University of Hawaii

1957-1958 CALENDAR*

First Semester

September 16-17, Monday and Tuesday.................Orientation for freshmen
September 17, Tuesday..................................Registration of seniors
September 18, Wednesday.................................Registration of juniors
September 19, Thursday.................................Registration of sophomores
September 20, Friday..................................Registration of freshmen
September 21, Saturday...8:00 A.M. to 1:00 P.M. Registration of graduate
and unclassified students and auditors
September 23, Monday.................................2:30 to 5:00 P.M. Registration of graduate
and unclassified students and auditors
September 23, Monday................................Instruction begins
September 30, Monday.................................Last day of registration for credit
October 14, Monday.................................Last day of withdrawal from courses
without “grade” penalty

November 1, Friday..................................First deficiency reports due
November 11, Monday..............................Veterans’ Day (holiday)
November 27, Wednesday...........................Last day for removal of “Incompletes”
November 28-30, Thursday through Saturday..........Thanksgiving recess
December 6, Friday................................Second deficiency reports due
December 9, Monday.................................Last day of withdrawal from courses
December 21, Saturday..............................Last day of instruction before Christmas recess
January 6, Monday.................................Instruction resumes
January 18, Saturday...............................Last day of instruction, first semester
January 20, Monday.................................Final examinations begin
January 30, Thursday.................................First semester ends

Second Semester

February 5, Wednesday..............................Registration of seniors and juniors
February 6, Thursday................................Registration of sophomores
February 7, Friday..................................Registration of freshmen
February 8, Saturday...8:00 A.M. to 1:00 P.M. Registration of graduate
and unclassified students and auditors
February 10, Monday..............................2:30 to 5:00 P.M. Registration of graduate
and unclassified students and auditors
February 10, Monday.................................Instruction begins
February 17, Monday..............................Last day of registration for credit
February 22, Saturday...............................Presidents’ Day (holiday)
March 3, Monday.................................Last day of withdrawal from courses
without “grade” penalty

March 21, Friday..................................First deficiency reports due
March 26, Wednesday...............................Prince Kuhio Day (holiday)
April 3, Thursday.................................Last day for removal of “Incompletes”
April 4, 5, Friday and Saturday.......................Easter recess
April 25, Friday..................................Second deficiency reports due
April 28, Monday.................................Last day of withdrawal from courses
May 20, Tuesday..................................ROTC graduation exercises
May 24, Saturday.................................Last day of instruction
May 26, Monday.................................Final examinations begin
May 30, Friday.................................Memorial Day (holiday)
June 5, Thursday.................................Second semester ends
June 8, Sunday.................................Commencement

* The 1958-59 Calendar should correspond, allowing for the usual yearly calendar shift of one day
forward.
O. A. Bushnell, Ph.D., Professor of Bacteriology
Elizabeth B. Carr, Ph.D., Associate Professor of Speech
Walter Carter, Ph.D., Professor of Zoology
Jean Charlot, D.F.A., Professor of Art
Ch'eng-K'un Cheng, Ph.D., Associate Professor of Sociology
Lily Pao-Hu Chong, M.A., Assistant Professor of Asian and Pacific Languages
George W. Chu, D.Sc., Professor of Bacteriology and Zoology
Richard H. Clark, M.A., Assistant Professor of Mathematics
Harry F. Clements, Ph.D., Senior Professor of Agriculture
Robert W. Clopton, Ph.D., Professor of Education
Paolo Comba, Ph.D., Assistant Professor of Mathematics
Charles F. Congdon, M.B.A., Assistant Professor of Business
Bruce J. Cooll, Ph.D., Professor of Agriculture
J. Halley Cox, M.A., Associate Professor of Art
David H. Crowell, Ph.D., Associate Professor of Psychology
A. Grove Day, Ph.D., Professor of English
John M. Digman, Ph.D., Associate Professor of Psychology
Edith Doi, M.A., Assistant Professor of Education
Arthur A. Dole, Ph.D., Assistant Professor of Psychology
Maxwell S. Doty, Ph.D., Professor of Botany
Gustav E. W. Ecke, Ph.D., Professor of Art
Samuel H. Elbert, Ph.D., Associate Professor of Pacific Languages and Linguistics
Kenneth P. Emory, Ph.D., Professor of Anthropology
Earle Ernst, Ph.D., Professor of Drama and Theatre
Hubert V. Everly, Ph.D., Professor of Education
Claude H. Ewing, Ph.D., Professor of Education
John B. Ferguson, M.B.A., Associate Professor of Economics and Business
James W. Frierson, Ph.D., Assistant Professor of English
Michael M. Frodimya, Ph.D., Assistant Professor of Chemistry
Thomas H. Fujimura, Ph.D., Associate Professor of English
Dorothy I. George, Ph.D., Associate Professor of English
Guido Girolami, Ph.D., Assistant Professor of Botany
Clarence E. Glick, Ph.D., Professor of Sociology
Lee Glover, M.A., Associate Professor of Business
William A. Gosline, Ph.D., Professor of Zoology
Shosuke Goto, Ph.D., Assistant Professor of Agriculture
Carleton Green, Ph.D., Professor of English
Christopher Gregory, Ph.D., Professor of Mathematics
Katherine B. Gruelle, M.A., Associate Professor of Home Economics
Katharine N. Handley, M.A. and M.S.W., Professor of Social Work
D. Elmo Hardy, Ph.D., Professor of Entomology
Eloise D. Hayes, Ph.D., Assistant Professor of Education
Colin J. Herrick, Ph.D., Professor of Psychology
Robert W. Hiatt, Ph.D., Senior Professor of Zoology
Wallace E. Holmes, Ph.D., Assistant Professor of Agriculture
Claude F. Horan, M.A., Professor of Art
Bernhard L. Hormann, Ph.D., Professor of Sociology
John P. Hoshor, Ph.D., Assistant Professor of Speech
Francis J. Howard, Ph.D., Assistant Professor of Physics
Sidney C. Hsiao, Ph.D., Associate Professor of Zoology
Charles H. Hunter, Ph.D., Professor of History
Thomas H. Ige, Ph.D., Associate Professor of Economics and Business
Judson L. Ihrig, Ph.D., Assistant Professor of Chemistry
Andrew W. S. In, Ph.D., Assistant Professor of Education
Harold A. Jambor, M.A., Associate Professor of Social Work
Robert R. Jay, M.A., Assistant Professor of Anthropology
Donald D. Johnson, Ph.D., Associate Professor of History
Haruyuki Kamemoto, Ph.D., Associate Professor of Agriculture
Robert M. Kamins, Ph.D., Professor of Economics
Yoshinori Kanehiro, M.S., Assistant Professor of Agriculture
Ruth P. Kentzler, M.A., Assistant Professor of Speech
Robert A. Kimmich, M.D., Lecturer in Social Work
Donald M. Kinch, Ph.D., Professor of Agriculture
Kenneth G. Kingrey, M.A., Associate Professor of Art
Arthur L. Kirkpatrick, M.A., Assistant Professor of Economics
Alfons L. Korn, M.A., Associate Professor of English
Richard H. Kosaki, Ph.D., Assistant Professor of Government
James H. Koshi, Ph.D., Assistant Professor of Agriculture
Arthur H. Lange, Ph.D., Assistant Professor of Agriculture
Valentine G. Larson, M.A., Instructor in Speech
Orland S. Lefforge, Ph.D., Assistant Professor of Speech
Amos P. Leib, M.A., Assistant Professor of English
Yau Sing Leong, Ph.D., Professor of Economics and Business
Max Levine, Ph.D., Research Associate in Bacteriology
Helen M. Lewis, M.A., Instructor in Speech
Andrew W. Lind, Ph.D., Senior Professor of Sociology
Thayne M. Livesay, Ph.D., Senior Professor of Psychology
James K. Lowers, Ph.D., Associate Professor of English
Katharine Luomala, Ph.D., Professor of Anthropology
Curtis A. Manchester, Ph.D., Professor of Geography
Arthur J. Marder, Ph.D., Professor of History
Shelley M. Mark, Ph.D., Associate Professor of Economics
Alexander Spoehr, Ph.D., Research Associate in Anthropology
John N. Stalker, Ph.D., Associate Professor of History
Robert B. Stauffer, Ph.D., Assistant Professor of Government
Walter R. Steiger, Ph.D., Assistant Professor of Physics
Daniel Stempel, Ph.D., Associate Professor of English
Willard Jean Stradley, M.A., Instructor in Education
Carl G. Stroven, Ph.D., Senior Professor of English
Richard S. Takasaki, M.A., Lecturer in Social Work
Tokushi Tanaka, M.S., Instructor in Agriculture
Albert L. Tester, Ph.D., Professor of Zoology
Stanmore B. Townes, Ph.D., Associate Professor of Mathematics
Sidney J. Townsley, Ph.D., Research Assistant in Marine Zoology
Joel Trapido, Ph.D., Associate Professor of Drama and Theatre
Murray Turnbull, M.A., Associate Professor of Art
Leonard D. Tuthill, Ph.D., Professor of Entomology
Daniel W. Tuttle, M.A., Assistant Professor of Government
Yukuo Uyehara, M.A., Professor of Asian and Pacific Languages
Paul van der Veur, Ph.D., Assistant Professor of Government
Pieter B. van Weel, Ph.D., Professor of Zoology
W. Edgar Vinacke, Ph.D., Professor of Psychology
Winifred A. Walsh, M.A., Associate Professor of Social Work
Kenichi Watanabe, Ph.D., Professor of Physics
John L. T. Waugh, Ph.D., Associate Professor of Chemistry
Oliver Wayman, Ph.D., Professor of Agriculture
Herbert B. Weaver, Ph.D., Professor of Psychology
Bruce E. White, Ph.D., Senior Professor of Education
John A. White, Ph.D., Professor of History
Willard Wilson, Ph.D., Senior Professor of English
Helene H. Wong, Ph.D., Assistant Professor of Speech
George K. Yamamoto, M.A., Instructor in Sociology
Douglas S. Yamamura, Ph.D., Associate Professor of Sociology
Hirosi Yamauchi, Ph.D., Assistant Professor of Mathematics
Otto R. Younge, Ph.D., Professor of Agriculture
Anne B. Zaloha, M.A., Associate Professor of Social Work
Harry Zeitlin, Ph.D., Assistant Professor of Chemistry

AFFILIATE GRADUATE FACULTY*

E. J. Anderson, Ph.D., Head, Pathology Department
Pineapple Research Institute

* Members of co-operating institutions, and available for service on graduate committees. They do not offer courses at the University.
A. S. Ayres, Ph.D., Senior Agronomist
Experiment Station, Hawaiian Sugar Planters' Association

Leonard D. Baver, Ph.D., Director
Experiment Station, Hawaiian Sugar Planters' Association

Vernon E. Brock, M.A., Director, Division of Fish and Game
Territorial Board of Agriculture and Forestry

George O. Burr, Ph.D., Head, Department of Physiology and Biochemistry
Experiment Station, Hawaiian Sugar Planters' Association

