pedagogical principles involved in lesson planning for individual and group work; forms and practices in university, hospital, and public school programs. Prerequisite: Speech 222 and consent of instructor.</td>
</tr>
<tr>
<td>228</td>
<td>Semantics. (3) II.</td>
<td>Mr. Smith</td>
<td>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.</td>
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<tr>
<td>230</td>
<td>Oral Reading. (1) I and II.</td>
<td>Staff</td>
<td>Principles of and individual practice in getting and giving meanings of the written and printed word. Required of Teachers College juniors. Course fee $1.00.</td>
</tr>
<tr>
<td>231</td>
<td>Oral Interpretation. (1) I and II.</td>
<td>Staff</td>
<td>Continuation of 230. Prerequisite: Speech 230. Required of Teachers College seniors. Course fee $1.00.</td>
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<tr>
<td>232</td>
<td>Advanced Interpretation. (3) II.</td>
<td>Mr. Smith</td>
<td>Study of literary forms and intensive practice in reading examples aloud. Prerequisite: Speech 201 or 231; two semesters of literature.</td>
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<tr>
<td>241</td>
<td>Acting. (3–3) Yr.</td>
<td>Mr. Trapido</td>
<td>Analysis and interpretative reading of dramatic prose and poetry; related principles of stage production; reports; individual exercises and group rehearsals. Co-ordinated with productions of the University Theatre Guild.</td>
</tr>
<tr>
<td>242</td>
<td>Theory and Practice of Direction. (3) II.</td>
<td>Mr. Ernst</td>
<td>Readings, reports, individual exercises in stage direction, casting, and rehearsal of short plays for studio production.</td>
</tr>
</tbody>
</table>
243 STAGECRAFT. (3-3) Yr.  
Mr. Trapido  
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.

244 HISTORY OF THE THEATER. (3) II.  
Mr. Ernst  
A survey of the development of the theater from the earliest times to the present. Readings, discussions, lectures, slides. Laboratory fee $2.50. (Not offered 1949-50.)

246 MODERN THEORIES OF STAGE PRESENTATION. (3) I.  
Mr. Ernst  
Recent and current theories of production critically analyzed and reviewed.

250 DISCUSSION. (3) I.  
Mr. Lefforge  
Procedures in various forms of modern group discussion studied in application to current problems.

251 DEBATING. (3) II.  
Mr. Ewbank, Mr. Lefforge  
Procedures in debating with practice in analysis, briefing, and delivery.

262 SPEECH IMPROVEMENT. (1) I and II.  
Staff  
Techniques of speech improvement for use in the classroom, with attention to the treatment of speech problems in Hawaii. Required of Teachers College seniors.

265 SPEECH FOR THE CLASSROOM TEACHER. (2) I and II.  
Staff  
The teacher’s total speech behavior in the teaching situation. Practice to increase speech skills and knowledge of techniques of conversation, story-telling, oral reports, and discussion. Required of Teachers College juniors.

270 INTRODUCTION TO RADIO. (3) I.  
Mr. Highlander  
The American system of broadcasting. Radio as an industry, an art form, and a medium of communication. History and present status of radio—AM, FM, facsimile, and television, the National Association of Broadcasters, the Federal Communications Commission, and the laws and ethics of radio.

271 RADIO PRODUCTION. (Formerly Speech 234.) (3) II.  
Mr. Highlander  
Operation and use of studio equipment such as the microphone, control board, and sound truck. Announcing, casting, timing, cutting, balancing, and other techniques of production. Prerequisite: Speech 270 or consent of instructor. Laboratory fee $2.00.

272 RADIO WORKSHOP. (2-2) Yr.  
Mr. Highlander  
Practice in the techniques of production and direction. Scripts are produced and students assigned different roles in the production process—producer, assistant producer, actor, announcer, or sound man. Prerequisite: Speech 271 or consent of instructor. Laboratory fee $2.00 per semester.

278 RADIO WRITING. (3) I.  
Mr. Highlander  
Group and individual analysis of radio script preparation. A general introduction to radio writing with emphasis upon the non-dramatic forms: commercials, musical continuity, talks, interviews, and group discussions. Prerequisite: consent of instructor.