Doak C. Cox, M.A., Principal Geophysicist
Experiment Station, Hawaiian Sugar Planters' Association

Robert L. Cushing, Ph.D., Director
Pineapple Research Institute

J. G. Darroch, M.S., Statistician
Experiment Station, Hawaiian Sugar Planters' Association

Gerald G. Dull, Ph.D., Associate Chemist
Pineapple Research Institute

Paul C. Ekern, Ph.D., Associate Soil Physicist
Pineapple Research Institute

Carl A. Farden, B.S., Statistician
Pineapple Research Institute

Willis A. Gortner, Ph.D., Head, Chemistry Department
Pineapple Research Institute

Donald P. Gowing, Ph.D., Plant Physiologist
Pineapple Research Institute

J. Linsley Gressitt, Ph.D., Entomologist
Bernice P. Bishop Museum

Francis E. Hance, Ph.D., Principal Chemist
Experiment Station, Hawaiian Sugar Planters' Association

Noel S. Hanson, Ph.D., Senior Agronomist
Experiment Station, Hawaiian Sugar Planters' Association

Wayne H. Hilton, Ph.D., Principal Organic Chemist
Experiment Station, Hawaiian Sugar Planters' Association

R. P. Humbert, Ph.D., Principal Agronomist
Experiment Station, Hawaiian Sugar Planters' Association

K. Ito, M.S., Associate Entomologist
Pineapple Research Institute

Kenneth R. Kerns, M.S., Plant Breeder
Pineapple Research Institute

Joseph King, M.S., Fishery Biologist
Pacific Oceanic Fishery Investigations

H. W. Klemmer, Ph.D., Associate Pathologist
Pineapple Research Institute

Yoshio Kondo, Ph.D., Malacologist
Bernice P. Bishop Museum

Beatrice Krauss, M.S., Associate Plant Physiologist
Pineapple Research Institute
Robert W. Leeper, Ph.D., *Organic Chemist*
Pineapple Research Institute

A. J. Mangelsdorf, Ph.D., *Principal Geneticist*
Experiment Station, Hawaiian Sugar Planters' Association

J. P. Martin, M.S., *Principal Pathologist*
Experiment Station, Hawaiian Sugar Planters' Association

Garth Murphy, M.A., *Fishery Biologist*
Pacific Oceanic Fishery Investigations

John H. Payne, Ph.D., *Principal Technologist*
Experiment Station, Hawaiian Sugar Planters' Association

K. Sakimura, *Associate Entomologist*
Pineapple Research Institute

Wallace G. Sanford, Ph.D., *Plant Physiologist and Head, Agronomy Department*
Pineapple Research Institute

Carl T. Schmidt, Ph.D., *Entomologist*
Pineapple Research Institute

Donald H. Smith, Ph.D., *Soil Chemist*
Pineapple Research Institute

Carl H. Spiegelberg, Ph.D., *Pathologist*
Pineapple Research Institute

John N. Warner, Ph.D., *Senior Geneticist*
Experiment Station, Hawaiian Sugar Planters' Association

Chester A. Wismer, Ph.D., *Senior Pathologist*
Experiment Station, Hawaiian Sugar Planters' Association

Sterling Wortman, Ph.D., *Head, Plant Breeding Department and Plant Breeder*
Pineapple Research Institute

H. Y. Young, M.S., *Associate Chemist*
Pineapple Research Institute
General Information

Because of the strategic location of the Territory of Hawaii and its unique mixture of the races and cultures of the Occident, Orient, and South Pacific, the Graduate School of the University of Hawaii is able to provide unusual opportunities for advanced study in certain of the natural and social sciences, and of economic, social, and administrative problems of Pacific island peoples.

The Hawaiian economy is largely dependent upon tropical agriculture—sugar and pineapple production. The highly technical character of these industries has brought together a large and competent group of scientists in the related biological and physical sciences. University instructional personnel and laboratory equipment are supplemented by the staffs and facilities of co-operating research institutions such as the Experiment Station of the Hawaiian Sugar Planters' Association, the Pineapple Research Institute, and the Bernice P. Bishop Museum, with its large collections of Hawaiian and South Pacific plants and insects.

The large proportion of people of Oriental ancestry in the population of Hawaii and the close ties with the Orient have stimulated interest in the cultures and civilizations of the Far East. The University has an outstanding collection of Orientalia, with a library of more than 80,000 volumes in Chinese, Japanese, and Korean. The excellent Asiatic collection of the Honolulu Academy of Arts is open to University students. The University also offers special facilities for the study of Oriental languages and the translation of source materials. Racial differences are studied by the members of the Department of Psychology and race relations are stressed by the Romanzo Adams Social Research Laboratory.

Ready access to the ocean affords students of marine biology a natural laboratory for the study of tropical and subtropical marine life. The Hawaii Marine Laboratory offers facilities for graduate students. Scientists on the staff of the Pacific Oceanic Fishery Investigations laboratory of the United States Fish and Wildlife Service, located on the campus, co-operate with the regular faculty in offering a graduate program in marine zoology and botany.

Excellent library facilities are provided by a number of institutions. The Sinclair Library contains 286,813 bound volumes and 694,663 unbound parts and pamphlets and serves as a depository for government publications. Included in the Library are extensive collections of research materials relating to the Pacific and the Far East. Publications in Chinese, Japanese, and Russian are catalogued in English, and translation facilities are available. Other collections open to graduate students are the Library of Hawaii, a general public library in downtown Honolulu; the reference library at the Bishop Museum; the Hawaiian Mission Children's Library, with material on missionary activities in the Pacific; the Public Archives, emphasizing Hawai-
ian history; the library of the Academy of Arts; and scientific libraries of the Hawaiian Sugar Planters' Association, the Pineapple Research Institute, and the Pacific Oceanic Fishery Investigations. In addition, the Hawaiian Volcano Observatory at Kilauea Crater has a collection of publications relating to volcanology and seismology. Efforts have been made by these libraries to avoid needless duplication in their respective collections.

**ADMISSION**

Students with baccalaureate degrees from accredited institutions of higher learning (American or foreign) may apply to the Dean of the Graduate School for admission. Such applications should be accompanied by official transcripts of undergraduate record and of any graduate work completed. Graduates of institutions other than the University of Hawaii may also be requested to supply the results of the Graduate Record Examination. All admissions are provisional until such records are deposited with the Graduate School. Admission to the Graduate School simply permits registration in graduate courses for which the student's previous training has prepared him.

**ADMISSION TO CANDIDACY**

Admission to candidacy, after the student has enrolled in the University, requires the recommendation of a qualifying committee, usually composed of the graduate faculty members of the major field of study. Prospective candidates should inform the office of the Graduate School at registration, so that they may be notified as to the time and place of the qualifying conference. Ordinarily, no one will be admitted unless he can demonstrate an adequate undergraduate background in the major and related fields in which the degree is to be taken, and has an average grade of B or better for all undergraduate courses in the major, or in all courses taken during the last two years of undergraduate work. Those who fail to meet these standards may be allowed to register as unclassified graduate students for a semester in order to demonstrate whether or not they can do satisfactory work at the graduate level. If this semester's work is adequate, the subsequent qualifying committee may recommend that the rule be waived.

The qualifying committee shall: (1) determine whether the student seems to have the ability to pursue graduate work within the particular field of study, (2) determine through scrutiny of the student's record whether his undergraduate background in the field is adequate, (3) specify any courses that the candidate should take in order to meet inadequacies in undergraduate preparation or to complete the requirements for the advanced degree, (4) recommend to the Dean of the Graduate School that the applicant be either admitted to candidacy or not admitted to candidacy, or that candidacy be deferred without prejudice, and (5) approve the approximate title of the thesis research, and suggest the composition of the thesis committee.

Candidates for the Master's degree who fail to complete all requirements within five years after admission to candidacy must again qualify for candi-
dacy. Any graduate student who, having been admitted to candidacy for an advanced degree, fails to obtain a passing grade (B or better in courses numbered 200–298; S or H in courses numbered 300–399) in any two of the courses forming part of his program for the advanced degree shall be automatically dropped from candidacy.

REGISTRATION AND GRADES

Sixteen credit hours in a semester and seven in six-week summer session are considered a normal course load and may be exceeded only with the approval of the Dean. Graduate Teaching Assistants and Assistants in Research, whose duties ordinarily require 20 hours per week, are restricted to 8 hours of course work for credit (including thesis research 400). A maximum of 9 may be taken in exceptional cases.

Registration after the officially designated period is permitted only in exceptional cases for valid reasons, and the procedure is as follows: (1) during the first seven days following the last official day of registration, written approval must be obtained from the Dean of the Graduate School, (2) subsequent to the seventh day, written approval must be obtained from the Dean and the instructor concerned, and students may enroll only for individual reading or research courses, the thesis course (400), or as auditors.

Change of registration is made on an official blank issued by the office of the Graduate School. This blank must be returned to the Office of Admissions and Records bearing the required signatures. Complete withdrawal from the University is applied for on a form issued by the Office of Admissions and Records, and this blank must be returned to that office with the proper signatures.

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 four weeks of class instruction in a semester, is marked W if the work of the student in the course was passable; otherwise, it is marked F (for failure). No withdrawals from courses are permitted during the last four weeks of instruction in a semester, but the Dean may permit complete withdrawal from the University for legitimate reasons. A student who ceases to attend a course without complying with the official withdrawal procedure receives a failure in the course.

The Graduate School reserves the right to deny further registration to any student whose work is below the required level.

Seniors in the University of Hawaii may carry a limited amount of graduate work during their last semester as undergraduates provided (1) that the courses taken are in excess of the requirement for the Bachelor's degree, and (2) that the courses for which graduate credit is desired are certified for graduate credit.

No graduate credit is allowed for correspondence courses.

Courses numbered 300–399 are intended primarily for graduate students and carry grades of H (honors), S (satisfactory), or U (unsatisfactory). Certain courses numbered 200–298 carry graduate credit provided a grade of
A or B is earned. Graduate students enrolled in undergraduate courses are graded on the undergraduate scale of A to F. No credit is granted for thesis research courses (number 400 in each field) until the thesis has been accepted. Failure to make satisfactory progress on a thesis does not entitle a student to a refund of tuition fees.

**TUITION AND FEES**

Tuition and registration fees for graduate students are the same as those for undergraduates. Students registered for 12 or more credit hours in any semester pay $85.00 for tuition and $10.00 for registration per semester. Students registered for fewer than 12 credit hours in any semester and all students in summer sessions pay $8.50 per credit hour. Laboratory and course fees vary with the individual course. All students registered for daytime courses pay a "Student Health Fee" of 75 cents each semester. Persons who register after the announced day of registration pay a late registration fee of $1.00.

A fee of $2.00 is charged for each change of registration after the official registration period, unless such changes are due to reasons beyond the control of the student.

All recipients of advanced degrees are required to pay a diploma fee of $5.00 and an additional fee of $4.00 to cover the cost of binding two copies of the thesis.

**LIVING ACCOMMODATIONS AND EXPENSES**

The University has limited housing facilities. Women may live in the new women's residence, Mary Dillingham Frear Hall, at $90.00 per semester. For men the Men's Housing Barracks and the Charles Atherton House (a YMCA dormitory adjoining the campus) provide accommodations. Requests for assignment to University facilities should be addressed to the office of Student Residences, Bachman Hall 126, University of Hawaii, Honolulu 14, Hawaii; for Atherton House to the Director, Charles Atherton House, 1810 University Avenue, Honolulu 14, Hawaii. To supplement campus housing, the University maintains a file of off-campus dormitories, rooming houses, single rooms in private homes, and apartments.

There are no campus housing facilities for married students.

The University cafeteria serves three meals a day, six days a week, at an average cost of $2.50 per day.

Minimum expenses of the average student are estimated at from $800.00 to $1,200.00 a year for board, room, tuition, registration, course fees, and books. These estimates do not include the cost of clothing, laundry, transportation, and other personal items.

**GRADUATE ASSISTANTSHIPS AND SCHOLARSHIPS**

The University offers a number of teaching assistantships to graduates of accredited institutions of higher learning who have satisfactory scholastic
records and an adequate undergraduate background in the major field. Graduate assistants serve as readers or part-time laboratory assistants and carry a limited program of study. The initial remuneration is $1,638.00, payable in twelve monthly installments, and exemption from registration and tuition fees. The period of service is September 15 to June 15. Applications should be addressed to the Dean of Faculties and should be filed before March 15. Each application must be accompanied by a transcript of academic record, a photograph, and letters of recommendation from professors under whom the applicant has taken his major courses.

**THESIS REQUIREMENT**

A thesis in the major field is required of all candidates for advanced degrees, except for the M.F.A. and M.S.W. (See pp. 23 and 40.) When the thesis problem has been approved by the qualifying committee, the chairman of the field of study informs the office of the Graduate School of the candidate's name and proposed thesis title and suggests a thesis committee, including one member from outside the department. The thesis committee, appointed by the Dean of the Graduate School, subsequently approves the thesis outline, procedure, and bibliography and forwards five signed copies to the office of the Graduate School for consideration by the Committee on Research and Graduate Study. After approval of the outline by the committee, the candidate may register for the thesis research course (400). The approved thesis outline must be submitted to the office of the Graduate School by December 15 or May 15 of the session preceding the one in which the candidate expects to complete the requirements for the degree.

A graduate student may undertake a research problem when the subject is primarily in one field but has close relationship to other fields; in such an event, at the time the student submits his thesis proposal, it must be ensured that: (1) the student possesses sufficient knowledge of the related field or fields to be able to deal competently with the research and thesis, and (2) a representative of the related field is placed on the student's thesis committee.

After the thesis committee has been appointed, the candidate should look to the chairman of this committee for primary direction regarding research methods and the preparation of results. It is the responsibility of the chairman to see that all members of the committee are kept informed of the scope, plan, and progress of both the research and the thesis. A brochure on instructions for thesis preparation is available at the office of the Graduate School.

Copies of the completed thesis must be submitted to committee members at least two weeks prior to the date of the final examination. The original and first carbon copies must be deposited with the secretary of the Graduate School before the close of the session in which the degree is to be conferred.

A majority of the members of the thesis committee must approve both the thesis and the examination on the thesis. A minority member has the right of appeal to the Committee on Research and Graduate Study for a final decision. The chairman must ensure that the final form of the thesis, includ-
ing revisions and amendments agreed upon, is acceptable to a majority of the committee. The committee members express their approval or disapproval on a special form issued by the office of the Graduate School.

Chairmen of graduate fields of study have the privilege of being ex officio members of all thesis committees in the field.

THE PROFESSIONAL CERTIFICATE

The Department of Public Instruction of the Territory of Hawaii issues the professional teaching certificate to teachers in the employ of the Department who, after receiving the Bachelor of Education degree or its equivalent, earn a total of 30 semester hours, 6 of which must be in graduate courses (300-399) in education. For purposes of such certification, the Bachelor of Education equivalent is defined as a bachelor's degree with 18 semester hours in education courses and practice teaching under the supervision of an accredited teacher training institution.

SCHOOL OF SOCIAL WORK

The University offers a two-year graduate program for prospective social workers. The first year is basic to all types of social work and includes fundamental principles underlying all fields of practice in the profession.

Candidates must submit an application, a statement of why they are interested in social work, and transcripts of academic work taken at institutions other than the University of Hawaii. Notice of acceptance will be sent to successful candidates, and written corroboration of intention to register is requested.

Admission of employed social workers to certain courses is permitted and encouraged in order to assist the social agencies of the community in their staff development programs. Admission to courses does not admit part-time students as degree candidates. If such students later desire to become degree candidates, they must follow regular admission procedures. Not more than 12 semester hours completed while a part-time student may be applied toward the degree.

Admission to the School of Social Work, in addition to the baccalaureate degree (see page 12), requires the following: (1) a minimum of 30 semester hours of undergraduate social science, with 6 hours each from economics, government, psychology, and sociology, and (2) evidence of personal qualifications necessary for success in social work. University of Hawaii graduates are also expected to have had Social Work 200.

FOREIGN STUDENTS

It is expected that consular officers will issue visas only to foreign students who have sufficient command of the English language to carry on successfully in an American university. The University of Hawaii Graduate School reserves the right to deny admission or refuse further registration to students who are deficient in this respect.
Degrees, Requirements, and Procedure

MASTER’S DEGREE

The University of Hawaii confers the degrees of Master of Arts, Master of Business Administration, Master of Education, Master of Fine Arts, Master of Science, and Master of Social Work. The Master of Arts degree is given in Anthropology, Art, Drama and Theatre, Economics, English, Far East Studies, Geography, Government, History, Mathematics, Pacific Islands Studies, Philosophy, Psychology, Sociology, and Speech; the Master of Science degree in Animal Science, Bacteriology, Botany, Chemistry, Entomology, Genetics, Nutrition, Physics, Soil Science, Tropical Crop Science, and Zoology; and the Master of Fine Arts degree, for creative production rather than research, in Art, Drama and Theatre, English, and Speech.

Following are the minimum requirements for the master's degrees. Additional requirements are stated by fields of study in the latter half of this bulletin.

Residence

The minimum residence requirement is two semesters of full-time work or four six-week summer sessions. For the Master of Social Work four semesters of full-time work are required. All work must be completed within the seven years preceding the date upon which the degree is conferred.

Course Credit

Twenty-four credit hours of course work and six credit hours of thesis research are required. In unusual cases, upon certification by the thesis committee no later than the registration period of the session during which the degree is conferred, a maximum of 12 credits may be granted for thesis research.

For the Master of Social Work 48 credit hours are required.

A minimum of 6 credits, exclusive of research methods courses, must be earned in courses numbered 300–399, including at least one graduate seminar related to the major field. A maximum of 4 credits may be allowed in the directed reading and research courses, other than thesis research. Under no circumstances are courses in directed reading or research to be used to make up undergraduate deficiencies. Some departments require a course in methods of research and thesis preparation. A reading knowledge of a foreign language is required in some fields.

A maximum of 8 semester hours of graduate credit may be transferred from accredited institutions, when approved by the qualifying committee.
Candidates must be registered for the thesis research course (400) during the session in which the work for the degree is to be completed.

Examinations

Graduate students are required to take all examinations in courses for which they desire credit.

A comprehensive examination covering the fundamentals of the major field is required of all master's candidates after they have completed 9 to 12 semester hours of graduate work at the University of Hawaii. Failure to pass the comprehensive examination after two trials automatically drops a student from candidacy.

A final oral examination on the thesis and related material, conducted by the thesis committee and open to all faculty members, is required. As an alternative, the committee chairman may have the candidate present his results at a departmental graduate seminar, but all members of the thesis committee must be present. Candidates should notify the office of the Graduate School at the beginning of the semester or summer session in which the work is to be completed, and arrangements for the final examination should be made at least one month prior to the end of the term.

Summary of Procedure

1. Application for admission to the Graduate School
2. Filing of notice of intention to work for a degree
3. Qualifying conference
4. Admission to candidacy and appointment of (a) thesis committee or (b) interim adviser
5. Comprehensive examination
6. Approval of thesis problem
7. Thesis submitted to committee
8. Final examination
9. Thesis copies filed
10. Granting of the degree

DOCTOR OF PHILOSOPHY DEGREE

The degree of Doctor of Philosophy is the highest degree conferred in course. It is a research degree and is conferred only for scholarly attainment and an original contribution to knowledge in a special field.

Candidates are accepted only in Botany, Chemistry, Entomology, Genetics, Soil Science, and Zoology (marine aspects)—areas in which the teaching staff, library and laboratory equipment, and co-operative relationships with other research institutions make it possible to offer thorough training. A majority of these areas are closely related to tropical agriculture, which affords many vital research problems.

Minimum requirements are stated below. Additional requirements are stipulated by the fields of study.

Residence and Credit

The comprehensive knowledge expected of the student in his major field
is such that the requirements for the degree demand not less than six semesters of full-time work or the equivalent, at least three of which must be in residence at the University of Hawaii.

While the experienced and exceptionally prepared student may meet the requirements by completing a minimum of 72 credit hours (of which 24 are allowed for thesis research), fields of study will in many cases require more extensive preparation through additional work in course. Of these 72 credit hours at least 48 must be completed at the University of Hawaii.

Twenty-four credit hours toward the doctorate may be allowed for a master's degree.

Of the 48 credit hours in course, 12 must be in a field or fields of study other than the major one.

Candidates must be registered for the thesis research course (400) during the session in which the work for the degree is to be completed.

Language Requirement

A reading knowledge of two foreign languages useful in the student's research and approved by the qualifying committee is required. Competence must be certified by the appropriate language departments before a candidate will be admitted to the comprehensive examination.

Examinations

In addition to the regular course examinations, doctoral candidates must pass a comprehensive examination in the major and related field or fields, and a final oral examination in defense of the thesis. The comprehensive examination must be taken by the beginning of the academic year in which the degree is to be conferred.

Arrangements for the final examination must be made at least one month in advance, and it must occur at least two weeks before the end of the session.

Thesis

In addition to the specifications under thesis requirement (see page 15), the doctoral dissertation is expected to be a scholarly presentation of an original contribution to knowledge resulting from independent research and should be suitable for publication.

Thesis Committee

Following admission to candidacy and the selection of a research project, the subsequent work of a Ph.D. candidate is under the supervision of a thesis committee composed of not less than five members of the Graduate Faculty. This committee determines necessary additional course work, advises in the research, and conducts the comprehensive and final examinations.