279 ADVANCED RADIO WRITING. (3) II.  
Mr. Highlander  
Dramatic writing for the air: plotting, characterization, use of music and sound, editing, and cutting for time. Current market techniques. Prerequisite: Speech 278. Laboratory fee $2.50.
295 Rhetoric. (3) I. Miss Borchers
Consideration of the underlying principles of discourse as revealed in ancient and modern theories of rhetoric. Prerequisite: consent of instructor.

298 Special Problems. (Ar.) I and II. Staff
Open only to speech majors. Prerequisite: consent of instructor.

299 Directed Reading. (Ar.) I and II. Staff
Open only to speech majors. Prerequisite: consent of instructor.

300 Research. (Ar.) I and II. Staff
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. Prerequisite: undergraduate major in speech or the equivalent; consent of the adviser.

310 Seminar in Research Techniques and Methods. (3–3) Yr. Staff
Reading and student problems for familiarity with bibliographies, research methods, and analysis and reporting of data.

320 Seminar in Speech Correction. (3–3) Yr. Mr. Parry, Staff
Extensive reading and research problems in the etiology and therapy of speech deviations.

330 Seminar in Interpretation. (3) I and II. Mr. Smith
Review of current literature in interpretation; preparation of reports. Prerequisite: consent of instructor. (Not offered 1949–50.)

340 Seminar in Dramatics. (3) II. Mr. Ernst, Mr. Trapidò
Review of literature in dramatics; preparation of reports. Prerequisite: consent of instructor.

350 Seminar in Rhetoric and Public Address. (3) I and II.
Review of studies in rhetoric and public address; preparation of reports. Prerequisite: consent of instructor. (Not offered 1949–50.)

SURVEY COURSES

Professors Palmer, St. John, de Laubenfels.

100 A Survey of the Natural Sciences. (3–3) Yr. Mr. Palmer
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.

150 Introduction to the Natural Sciences. (3) I. Mr. de Laubenfels
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.
151 INTRODUCTION TO THE NATURAL SCIENCES. (3) II. MR. DE LAUBENFELS
A continuation of 150. Laboratory fee $5.00. Open only to students in Teachers College.

152 INTRODUCTION TO THE NATURAL SCIENCES. (3) I and II.
MR. DE LAUBENFELS
A continuation of 151. Laboratory fee $5.00. Open only to students in Teachers College.

250 HISTORY OF SCIENCE. (2) I. MR. ST. JOHN
Progress and discoveries in physical and biological science from ancient to modern times. Readings and reports. Prerequisite: junior standing; two semesters of biological or physical science, one of which must include laboratory work. (Not offered 1949–50.)

ZOOL OGY AND ENTOMOLOGY

PROFESSORS BESS, HAMRE, TESTER, DE LAUBENFELS, TUTHILL; ASSOCIATE PROFESSORS HIATT, SCHEER, MATTHEWS, HARDY, GOSLINE, CHU; ASSISTANT PROFESSORS BANNER, HEIZER; LECTURERS CARTER, SETTE, SCHAEBER, BROCK.

100 GENERAL ZOOLOGY. (4) I and II. MR. HIATT, MR. MATTHEWS, STAPP
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. Laboratory fee $6.00.

110 PRINCIPLES OF HUMAN BIOLOGY. (3) I. MR. MATTHEWS
Biological principles relating to man: 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 100.

151 COMPARATIVE ANATOMY OF THE VERTEBRATES. (4) II. MR. GOSLINE
Study of the structure and relationship of the vertebrate groups and discussion of typical vertebrates. Two lectures and two laboratory periods. Prerequisite: Zoology 100. Laboratory fee $9.00.

170 GENERAL ENTOMOLOGY. (4) I and II. MR. TUTHILL, MR. HARDY
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. Prerequisite: Zoology 100 or Botany 100; both are recommended. Laboratory fee $3.00.