Summary of Procedure

1. Application for admission to the Graduate School
2. Filing of notice of intention to work for a degree
3. Qualifying conference
4. Admission to candidacy and appointment of
   (a) thesis committee or
   (b) interim adviser
5. Approval of thesis proposal
6. Satisfaction of the foreign language requirement
7. Comprehensive examination
8. Dissertation submitted to thesis committee
9. Final examination
10. Dissertation copies filed
11. Granting of the degree
Courses numbered 200–298 are upper division courses but open to graduate students when needed to complete a major field. Courses numbered 300 and above are graduate courses.

As the Graduate Bulletin covers a two-year period and courses vary considerably from year to year, only the number and title of courses are given. Graduate students should consult the time schedules issued prior to the opening of sessions for information on courses offered, credit, instructors, etc.

In addition to the minimum requirements stated in the forepart of this bulletin, specific requirements are here indicated by fields of study.

**ANIMAL SCIENCE**

Candidates for the M.S. degree must present 18 semester hours of undergraduate credit in animal science, or poultry science, and related fields. The related subject matter fields are agronomy, bacteriology, botany, chemistry, household science, and zoology. Courses are to be selected from those listed below for credit towards the degree. *Required courses are indicated by an asterisk.*

### Agriculture

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>Directed Research</td>
</tr>
<tr>
<td>312</td>
<td>Applied Agricultural Statistics</td>
</tr>
<tr>
<td>*400</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>

### Animal Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>253</td>
<td>Dairy Husbandry</td>
</tr>
<tr>
<td>257</td>
<td>Feeds and Feeding</td>
</tr>
<tr>
<td>260</td>
<td>Swine Production</td>
</tr>
<tr>
<td>261</td>
<td>Beef Production</td>
</tr>
<tr>
<td>279</td>
<td>Physiology of Domestic Animals</td>
</tr>
<tr>
<td>297</td>
<td>Animal Diseases and Their Control</td>
</tr>
<tr>
<td>298</td>
<td>Seminar in Animal Nutrition</td>
</tr>
</tbody>
</table>

### Bacteriology

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>Economic Microbiology</td>
</tr>
</tbody>
</table>

### Chemistry

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>230</td>
<td>Elementary Quantitative Analysis</td>
</tr>
<tr>
<td>231</td>
<td>Intermediate Quantitative Analysis</td>
</tr>
<tr>
<td>232</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>255</td>
<td>Physical Chemistry</td>
</tr>
<tr>
<td>270</td>
<td>Chemistry of Metabolic Processes</td>
</tr>
</tbody>
</table>

### Genetics

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
<td>Principles of Genetics</td>
</tr>
<tr>
<td>262</td>
<td>Advanced Genetics</td>
</tr>
<tr>
<td>302</td>
<td>Genetics Seminar</td>
</tr>
<tr>
<td>Household Science</td>
<td>Soils and Agronomy</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>250 Diet and Disease</td>
<td>256 Principles of Agronomy</td>
</tr>
<tr>
<td>272 Elementary Nutrition</td>
<td></td>
</tr>
<tr>
<td>277 Advanced Nutrition</td>
<td></td>
</tr>
<tr>
<td>305 Laboratory Methods in Nutrition</td>
<td></td>
</tr>
<tr>
<td>351 Seminar in Nutrition</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>280 Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>Poultry Science</td>
<td></td>
</tr>
<tr>
<td>259 Poultry Husbandry Problems</td>
<td></td>
</tr>
<tr>
<td>263 Poultry Breeding</td>
<td></td>
</tr>
<tr>
<td>264 Poultry Nutrition</td>
<td></td>
</tr>
<tr>
<td>265 Incubation and Brooding</td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

**ANTHROPOLOGY**

Candidates for the M.A. degree must present 24 semester hours of undergraduate credit in anthropology, of which 6 may be from closely related fields. In addition, introductory courses in geography, psychology, sociology, and zoology are recommended.

Courses for the graduate major must be selected from those listed below. **Required courses are marked with an asterisk.** A maximum of 6 credits may be earned in related courses in economics, geography, government, history, psychology, and sociology.

**Anthropology**

| 250 Hawaiian Culture                                   | 271 Anthropological Classics                 |
| 251 The Polynesians and Their Culture                  | 272 Economic Life of Primitive Peoples       |
| 252 Peoples of the Pacific                             | 273 Physical Anthropology                    |
| 253 Micronesia in a Modern World                       | 274 Nature of Culture                        |
| 254 Peoples of Southern Asia                           | 275 Introduction to Linguistics              |
| 255 Peoples of Northern Asia                           | 276 Linguistic Analysis                      |
| 256 The American Indian                                 | 277 Structural Linguistics                   |
| 257 Peoples of Africa                                  | 278 Malayo-Polynesian Languages              |
| 265 Primitive Society                                  | *300 Directed Reading or Research            |
| 266 Culture Conflict in Pacific Dependencies           |                                             |
| 267 Primitive Religion                                 | 310 Seminar in Oceania                       |
| 268 Primitive Art                                      | 311 Applied Anthropology                     |
| 269 Folklore                                           | 312 Techniques of Field Work                 |
| 270 Archeology                                        | *400 Thesis Research                         |
The Master of Arts degree is given only in the field of Far Eastern art and requires an adequate undergraduate background in the history of art, both East and West, and a reading knowledge of French or German, with an elementary knowledge of the other in either case.

The Master of Fine Arts degree is offered for creative studio work in fine arts (drawing, painting, graphics), ceramics, and weaving and requires an undergraduate major in art and an adequate working knowledge of the history of art covering all major movements and styles but not requiring a specialist's detail within the periods. Candidates in fine arts should have proficiency in one or more of the standard painting, drawing, or graphic media and talent sufficient for creative work approaching a professional level. Candidates in ceramics should have a working knowledge of glaze calculations, loading and firing kilns (including design and construction), and reasonable competence in wheel throwing, ceramic sculpture, or creative work by casting, jiggering, or pressing. Candidates in weaving should be familiar with design and the uses of color and texture, must demonstrate proficiency in warping, threading, and weaving on professional-type looms, and must have a working knowledge of loom construction and historical development.

Courses for the graduate major must be selected from those listed below. Courses marked with a dagger are required in painting; those marked with an asterisk are required in ceramics; and those marked with a double dagger are required in weaving. The department chairman will advise as to required courses in art history. A maximum of 10 hours may be earned in certain advanced courses in anthropology, classics, English, history, music, and philosophy, or other fields, with the approval of the committee chairman.

The Master of Arts thesis (History) may be presented with or without illustrative studio work. The Master of Fine Arts thesis will ordinarily consist of two parts: (1) a project or group of projects in the chosen creative field, and (2) a written presentation in the nature of an extended catalogue or a technical or critical essay in support of the creative work.

Art

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>Indian and Far Eastern Art</td>
</tr>
<tr>
<td>225</td>
<td>Early Chinese Art</td>
</tr>
<tr>
<td>229</td>
<td>Chinese Painting</td>
</tr>
<tr>
<td>231</td>
<td>Applied Arts of China</td>
</tr>
<tr>
<td>233</td>
<td>Museum Studies in Far Eastern Art</td>
</tr>
<tr>
<td>252</td>
<td>History of Modern Art (A)</td>
</tr>
<tr>
<td>253</td>
<td>History of Modern Art (B)</td>
</tr>
<tr>
<td>256</td>
<td>Advertising Art (A)</td>
</tr>
<tr>
<td>257</td>
<td>Advertising Art (B)</td>
</tr>
<tr>
<td>260</td>
<td>Ceramic Glaze Calculations</td>
</tr>
<tr>
<td>261</td>
<td>Advanced Ceramics</td>
</tr>
<tr>
<td>264</td>
<td>Water Color Painting (A)</td>
</tr>
<tr>
<td>265</td>
<td>Water Color Painting (B)</td>
</tr>
<tr>
<td>266</td>
<td>Printmaking</td>
</tr>
<tr>
<td>268</td>
<td>Landscape Painting</td>
</tr>
<tr>
<td>269</td>
<td>Figure Drawing (A)</td>
</tr>
<tr>
<td>270</td>
<td>Figure Drawing (B)</td>
</tr>
<tr>
<td>272</td>
<td>Illustration</td>
</tr>
<tr>
<td>273</td>
<td>Design Materials</td>
</tr>
</tbody>
</table>
Candidates for the M.S. degree must present a minimum of 18 semester hours of undergraduate credit in bacteriology, basic courses in botany or zoology, and the specific courses general chemistry, organic chemistry, and college physics.

Courses for the graduate major must be selected from those listed below. In addition, appropriate courses from related disciplines may be recommended by the qualifying committee and the thesis committee. Required courses are marked with an asterisk.

**BACTERIOLOGY**

Candidates for the M.S. degree must present a minimum of 18 semester hours of undergraduate credit in bacteriology, basic courses in botany or zoology, and the specific courses general chemistry, organic chemistry, and college physics.

Courses for the graduate major must be selected from those listed below. In addition, appropriate courses from related disciplines may be recommended by the qualifying committee and the thesis committee. Required courses are marked with an asterisk.

**Botany**

Candidates for the M.S. and Ph.D. degrees must present a minimum of 18 semester hours of undergraduate credit in botany, including courses in cryptogams, physiology, taxonomy, and anatomy or morphology. The undergraduate program must also include basic courses in bacteriology and chemistry.

Courses for the major must be selected from those listed below. A knowledge of French, German, or Latin may be required for the M.S. degree, and two are required for the Ph.D. degree. All candidates must register in the seminar series. Required courses are marked with an asterisk.

**Bacteriology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>Economic Microbiology</td>
</tr>
<tr>
<td>260</td>
<td>Medical Bacteriology</td>
</tr>
<tr>
<td>262</td>
<td>Laboratory in Medical Bacteriology</td>
</tr>
<tr>
<td>264</td>
<td>Immunology</td>
</tr>
<tr>
<td>276</td>
<td>Advanced Weaving</td>
</tr>
<tr>
<td>300</td>
<td>Directed Work</td>
</tr>
<tr>
<td>*360</td>
<td>Ceramic Design and Research</td>
</tr>
<tr>
<td>376</td>
<td>Design and Research in Weaving</td>
</tr>
<tr>
<td>380</td>
<td>Painting</td>
</tr>
<tr>
<td>*390</td>
<td>General Seminar</td>
</tr>
<tr>
<td>395</td>
<td>Seminar in Oriental Art</td>
</tr>
<tr>
<td>*400</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>

**Botany**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Systematic Botany of Flowering Plants</td>
</tr>
<tr>
<td>202</td>
<td>Taxonomy and Exploration</td>
</tr>
<tr>
<td>253</td>
<td>Plant Ecology</td>
</tr>
<tr>
<td>254</td>
<td>Advanced Taxonomy</td>
</tr>
<tr>
<td>259</td>
<td>Mycology</td>
</tr>
<tr>
<td>262</td>
<td>Structure of Economic Plants</td>
</tr>
<tr>
<td>263</td>
<td>Principles of Pathology</td>
</tr>
<tr>
<td>264</td>
<td>Phytopathological Methods</td>
</tr>
<tr>
<td>266</td>
<td>Medical Mycology</td>
</tr>
<tr>
<td>268</td>
<td>Microtechnique</td>
</tr>
<tr>
<td>269</td>
<td>Anatomy</td>
</tr>
<tr>
<td>273</td>
<td>Advanced Physiology-Biophysics</td>
</tr>
</tbody>
</table>

*24*
Candidates for the degree of Master of Business Administration must have had a minimum of 24 semester hours of undergraduate courses in business and economics, including elementary principles of economics, money and banking, business statistics, and elementary accounting.

Courses for the graduate major must be selected from those listed below, except that courses in economics and other related fields up to a maximum of 9 credits may be elected. *Required courses are marked with an asterisk.*

### Business

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>Elements of Supervision</td>
<td>254</td>
<td>Cost Accounting</td>
</tr>
<tr>
<td>212</td>
<td>Property Insurance</td>
<td>255</td>
<td>Analysis of Financial Statements</td>
</tr>
<tr>
<td>217</td>
<td>Casualty Insurance</td>
<td>256</td>
<td>Income Tax Problems</td>
</tr>
<tr>
<td>219</td>
<td>Life Insurance</td>
<td>257</td>
<td>Merchandise Accounting and Control</td>
</tr>
<tr>
<td>225</td>
<td>Advertising Copy Writing</td>
<td>258</td>
<td>Auditing</td>
</tr>
<tr>
<td>230</td>
<td>Industrial Safety and Health</td>
<td>259</td>
<td>Office Organization and Management</td>
</tr>
<tr>
<td>232</td>
<td>Real Estate Fundamentals</td>
<td>260</td>
<td>Principles of Small Business</td>
</tr>
<tr>
<td>233</td>
<td>Property Valuation</td>
<td>261</td>
<td>Collective Bargaining</td>
</tr>
<tr>
<td>235</td>
<td>Urban Land Utilization</td>
<td>263</td>
<td>Personnel Management</td>
</tr>
<tr>
<td>240</td>
<td>Principles of Insurance</td>
<td>265</td>
<td>Corporation Finance</td>
</tr>
<tr>
<td>245</td>
<td>Time and Motion Study</td>
<td>266</td>
<td>Investments and Investment Banking</td>
</tr>
<tr>
<td>248</td>
<td>Wage Determination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>Budgetary Accounting and Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>Intermediate Accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>251</td>
<td>Advanced Accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>330</td>
<td>Molds, Yeasts, and Actinomycetes</td>
<td>331</td>
<td>Experimental Marine Botany</td>
</tr>
<tr>
<td>332</td>
<td>Physiology</td>
<td>351</td>
<td>Physiology Seminar</td>
</tr>
<tr>
<td>358</td>
<td>Advanced Mycology</td>
<td>365</td>
<td>Taxonomy of the Dicotyledons</td>
</tr>
<tr>
<td>367</td>
<td>Taxonomy of the Higher Dicotyledons</td>
<td>377</td>
<td>Morphology Seminar</td>
</tr>
<tr>
<td>379</td>
<td>Phytopathological Literature</td>
<td>380</td>
<td>Cytogenetics</td>
</tr>
<tr>
<td>*400</td>
<td>Thesis Research</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHEMISTRY

Candidates for advanced degrees (M.S. and Ph.D.) must have had a minimum of 34 semester hours of undergraduate credit in chemistry, including courses in general chemistry, organic chemistry, qualitative analysis, quantitative analysis, and physical chemistry. Students in departments other than chemistry whose undergraduate major did not require physical chemistry may take the course for graduate credit.

Courses in the major must be selected from those listed below. Required courses are marked with an asterisk. The thesis research may be in inorganic, analytical, organic, biological, or physical chemistry.

Chemistry

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>238</td>
<td>Advanced Inorganic Chemistry</td>
<td>290 Recent Developments in Chemistry</td>
</tr>
<tr>
<td>246</td>
<td>Introduction to Chemical Engineering</td>
<td>295 Chemical Literature</td>
</tr>
<tr>
<td>249</td>
<td>Advanced Organic Chemistry</td>
<td>300 Directed Research</td>
</tr>
<tr>
<td>250</td>
<td>Qualitative Organic Analysis</td>
<td>338 Atomic Structure and Nuclear Chemistry</td>
</tr>
<tr>
<td>251</td>
<td>Quantitative Organic Analysis</td>
<td>349 Special Topics in Organic Chemistry</td>
</tr>
<tr>
<td>255</td>
<td>Physical Chemistry</td>
<td>350 Special Topics in Physical Chemistry</td>
</tr>
<tr>
<td>260</td>
<td>Oceanographic Chemistry</td>
<td>352 Instrumental Methods of Analysis</td>
</tr>
<tr>
<td>266</td>
<td>Clinical Chemistry</td>
<td>355 Theoretical Organic Chemistry</td>
</tr>
<tr>
<td>270</td>
<td>Chemistry of Metabolic Processes</td>
<td>*360 Seminar</td>
</tr>
<tr>
<td>281</td>
<td>History of Chemistry</td>
<td>*400 Thesis Research</td>
</tr>
</tbody>
</table>

DRAMA AND THEATRE

For an advanced degree in drama and theatre, candidates should present an adequate undergraduate background in the humanities, preferably in English, other languages and literatures, art and music, and in theatre or speech. Ordinarily, at least 30 semester hours of credit should have been
earned in these fields. Additional work in history, philosophy, psychology, and sociology is desirable; to a limited extent, work in the latter areas may be substituted for that of the first-mentioned fields.

Courses must be selected from those listed below. A total of at least 6 credits must be from Drama and Theatre 220-221, 230-231, 240, and 245, and 6 from 250, 260, and 265. All candidates are required to take either Drama and Theatre 320 or 350, and 400. Required courses are marked with an asterisk.

**Drama and Theatre**
- 200 Theatre Practice
- 220–221 Acting
- 230–231 Direction
- 240 Stagecraft and Theatre Planning
- 245 Stage Lighting
- 250 History of the Theatre
- 260 Modern Theories of Stage Presentation
- 265 Aesthetics of the Theatre
- 300 Directed Work
- 320 Seminar in Drama and Theatre
- 350 Seminar in Oriental Theatre
- *400 Thesis Research

**English**
- 216 Playwriting
- 240 History of Literary Criticism
- 274 The English Drama to 1642
- 276–277 Shakespeare
- 278 English Drama of the Restoration and Eighteenth Century
- 287 Modern Dramatic Literature

**Speech**
- 220 Phonetics
- 232 Advanced Interpretation
- 272 Radio Workshop

**Art**
- 220 Indian and Far Eastern Art
- 250–251 History of Western Art
- 252 History of Modern Art (A)
- 253 History of Modern Art (B)

**Japanese**
- 260 Japanese Literature in English

**French**
- 250 Literature of the Golden Age

**Spanish**
- 253 Modern Spanish Drama

**Latin**
- 260 Classical Literature

**German**
- 200 The Classical Period

**Chinese**
- 250–251 Chinese Literature in English

**Anthropology**
- 268 Primitive Art

**Sociology**
- 269 Personality and Culture

**Psychology**
- 283 Psychology of Personality

**Philosophy**
- 262 Philosophy of Art
ECONOMICS

Candidates for the degree of Master of Arts in economics must present a minimum of 24 semester hours of undergraduate work in economics and business, including elementary principles, money and banking, and either business statistics or elementary accounting.

Courses for the graduate major must be chosen from those listed below, except that courses in business and other related fields up to a maximum of 9 credits may be elected. All candidates are required to take Economics 310 or 315. Required courses are marked with an asterisk.

**Economics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>252</td>
<td>Economic Problems of the Far East</td>
</tr>
<tr>
<td>254</td>
<td>Comparative Economic Systems</td>
</tr>
<tr>
<td>258</td>
<td>Economic Resources of the United States</td>
</tr>
<tr>
<td>261</td>
<td>Public Finance</td>
</tr>
<tr>
<td>262</td>
<td>Government Finance in Hawaii</td>
</tr>
<tr>
<td>264</td>
<td>Intermediate Economic Theory</td>
</tr>
<tr>
<td>265</td>
<td>Government and Business</td>
</tr>
<tr>
<td>266</td>
<td>National Income and Employment</td>
</tr>
<tr>
<td>270</td>
<td>Public Utilities</td>
</tr>
<tr>
<td>281</td>
<td>Labor Problems</td>
</tr>
<tr>
<td>282</td>
<td>American Trade Unionism</td>
</tr>
<tr>
<td>283</td>
<td>Labor Legislation</td>
</tr>
<tr>
<td>285</td>
<td>International Trade and Finance</td>
</tr>
<tr>
<td>287</td>
<td>Public Relations</td>
</tr>
<tr>
<td>289</td>
<td>Arbitration of Grievances</td>
</tr>
<tr>
<td>291</td>
<td>Agricultural Economics</td>
</tr>
<tr>
<td>292</td>
<td>Land Economics</td>
</tr>
<tr>
<td>294</td>
<td>Research in Industrial Relations</td>
</tr>
<tr>
<td>296</td>
<td>History of Economic Thought</td>
</tr>
<tr>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>310</td>
<td>Seminar in Labor Problems</td>
</tr>
<tr>
<td>315</td>
<td>Seminar in Economic Problems</td>
</tr>
<tr>
<td>400</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>

EDUCATION

The Bachelor of Education degree or the equivalent (including credit for supervised teaching) and successful teaching experience are required as a background for the Master of Education degree.

In general, courses must be selected from those listed below. A limited number of other upper division education courses and a maximum of 10 hours in fields other than education may be allowed when they are of special relevance to the research. Required courses are marked with an asterisk.

**Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>322</td>
<td>Extra-class Activities in Secondary Schools</td>
</tr>
<tr>
<td>326</td>
<td>Administration of the Secondary School</td>
</tr>
<tr>
<td>327</td>
<td>Administration of the Elementary School</td>
</tr>
</tbody>
</table>
328 Supervision of Instruction 369 Seminar in Speech Pedagogy
329 Curriculum Construction 376 Seminar in Vocational Education
332 Clinical Procedures in Reading *380 Research and Thesis Writing
334 Teaching English, Secondary *390 Public School Administration
*340 Philosophy of Education 396 Seminar in Curriculum Improvement
345 Seminar in Philosophy of Education *400 Thesis Research
*350 History of Education Psychology
352 Organization and Administration of Guidance
363 Seminar in Educational Administration
364 Tests and Inventories in Guidance
365 Seminar in Supervision of Instruction

ENGLISH

Candidates are expected to present 24 semester hours of undergraduate credit in English, or closely related subjects, including courses in English composition, introduction to English literature, American literature, and Shakespeare. In addition, courses in English history or in classical literature are desirable. A fair reading knowledge of an ancient or modern European language is required.

Courses for the graduate program are to be selected from the following list. Required courses are marked with an asterisk; English 309 or 310 is required.