240 INTRODUCTION TO ECOLOGY. (2) I. STAFF
The relationship between animals and between animals and their environment, with emphasis on reef and shore fauna, insects, and terrestrial vertebrates. Prerequisite: Zoology 100. (Not offered 1949–50.)
245 ZOOGEOGRAPHY. (2) I.  
Mr. Gosline  
Marine and terrestrial animal distributions and the physiographic, climatic, and historic factors affecting them. Prerequisite: Zoology 100. Desirable preparation: Zoology 240, Geology 151. (Alternate years; not offered 1949–50.)

253 PARASITOLOGY. (3) I.  
Mr. Chu  
The general field of parasitology with reference to the parasites and parasitic diseases affecting man; emphasis on classification, comparative morphology, life history, and control. Two lectures and two laboratory periods. Prerequisite: Zoology 100. Laboratory fee $5.00.

254 INSECT MORPHOLOGY. (3) I.  
Mr. Tuthill  
Comparative and gross morphology of insects, with 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. Prerequisite: Zoology 170. Laboratory fee $1.00.

255 SYSTEMATIC ENTOMOLOGY. (3) II.  
Mr. Tuthill  
Classification of insects; orders and families. Use of taxonomic tools. Two lecture-laboratory periods. Prerequisite: Zoology 254. Laboratory fee $2.00.

256 MEDICAL AND VETERINARY ENTOMOLOGY. (3) I.  
Mr. Hardy  
A study of insects and other arthropods in relation to the spread and causation of human and animal diseases; emphasis on the Pacific, the Orient, and the United States. Two lectures and two laboratory periods. Prerequisite: Zoology 170. Laboratory fee $6.00.

260 HISTOLOGY. (3) I.  
Mr. Hamre  
Studies of tissues, principles of histology, and microscopic anatomy of a limited number of vertebrate animals. Two lectures and two laboratory periods. Prerequisite: Zoology 151. Laboratory fee $6.00.

261 VERTEBRATE EMBRYOLOGY. (3) II.  
Miss Heizer  
Principles of embryology illustrated by a detailed study of the development of the frog, chick, and pig. Two lectures and two laboratory periods. Prerequisite: Zoology 151. Laboratory fee $8.00.

262 MICROTECHNIQUE. (3) II.  
Mr. Hamre  
The fixing, staining, and mounting of tissues and entire animals and organs. Two lecture-laboratory periods. Prerequisite: Zoology 260. Laboratory fee $15.00.

265 ELEMENTARY HUMAN ANATOMY. (3) I.  
Mr. Scheer  
A general survey of the gross anatomy and physiology of the human body. Prerequisite: upper division standing. (Alternate years; not offered 1949–50.)

266 HEMATOLOGY. (3) II.  
Mr. Hamre  
Study of hemoglobin and cellular elements of blood, blood cell formation, and histology of the blood-forming organs. Two lecture-laboratory periods. Prerequisite: Zoology 260. Laboratory fee $8.00.
273 ECONOMIC ENTOMOLOGY. (3) II.
A general consideration of insect pests; chemical, biological, and cultural control. Laboratory exercises on Hawaiian insects of economic importance. Field trips and reports. Two lectures and two laboratory periods. Prerequisite: Zoology 170. Laboratory fee $3.00.

275 GENERAL ICHTHYOLOGY. (3–3) Yr. Mr. Gosline
An introduction to the study of fishes. Morphology, life history, physiology, and ecology the first semester. Taxonomy, distribution, and economic aspects of Pacific fishes the second semester. Two lectures and two laboratory periods. Prerequisite: Zoology 100. Laboratory fee $8.00.

276 BIOMETRY. (3) I. Mr. Tester
Elementary statistical methods and their application to biological data. Prerequisite: upper division standing; Mathematics 151. Desirable preparation: Mathematics 152.

277 BIOMETRICAL ANALYSIS. (3) II. Mr. Tester

280 COMPARATIVE ANATOMY OF INVERTEBRATES. (3) I. Mr. Banner
Comparative anatomy, development, and phylogeny of the invertebrate animals. Two lectures and two laboratory periods. Prerequisite: Zoology 100. Laboratory fee $10.00.

281 TAXONOMY OF MARINE INVERTEBRATES. (3) II. Mr. Hiatt
Identification and classification of reef and shore fauna. Students select a particular group for concentrated study of taxonomic methods. Two lectures and two laboratory periods. Prerequisite: Zoology 100 and 280. Laboratory fee $6.00. (Alternate years; offered 1949–50.)