English

240 History of Literary Criticism 275 Seventeenth-Century English Literature
260–261 American Literature 276–277 Shakespeare
262 Problems in American Literature and Cultural History 278 English Drama of the Restoration and Eighteenth Century
263 Literature of the Pacific 279 Milton
270 Chaucer 280 Eighteenth-Century English Literature
*272 History of the English Language 282 The Romantic Movement in England
273 Sixteenth-Century English Literature 284 Victorian Literature
274 The English Drama to 1642 285 The English Novel to 1832
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>286</td>
<td>The English Novel, 1832–1900</td>
</tr>
<tr>
<td>287</td>
<td>Modern Dramatic Literature</td>
</tr>
<tr>
<td>288</td>
<td>Contemporary European Literature</td>
</tr>
<tr>
<td>289</td>
<td>Contemporary American Literature</td>
</tr>
<tr>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>*309</td>
<td>Seminar in American Literature</td>
</tr>
<tr>
<td>*310</td>
<td>Seminar in American Literature</td>
</tr>
<tr>
<td>*311</td>
<td>Seminar in English Literature</td>
</tr>
<tr>
<td>312</td>
<td>Seminar in Teaching Composition</td>
</tr>
<tr>
<td>*313</td>
<td>Seminar in Research Methods</td>
</tr>
<tr>
<td>314</td>
<td>Seminar in Comparative Literature</td>
</tr>
<tr>
<td>340</td>
<td>Seminar in Contemporary American Culture (year course; first semester listed as History 340)</td>
</tr>
<tr>
<td>*340</td>
<td>Seminar in Contemporary American Literature</td>
</tr>
<tr>
<td>350</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>

**ENTOMOLOGY**

Candidates for the M.S. or Ph.D. degree in entomology should have completed a minimum of 18 semester hours of undergraduate credit in entomology and zoology, including general zoology, general entomology, economic entomology, general physiology, insect morphology, and systematic entomology. In addition, they should have credit for two years of chemistry (including inorganic and organic), one year of physics, and courses in algebra, botany, and genetics. Deficiencies in undergraduate preparation must be made up.

Courses for the graduate program must be selected from those listed below. Certain courses in closely related fields may be allowed. *Required courses are marked with an asterisk.* For the Ph.D. degree, additional work will be determined by the doctoral committee.

**Zoology and Entomology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>Introduction to Ecology</td>
</tr>
<tr>
<td>245</td>
<td>Zoogeography</td>
</tr>
<tr>
<td>256</td>
<td>Medical and Veterinary Entomology</td>
</tr>
<tr>
<td>257</td>
<td>Scale Insects</td>
</tr>
<tr>
<td>276</td>
<td>Biometry</td>
</tr>
<tr>
<td>277</td>
<td>Biometrical Analysis</td>
</tr>
<tr>
<td>280</td>
<td>Comparative Anatomy of Invertebrates</td>
</tr>
<tr>
<td>284</td>
<td>Comparative Invertebrate Physiology</td>
</tr>
<tr>
<td>286</td>
<td>History of Zoology</td>
</tr>
<tr>
<td>300</td>
<td>Directed Research</td>
</tr>
<tr>
<td>*311</td>
<td>Entomology Seminar</td>
</tr>
<tr>
<td>*315</td>
<td>Zoological Literature</td>
</tr>
<tr>
<td>*316</td>
<td>Preparation of Scientific Manuscripts</td>
</tr>
<tr>
<td>350</td>
<td>Advanced Systematic Entomology</td>
</tr>
<tr>
<td>352</td>
<td>Insect Ecology</td>
</tr>
<tr>
<td>353</td>
<td>Biological Control of Pests</td>
</tr>
<tr>
<td>354</td>
<td>Insect Toxicology</td>
</tr>
<tr>
<td>355</td>
<td>Insect-Transmitted Diseases of Plants</td>
</tr>
<tr>
<td>358</td>
<td>Principles of Insect Pathology</td>
</tr>
<tr>
<td>387</td>
<td>Population Dynamics</td>
</tr>
<tr>
<td>392</td>
<td>Physiological Ecology</td>
</tr>
<tr>
<td>395</td>
<td>Isotopic Tracers in Biology</td>
</tr>
<tr>
<td>*400</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>
FAR EAST STUDIES

The minimum undergraduate requirement in the area of Far East studies is 37 semester hours from the following fields: anthropology, art, economics, geography, government, history, language, literature, philosophy, sociology, and religion. In addition, a reading knowledge of Chinese, Japanese, or Korean is required.

The major field may be China, Japan, or Korea. Courses must be selected from those listed below. At the discretion of the candidate's committee, additional work in language may be required. Required courses are marked with an asterisk.

<table>
<thead>
<tr>
<th>Field</th>
<th>Course Numbers</th>
<th>Course Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>200</td>
<td>Third-Year Chinese</td>
</tr>
<tr>
<td></td>
<td>250–251</td>
<td>Chinese Literature in English</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>Japanese</td>
<td></td>
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<tr>
<td></td>
<td>200</td>
<td>Third-Year Japanese</td>
</tr>
<tr>
<td></td>
<td>260</td>
<td>Japanese Literature in English</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>Anthropology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>254</td>
<td>Peoples of Southern Asia</td>
</tr>
<tr>
<td></td>
<td>255</td>
<td>Peoples of Northern Asia</td>
</tr>
<tr>
<td></td>
<td>275</td>
<td>Introduction to Linguistics</td>
</tr>
<tr>
<td></td>
<td>276</td>
<td>Linguistic Analysis</td>
</tr>
<tr>
<td></td>
<td>277</td>
<td>Structural Linguistics</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td>Art</td>
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</tr>
<tr>
<td></td>
<td>220</td>
<td>Indian and Far Eastern Art</td>
</tr>
<tr>
<td></td>
<td>225</td>
<td>Early Chinese Art</td>
</tr>
<tr>
<td></td>
<td>229</td>
<td>Chinese Painting</td>
</tr>
<tr>
<td></td>
<td>231</td>
<td>Applied Arts of China</td>
</tr>
<tr>
<td></td>
<td>233</td>
<td>Museum Studies in Far Eastern Art</td>
</tr>
<tr>
<td></td>
<td>395</td>
<td>Seminar in Oriental Art</td>
</tr>
<tr>
<td>Drama and Theatre</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>350</td>
<td>Seminar in Oriental Theatre</td>
</tr>
<tr>
<td>Geography</td>
<td></td>
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<tr>
<td></td>
<td>255</td>
<td>Geography of Asia</td>
</tr>
<tr>
<td></td>
<td>256</td>
<td>Geography of Japan</td>
</tr>
<tr>
<td></td>
<td>257</td>
<td>Geography of China</td>
</tr>
<tr>
<td></td>
<td>264</td>
<td>Geography of India and Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>271</td>
<td>Political Geography</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Directed Research</td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>262</td>
<td>Government and Politics of China and Japan</td>
</tr>
<tr>
<td></td>
<td>263</td>
<td>International Relations of the Far East</td>
</tr>
<tr>
<td></td>
<td>273</td>
<td>Government and Politics of South and Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>274</td>
<td>International Relations of South and Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>Directed Reading or Research</td>
</tr>
<tr>
<td></td>
<td>303</td>
<td>Seminar in Far Eastern Politics</td>
</tr>
<tr>
<td></td>
<td>309</td>
<td>Seminar in South and Southeast Asia</td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>201</td>
<td>History of the Far East</td>
</tr>
<tr>
<td></td>
<td>225</td>
<td>History of China</td>
</tr>
<tr>
<td></td>
<td>226</td>
<td>History of Japan</td>
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<tr>
<td></td>
<td>227</td>
<td>Southeast Asia</td>
</tr>
<tr>
<td></td>
<td>229</td>
<td>American-Chinese Relations</td>
</tr>
<tr>
<td></td>
<td>230</td>
<td>India, Pakistan, and Ceylon</td>
</tr>
</tbody>
</table>
Candidates for M.S. or Ph.D. degrees in genetics must present a minimum of 20 semester hours of undergraduate preparation in genetics, botany, chemistry, entomology, mathematics (college algebra and analytical geometry desirable), and zoology.

Ph.D. candidates are required to spend a year (24 semester hours) of course work at the graduate level in an approved institution with a strong department of genetics.

Courses for the graduate program are to be selected from those listed below, but the supervising committee may allow or recommend others in the same or allied fields. *Required courses are marked with an asterisk.*

**Genetics**

- 254 Principles of Genetics
- 262 Advanced Genetics
- 278 Principles of Plant Breeding
- 300 Directed Research
- 302 Genetics Seminar
- 312 Applied Agricultural Statistics
- *400 Thesis Research*

**Botany**

- 201 Systematic Botany of Flowering Plants

**Religion**

- 282 History of Living Religions
- 300 Directed Reading

**Sociology**

- 251 Folk and Peasant Society
- 257 Race Relations in the Pacific
- 259 Peoples and Institutions of Japan
- 277 Peoples and Institutions of China
- 300 Directed Reading or Research

**Far East**

- *400 Thesis Research**

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- 300 Directed Reading

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- 259 Peoples and Institutions of Japan
- 277 Peoples and Institutions of China
- 300 Directed Reading or Research

**Far East**

- *400 Thesis Research**

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**Genetics**

- 254 Principles of Genetics
- 262 Advanced Genetics
- 278 Principles of Plant Breeding
- 300 Directed Research
- 302 Genetics Seminar
- 312 Applied Agricultural Statistics
- *400 Thesis Research*

**Botany**

- 201 Systematic Botany of Flowering Plants

**Religion**

- 282 History of Living Religions
- 300 Directed Reading

**Sociology**

- 251 Folk and Peasant Society
- 257 Race Relations in the Pacific
- 259 Peoples and Institutions of Japan
- 277 Peoples and Institutions of China
- 300 Directed Reading or Research

**Far East**

- *400 Thesis Research**
The undergraduate preparation should include an adequate background in geography supplemented by courses in geology, history, anthropology, sociology, government, or economics. A reading knowledge of a foreign language is strongly recommended.

Courses for the graduate program are to be selected from those listed below and from related fields with the approval of the supervising committee. Required courses are marked with an asterisk.

**GEOGRAPHY**

**Zoology**

276 Biometry
277 Biometrical Analysis
285 Animal Evolution

**Courses for the graduate program**

Candidates for the M.A. degree must present a minimum of 18 semester hours of undergraduate courses in government (or political science).

The graduate program is made up from the courses listed below. Candidates may specialize in one of six areas—American government, comparative government, international relations, political philosophy, politics, or public administration. Normally a maximum of 6 hours may be elected from other social science areas (anthropology, economics, history, psychology, sociology), as determined by the supervising committee. A course in methods of research is required.

**American Government**

248 State Government and Administration

252 Introduction to Constitutional Law

33
Candidates for the M.A. degree must present a minimum undergraduate background of 18 semester hours in history, of which 10 must be in courses relating to the general field of the thesis.