282 ECOLOGY OF REEF AND SHORE FAUNA. (3) II. Mr. Hiatt
Natural history, behavior, and relation of invertebrates and fishes to their complete environment, with emphasis on marine communities found in Hawaii. Two lectures and two laboratory periods. Prerequisite: Zoology 240. Desirable preparation: Zoology 281. Laboratory fee $6.00. (Alternate years; not offered 1949–50.)

284 COMPARATIVE INVERTEBRATE PHYSIOLOGY. (3) II. Mr. Scheer
Comparative studies on digestion, respiration, circulation, excretion, ciliary and muscular movement, receptors, coordination by nervous action and hormones, and reproduction with emphasis on marine invertebrates. Two lectures and two laboratory periods. Prerequisite: Zoology 291; Chemistry 103; Physics 102. Laboratory fee $8.00.

285 ORGANIC EVOLUTION. (2) II. Mr. de Laubenfels
The doctrine of organic evolution, its historical development, supporting evidence, and material basis. Prerequisite: Zoology 100; upper division standing. Desirable preparation: Zoology 151 and 261; Agriculture 254.
286 History of Zoology. (2) I.  
Mr. De Laubenfels  
The development of zoological science as a specialized field of human knowledge. The rise of zoological thought in fields other than evolution. Prerequisite: Zoology 100; upper division standing.

287 Methods of Fishery Investigation. (3) I.  
Mr. Tester  
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. Prerequisite: Zoology 275 or equivalent; Zoology 276. Desirable preparation: Zoology 277.

290 Oceanography. (3) II.  
Mr. Banner  
Theory and techniques of physical, chemical, and biological oceanography, with emphasis upon the pelagic life of the oceans and its relation to the physical and biological environment. Two lectures and two laboratory periods. Prerequisite: Zoology 280; Chemistry 103; Physics 102. Desirable preparation: Zoology 240; Chemistry 230. Laboratory fee $10.00. (Alternate years; offered 1949–50.)

291 General Physiology. (3) I.  
Mr. Scheer  
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. Prerequisite: Zoology 100; Chemistry 149. Desirable preparation: Chemistry 230; Physics 102. Laboratory fee $6.00.

299 Directed Reading or Research. (Ar.) I and II.  
Staff  
Prerequisite: consent of instructor.

300 Directed Research. (Ar.) I and II.  
Staff  
Directed research in the fields of ichthyology, fisheries biology, marine zoology, oceanography, vertebrate natural history, ornithology, anatomy, histology, physiology, entomology, genetics, and parasitology. Prerequisite: graduate standing and consent of instructor.

310 General Zoology Seminar. (1) II.  
Staff  
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, 312, or 313.

311 Entomology Seminar. (1) I.  
Staff  
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.

312 Seminar in Marine Zoology. (1) I.  
Staff  
Presentation of reports upon research, or reviews of literature pertaining to marine zoology. Prerequisite: senior or graduate standing. May be repeated.

313 Seminar in Fisheries Biology. (1) I.  
Staff  
Presentation of reports on investigations and literature pertaining to fisheries biology, with stress on problems relating to pelagic fisheries of the Pacific. Prerequisite: senior or graduate standing.
314 **SEMINAR IN ADVANCED FISHERIES BIOLOGY. (1)**  
Presentation of reports on investigations and literature relating to the theories of fisheries management based on population dynamics. Open only to advanced students in fisheries biology.

315 **ZOOLOGICAL LITERATURE. (1)**  
A survey of the zoological literature with stress upon bibliographic tools. Prerequisite: senior or graduate standing. Required of all candidates for advanced degrees in zoology or entomology.

316 **PREPARATION OF SCIENTIFIC MANUSCRIPTS. (1)**  
Consideration of styles and methods of preparing scientific manuscripts for publication; proofreading and editing. Prerequisite: senior or graduate standing. Required of all candidates for advanced degrees in zoology or entomology.

320 **DEVELOPMENT OF MARINE INVERTEBRATES. (3)**  
A study of the developmental stages of invertebrates from the principal marine phyla. Descriptive embryology and the larval development studied from living specimens collected locally. Two lectures and two laboratory periods. Prerequisite: Zoology 261 and 280. (Alternate years; not offered 1949-50.)

350 **ADVANCED SYSTEMATIC ENTOMOLOGY. (3)**  
Problems in systematic entomology. Classification of special groups. Nomenclatorial problems; the international code. Two lecture-laboratory periods. Prerequisite: Zoology 255 or consent of instructor. Laboratory fee $1.00. (Alternate years; offered 1949-50.)

351 **CYTOLOGY. (3)**  
Advanced study of the structural and functional organization of cells and the relation of this organization to metabolism, growth, reproduction, heredity, and evolution. Two lectures and two laboratory periods. Prerequisite: Zoology 260 and 262. Laboratory fee $8.00.

352 **INSECT ECOLOGY. (3)**  
Insects as living units in an environment of physical and biotic factors. Habitats, populations, autecology, and synecology. Two lectures and one laboratory period. Prerequisite: Zoology 255 or the equivalent, or advanced standing in entomology. (Alternate years; offered 1949-50.)

353 **PRINCIPLES OF APPLIED ENTOMOLOGY. (3)**  
The problems of economic entomology from the standpoint of history and recent advances. Reduction of insect injury by reduction of insect numbers and host susceptibility. Principles of chemical, biological, genetic, and physiological control. Prerequisite: advanced standing. Desirable preparation: Zoology 352. (Alternate years; not offered 1949-50.)

355-356 **INSECT-TRANSMITTED DISEASES OF PLANTS. (3-1) Yr.**  
Lectures and laboratory studies in the first semester and current literature in the second semester. Prerequisite: advanced standing. Second semester may be repeated.
370 **PRINCIPLES OF SYSTEMATIC ZOOLOGY. (3)** I. **MR. GOSLINE**
Taxonomic categories and the processes of evolution involved in their development; presentation of taxonomic data; rules of zoological nomenclature. Prerequisite: graduate standing or consent of instructor. (Alternate years; offered 1949–50.)

387 **POPULATION DYNAMICS. (3)** II. **MR. TESTER**
Laws of increase and decrease in populations with special reference to fish; theory of fisheries management; methods of estimating vital statistics of fish populations. Prerequisite: Zoology 287 or the equivalent. (Alternate years; offered 1949–50.)

388 **FISHERIES MANAGEMENT. (3)** II. **MR. TESTER**
Survey of outstanding programs of fisheries investigation: problems, methods of attack, and results; prediction of fluctuations in abundance and control of fishing effort to produce maximum sustained yield. Prerequisite: Zoology 287 or the equivalent. Desirable preparation: Zoology 387. (Alternate years; not offered in 1949–50.)

391 **ADVANCED GENERAL PHYSIOLOGY. (3)** II. **MR. SCHEER**
Some of the major problems in general physiology and the methods available for their study. Two lectures and two laboratory periods. Prerequisite: Zoology 291. Laboratory fee $8.00. (Alternate years; not offered 1949–50.)

392 **PHYSIOLOGICAL ECOLOGY. (3)** II. **MR. SCHEER**
The physiological aspects of adaptation to the physical and biotic features in the environment. Feeding, digestion, respiration, osmo-regulation, sense organs, behavior and other factors in relation to the environment; special attention to marine species. Two lectures and two laboratory periods. Prerequisite: Zoology 284. Desirable preparation: Zoology 240. Laboratory fee $8.00. (Alternate years; offered 1949–50.)
## SUMMARY OF ENROLLMENT FOR 1948–49

### (A) In the 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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<tr>
<td><strong>Graduate Division</strong></td>
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<tr>
<td>Advanced Degrees</td>
<td>159</td>
<td>152</td>
<td>207</td>
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<tr>
<td>Five-Year Diplomas</td>
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<td>80</td>
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<tr>
<td>Professional Teaching Certificates</td>
<td>44</td>
<td>52</td>
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<tr>
<td>Social Work Certificates</td>
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### Total

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<td>1,421</td>
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*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.

**Change of college at the beginning of the second semester.

†Change of status principally from undergraduate to graduate.
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