Courses for the graduate program must be selected from those listed below. Required courses are marked with an asterisk. A maximum of 6 hours may be elected from closely related advanced courses in such areas as government, economics, or foreign languages.
History

201 History of the Far East
208 Expansion of European Civilization
209-210 History of England
211 Constitutional History of England
213 History of Modern Russia
214 History of Soviet Russia
220-221 History of the British Empire
225 History of China
226 History of Japan
227 Southeast Asia
228 China since 1895
229 American-Chinese Relations
230 India, Pakistan, and Ceylon
231 The Modern and Contemporary Middle East
240-241 History of the United States to 1876
242-243 History of the United States since 1877
244-245 Diplomatic History of the United States
246 American Thought and Culture
248 Economic History of the United States
249 Representative Americans
250 Early Civilization in the Far East
251 History of Thought in Japan
252 Constitutional History of the United States
253-254 History of Hispanic America
255 United States and Hispanic America
257 Europe in the Nineteenth Century
258 Europe since Versailles
259 The West in American History
260 American Social Reform Movements since 1865
261 The South in American History
273 United States in the Pacific
276 History of the Hawaiian Islands
277 The Pacific Region in Modern Times
278 Pacific Islands from 1779
279 Australia and New Zealand
285 Russia in Asia
295 Cultural History of China
300 Directed Research
*310 Seminar in Historical Method
311 Seminar in American Diplomatic History
*313 Seminar in Historiography
315 Seminar in Japanese History
316 Seminar in Chinese History
340 Seminar in Contemporary American Culture (year course; second semester listed as English 340)
*400 Thesis Research

MATHEMATICS

Candidates for the M.A. degree must present a minimum undergraduate preparation of 27 semester hours in mathematics, including analytic geometry and differential and integral calculus. College physics is also required. One or more of the following courses are recommended but not required: differential equations, advanced calculus, theory of equations, vector analysis, statistics, and logic.
Courses in the major are to be selected from those listed below. Required courses are marked with an asterisk. A maximum of 12 hours may be elected from the following related courses: symbolic logic, electricity and magnetism, theoretical mechanics, survey of modern physics, atomic and nuclear physics, and theoretical physics.

Mathematics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>252-253</td>
<td>Differential Equations</td>
<td>280</td>
</tr>
<tr>
<td>254-255</td>
<td>Advanced Calculus</td>
<td>281</td>
</tr>
<tr>
<td>275</td>
<td>Theory of Equations</td>
<td></td>
</tr>
<tr>
<td>276</td>
<td>Vector Analysis</td>
<td>300</td>
</tr>
<tr>
<td>278</td>
<td>Theory of Functions of a Complex Variable</td>
<td>400</td>
</tr>
</tbody>
</table>

NUTRITION

Candidates for the M.S. degree in nutrition are required to have completed an undergraduate major in either home economics or chemistry, including an adequate number of courses in foods and nutrition. If the undergraduate major was home economics, it must have included the following chemistry courses: inorganic, organic, qualitative and quantitative analysis.

The graduate program is determined from the courses listed below. Required courses are marked with an asterisk. In addition, courses in statistical methods and thesis writing are required. A maximum of 9 hours may be elected from chemistry or other science, business and economics, education, or some other related field.

Home Economics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>300</td>
<td>Directed Reading or Research</td>
<td>300</td>
</tr>
</tbody>
</table>

Household Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
<td>Diet and Disease</td>
<td>301</td>
</tr>
<tr>
<td>273</td>
<td>Food Habits in Hawaii</td>
<td>351</td>
</tr>
<tr>
<td>*277</td>
<td>Advanced Nutrition</td>
<td>400</td>
</tr>
</tbody>
</table>

PACIFIC ISLANDS STUDIES

The required undergraduate background is 18 semester hours of courses dealing with the Pacific Islands area in the following fields: anthropology, economics, education, geography, government, history, linguistics, literature, psychology, and sociology. A basic course in either anthropology or geography of the Pacific Islands and a reading knowledge of French, German, Hawaiian, Japanese, or Spanish are also required. Candidates are expected to utilize the particular language in course work and thesis research.

Courses are to be selected from those listed below in such manner as to provide an integrated program bearing upon a particular field of interest.
At least three departments, other than language, must be represented. In valid instances, courses relating to the Pacific Islands in certain fields of science, such as agriculture, bacteriology, botany, chemistry, nutrition, and zoology, may be substituted. *Required courses are marked with an asterisk.*

### Anthropology
- 250 Hawaiian Culture
- 251 The Polynesians and Their Culture
- 252 Peoples of the Pacific
- 253 Micronesia in a Modern World
- 260-261 Survey of Pacific Languages
- 266 Culture Conflict in Pacific Dependencies
- 300 Directed Reading or Research
- 310 Seminar in Oceania

### Economics
- 262 Government Finance in Hawaii
- 291 Agricultural Economics
- 292 Land Economics
- 300 Directed Reading or Research

### Education
- 300 Directed Reading or Research
- 390 Public School Administration

### English
- 263 Literature of the Pacific
- 300 Directed Reading or Research

### Geography
- 263 Geography of the Pacific Islands
- 280 Micronesia
- 300 Directed Research

### Government
- 261 United Nations
- 270 Government of Hawaii
- 271 Comparative Colonial Government
- 300 Directed Reading or Research

### History
- 221 History of the British Empire
- 273 The United States in the Pacific
- 276 History of the Hawaiian Islands
- 277 The Pacific Region in Modern Times
- 300 Directed Research

### Interdepartmental Seminar
- 330 Pacific Islands Research

### Pacific Islands
- *400 Thesis Research

### Psychology
- 280 Social Psychology
- 283 Psychology of Personality
- 300 Directed Reading or Research

### Sociology
- 250 Community Forces
- 256 Race and Culture Contacts in Hawaii
- 257 Race Relations in the Pacific
- 300 Directed Reading or Research
- 351 Graduate Seminar
PHILOSOPHY

Candidates for the M.A. degree must present a minimum undergraduate requirement of 18 semester hours in philosophy, including courses in history of philosophy, ethics, logic, and contemporary philosophy. Related courses in psychology, sociology, history, literature, government, and the physical sciences are recommended.

Courses for the graduate major must be selected from those listed below. Required courses are indicated by an asterisk.

**Philosophy**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>Philosophy in Literature</td>
<td></td>
</tr>
<tr>
<td>253</td>
<td>Problems in Philosophy</td>
<td></td>
</tr>
<tr>
<td>262</td>
<td>Philosophy of Art</td>
<td></td>
</tr>
<tr>
<td>265</td>
<td>Philosophy, East and West</td>
<td></td>
</tr>
<tr>
<td>268</td>
<td>American Philosophy</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td>Indian Philosophy</td>
<td></td>
</tr>
<tr>
<td>271</td>
<td>Chinese Philosophy</td>
<td></td>
</tr>
<tr>
<td>275</td>
<td>Philosophy of Religion</td>
<td></td>
</tr>
<tr>
<td>276</td>
<td>Philosophical Interpretations of History</td>
<td></td>
</tr>
<tr>
<td>277</td>
<td>Kierkegaard and Existential Philosophy</td>
<td></td>
</tr>
<tr>
<td>284</td>
<td>Philosophy of Science</td>
<td></td>
</tr>
<tr>
<td>285</td>
<td>Philosophical Foundations of Science</td>
<td></td>
</tr>
<tr>
<td>286</td>
<td>Philosophy in Contemporary Science</td>
<td></td>
</tr>
<tr>
<td>287</td>
<td>Scientific Method</td>
<td></td>
</tr>
<tr>
<td>288</td>
<td>Symbolic Logic</td>
<td></td>
</tr>
<tr>
<td>*300</td>
<td>Directed Reading or Research</td>
<td>Research (metaphysics, methodology, ethics, Indian philosophy, Chinese philosophy, Buddhist philosophy, East-West philosophy)</td>
</tr>
<tr>
<td>287</td>
<td>Seminar in Problems of Philosophy</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>Thesis Research</td>
<td></td>
</tr>
</tbody>
</table>

PHYSICS

Candidates for the M.S. degree in physics must present a minimum of 18 semester hours, including courses in general physics, light, electricity and magnetism, mechanics, and modern physics. Courses in mathematics through calculus are also required.

Courses for the graduate program must be selected from those listed below. Required courses are indicated by an asterisk. The following related courses are recommended: structural mechanics, hydraulics, advanced calculus, physical chemistry, Philosophy 287, and Mathematics 278.

**Physics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>256</td>
<td>Optics Laboratory</td>
<td></td>
</tr>
<tr>
<td>258</td>
<td>Electronics</td>
<td></td>
</tr>
<tr>
<td>262</td>
<td>Sound</td>
<td></td>
</tr>
<tr>
<td>263</td>
<td>Theoretical Mechanics</td>
<td></td>
</tr>
<tr>
<td>270</td>
<td>Heat</td>
<td></td>
</tr>
<tr>
<td>281</td>
<td>Atomic and Nuclear Physics</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>Directed Reading or Research</td>
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</tr>
<tr>
<td>*301</td>
<td>Theoretical Physics: Analytical Dynamics</td>
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<tr>
<td>*302</td>
<td>Theoretical Physics: Electrodynamics</td>
<td></td>
</tr>
<tr>
<td>303</td>
<td>Introduction to Quantum Mechanics</td>
<td></td>
</tr>
</tbody>
</table>
Candidates for the M.A. degree must present 26 semester hours of undergraduate work in psychology, including general and experimental psychology, statistics, and at least two courses from the following three areas: the history of psychology, the psychology of personality, or abnormal psychology. Related course requirements are mathematics, extending at least through intermediate algebra, and introductory zoology.

Candidates may specialize in one of these fields: general psychology, social psychology, developmental psychology, applied industrial psychology, or counseling psychology. Graduate credit may be received for one of the following three courses provided it was not an elective at the undergraduate level: the history of psychology, the psychology of personality, or abnormal psychology. A maximum of 6 hours may be elected from closely related courses in anthropology, philosophy, physics, sociology, and zoology. Additional elective courses will be dependent upon the candidate's background.

* Required courses are indicated by an asterisk.

A specially articulated program totaling 39 credit hours has been developed in counseling psychology. For this program the thesis may be waived. Required courses include Psychology 264, 357, 362, 363, 390, and when necessary, developmental psychology.

Psychology

250 Applied Psychology
254 Principles of Guidance
256 Business and Industrial Psychology
258 Group Techniques of Guidance
260 Statistical Techniques
*264 Psychological Measurements
*270 Physiological Psychology
271 Sensation and Perception
272 Psychology of Learning
274 Psychology of Thinking
275 History of Psychology
*280 Social Psychology
281 Social Psychology Laboratory
283 Psychology of Personality
286 Political Psychology
292 Mental Hygiene
293 Psychology of Exceptional Children

*350 Seminar
*400 Thesis Research

Abnormal Psychology
Directed Reading or Research
Seminar in Methods of Research
General Seminar
Seminar: Problems in Psychology
Advanced Educational Psychology
Problems in Clinical Psychology
Principles of Counseling
Advanced Statistical Techniques
Individual Intelligence Test Techniques
Practicum in Testing and Counseling
Projective Techniques
Experimental Psychology
Advanced Social Psychology
In addition to the undergraduate requirements for admission to the School of Social Work (see page 16), candidates for the Master of Social Work degree must complete the basic graduate curriculum in social work (at least 28 semester hours of designated courses), including 6 hours in field work.

The full graduate program comprises 48 semester hours selected from the courses listed below, including at least 10 semester hours (750 clock hours) of supervised field work, and the completion of a research project or thesis. Courses marked with an asterisk are required of students completing the basic program at the University of Hawaii. Those marked with a dagger are additional requirements for degree candidates. The choice of advanced courses either in casework or group work depends upon the major interest of the student.

The thesis requirement may be satisfied by the standard thesis, or by a group research project. In the latter case the problem is entirely under the direction of the faculty of the School of Social Work.

**Social Work**

- **305** Social Casework
- **306** Social Casework
- **308** Social Group Work
- **309** Social Group Work
- **310–311** Human Growth and Development
- **312** Group Work, Program Activities
- **315** Community Organization
- **324** History of Social Work
- **325** Child Welfare
- **326** Treatment of Juvenile Delinquency
- **350** Public Welfare
- **352** Social Statistics and Research
- **353** Legal Aspects of Social Work
- **356** Social Welfare—Its Organization and Administration
- **360–361** Supervised Field Work
- **362–363** Advanced Supervised Field Work
- **365** Advanced Social Casework
- **366** Seminar in Social Casework
- **367** Casework with Children
- **370** Advanced Social Group Work
- **371** Seminar in Social Group Work
- **375** Advanced Social Psychiatry
- **381** Seminar in Social Welfare Policy
- **383** Administrative Methods in Social Work Agencies
- **385** Methods of Supervision in Social Casework
- **386** Methods of Supervision in Social Group Work
- **387** Current Practice in Community Organization
- **390** Cultural Factors in Social Work Practice
- **399** Seminar in Research
- **400** Thesis Research
Candidates for the M.A. degree must present a minimum of 18 semester hours of undergraduate credit in sociology, including the following courses or their equivalents: introductory sociology; methods of social research; one of the following—the urban community, human migrations, population and society, human ecology; and one of the following—social control, personality and culture, collective behavior, social movements. In addition, courses in anthropology, economics, government, philosophy, and psychology are recommended.

The graduate program is made up from the courses listed below. Required courses are indicated by an asterisk. A maximum of 6 hours may be elected from closely related courses in other departments, as determined by the adviser or supervising committee.

**Sociology**

- 251 Folk and Peasant Society
- 252 Sociology of Religion
- 253 Rural Sociology
- 254 The Urban Community
- 255 Social Disorganization
- 256 Race and Culture Contacts in Hawaii
- 257 Race Relations in the Pacific
- 258 Race Relations
- 259 Peoples and Institutions of Japan
- 261 Sociology of the Small Group
- 262 Social Control
- 263 Public Opinion and the Community
- 264 Juvenile Delinquency
- 265 Criminology
- 266 Social Institutions
- 267 The Family
- 268 Human Migrations
- 269 Personality and Culture
- 270 Population and Society
- 271 Human Ecology
- 272 Collective Behavior
- 273 Social Movements
- 274 Social Change
- 275 American Society in Transition
- 276 Development of Social Thought
- 277 Peoples and Institutions of China
- 280 Social Statistics
- 285 Industrial Sociology
- 300 Directed Reading or Research
- *310 Seminar in Sociological Theory
- *321 Seminar in Methods of Research
- 351 Graduate Seminar
  - (1) Human Ecology and Demography
  - (2) Social Organization
  - (3) Social Disorganization
  - (4) The Group and the Person
  - (5) Collective Behavior and Social Change
- 359 Seminar in Race Relations
- *400 Thesis Research
Candidates for the M.S. or Ph.D. degree in soil science must have completed 18 semester hours of undergraduate credit in soil science and related subject matter fields and two years of college chemistry. The related subject matter fields are bacteriology, chemistry (analytical and physical), geography, mineralogy, physics, and plant physiology.

Ph.D. candidates are required to spend a year (30 semester hours) of course work on the graduate level in a mainland institution with a strong department of soil science.

Courses in the major field are to be selected from those listed below. Required courses are marked with an asterisk. Supplementary courses in related fields will be required, as determined by the area of specialization. Candidates may specialize in tropical soil genesis and classification, soil management, weathering of soils, and the fundamental physical and chemical properties of soils.

### Soils and Agronomy

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>250</td>
<td>Soils</td>
</tr>
<tr>
<td>256</td>
<td>Principles of Agronomy</td>
</tr>
<tr>
<td>267</td>
<td>Soil Analysis</td>
</tr>
<tr>
<td>268</td>
<td>Soil Diagnosis Laboratory</td>
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<tr>
<td>269</td>
<td>Soil Physics</td>
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<tr>
<td>300</td>
<td>Directed Research</td>
</tr>
<tr>
<td>*301</td>
<td>Advanced Soil Technology</td>
</tr>
</tbody>
</table>

### SPEECH

Candidates for the M.A. degree must present a minimum of 27 semester hours of undergraduate credit in speech from the following areas: general speech education, speech correction, phonetics and speech science, interpretation, forensics and public address, radio, pedagogy, and audiology.

Courses must be selected from those listed below. Required courses are indicated by an asterisk. In addition, candidates must demonstrate a satisfactory level of speech skill in a platform appearance before a faculty committee.

### SPEECH

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>221C</td>
<td>Fundamentals of Speech Correction</td>
</tr>
<tr>
<td>222</td>
<td>Speech Pathology</td>
</tr>
<tr>
<td>223</td>
<td>Practicum in Speech Correction</td>
</tr>
<tr>
<td>224</td>
<td>Fundamentals of Audiology</td>
</tr>
<tr>
<td>228</td>
<td>Semantics</td>
</tr>
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<td>232</td>
<td>Advanced Interpretative Reading</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>265</td>
<td>Speech for the Classroom</td>
</tr>
<tr>
<td>295</td>
<td>Persuasion: A Study in Rhetoric</td>
</tr>
<tr>
<td>298</td>
<td>Special Problems</td>
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<tr>
<td>300</td>
<td>Research</td>
</tr>
<tr>
<td>*310</td>
<td>Seminar in Research Methods</td>
</tr>
<tr>
<td>320</td>
<td>Seminar in Speech Correction</td>
</tr>
</tbody>
</table>
Candidates for the M.S. degree in tropical crop science must have completed 18 semester hours of undergraduate work in agricultural plant sciences or related fields such as botany, chemistry, and entomology. The major specialization may be in agronomy, tropical pomology, tropical floriculture, or olericulture.

Courses for the graduate program are to be selected from those listed below, but a limited number from closely related areas may be allowed. Required courses are marked with an asterisk. Requirements will be selected to fit the needs of the individual candidate.

Agriculture

300 Directed Research
312 Applied Agricultural Statistics
*400 Thesis Research

Agricultural Engineering

291 Irrigation Practices

Botany

201 Systematic Botany of Flowering Plants
202 Taxonomy and Exploration
253 Plant Ecology
262 Structure of Economic Plants
263 Principles of Pathology
264 Phytopathological Methods
268 Microtechnique
269 Anatomy
273 Advanced Physiology
281 Cytology
283 Elementary Plant Physiology
351 Physiology Seminar
380 Cytogenetics

Genetics

254 Principles of Genetics
256 Genetics Seminar

Horticulture

273 Principles of Floriculture
274 Commercial Flower Production
275 The Control of Plant Diseases
294 Advanced Tropical Pomology
304 Horticulture Seminar
313 Phytopathological Literature

Olericulture

209 Advanced Vegetable Crops
210 Systematic Vegetable Crops

Soils and Agronomy

250 Soils
267 Soil Analysis
268 Soil Diagnosis Laboratory
269 Soil Physics
301 Advanced Soil Technology
Candidates for the M.S. or Ph.D. degree in zoology (marine aspects in the latter case) must present a minimum of 18 semester hours of undergraduate preparation, including courses in comparative anatomy of vertebrates, embryology, and general physiology. In addition, they should have completed two years of chemistry (inorganic and organic), one year of physics, and courses in algebra and botany. Deficiencies in undergraduate preparation must be made up.

Courses must be selected from those listed below. Required courses are marked with an asterisk. For the M.S. degree, a maximum of 6 hours may be elected from related courses in botany, chemistry, genetics, mathematics, and physics. For the Ph.D. degree, additional work will be stipulated by the doctoral committee.

**ZOOLOGY**

**Zoology and Entomology**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>240</td>
<td>Introduction to Ecology</td>
</tr>
<tr>
<td>245</td>
<td>Zoogeography</td>
</tr>
<tr>
<td>253</td>
<td>Parasitology</td>
</tr>
<tr>
<td>260</td>
<td>Histology</td>
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<tr>
<td>262</td>
<td>Microtechnique</td>
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<tr>
<td>275</td>
<td>General Ichthyology</td>
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<tr>
<td>276</td>
<td>Biometry</td>
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<tr>
<td>277</td>
<td>Biometrical Analysis</td>
</tr>
<tr>
<td>280</td>
<td>Comparative Anatomy of Invertebrates</td>
</tr>
<tr>
<td>281</td>
<td>Taxonomy of Marine Invertebrates</td>
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<tr>
<td>282</td>
<td>Marine Ecology</td>
</tr>
<tr>
<td>284</td>
<td>Comparative Invertebrate Physiology</td>
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<tr>
<td>285</td>
<td>Animal Evolution</td>
</tr>
<tr>
<td>286</td>
<td>History of Zoology</td>
</tr>
<tr>
<td>287</td>
<td>Methods of Fishery Investigation</td>
</tr>
<tr>
<td>290</td>
<td>Oceanography</td>
</tr>
<tr>
<td>300</td>
<td>Directed Research</td>
</tr>
<tr>
<td>312</td>
<td>Seminar in Marine Zoology</td>
</tr>
<tr>
<td>313</td>
<td>Seminar in Fisheries Biology</td>
</tr>
<tr>
<td>314</td>
<td>Seminar in Advanced Marine and Fisheries Biology</td>
</tr>
<tr>
<td>315</td>
<td>Zoological Literature</td>
</tr>
<tr>
<td>316</td>
<td>Preparation of Scientific Manuscripts</td>
</tr>
<tr>
<td>320</td>
<td>Development of Marine Invertebrates</td>
</tr>
<tr>
<td>370</td>
<td>Principles of Systematic Zoology</td>
</tr>
<tr>
<td>387</td>
<td>Population Dynamics</td>
</tr>
<tr>
<td>388</td>
<td>Fisheries Management</td>
</tr>
<tr>
<td>391</td>
<td>Advanced General Physiology</td>
</tr>
<tr>
<td>392</td>
<td>Physiological Ecology</td>
</tr>
<tr>
<td>395</td>
<td>Isotopic Tracers in Biology</td>
</tr>
<tr>
<td>400</td>
<td>Thesis Research</td>
</tr>
</tbody>
</table>