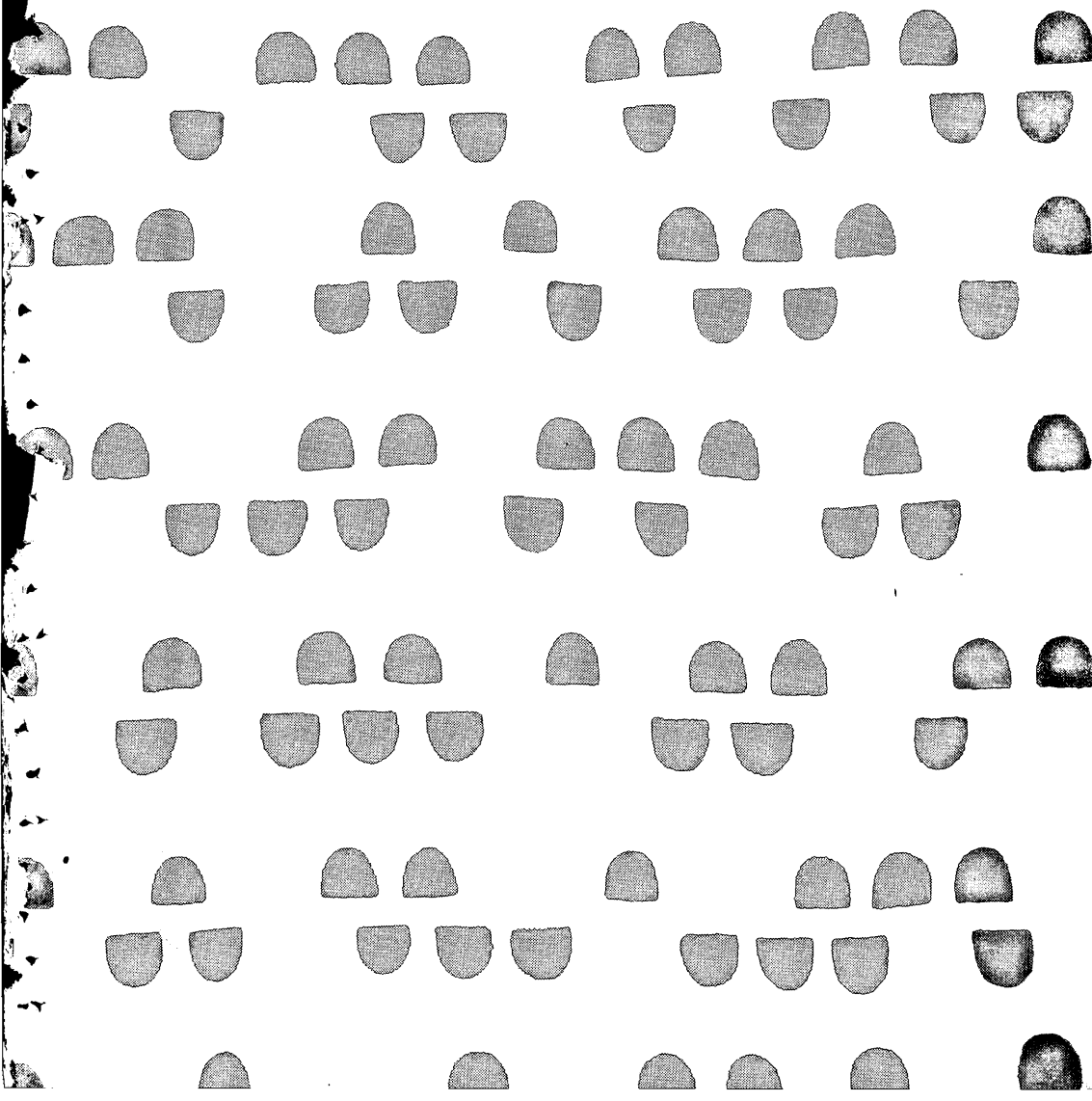


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Graduate School Bulletin

UNIVERSITY OF HAWAII 1960-1962



UNIVERSITY OF HAWAII

Graduate School

Announcement Of Courses

1960-1962

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University of Hawaii 1960-1961 Calendar

First Semester

September 24, Saturday.....	8:00 A.M. to 1:00 P.M.	Registration of graduate and unclassified students and auditors
September 26, Monday.....	2:30 to 5:00 P.M.	Registration of graduate and unclassified students and auditors
September 26, Monday.....		Instruction begins
October 1, Saturday.....		Primary Election Day (holiday)
October 3, Monday.....		Last day of registration for credit
October 17, Monday.....		Last day of withdrawal from courses without "grade" penalty
November 4, Friday.....		First deficiency reports due
November 8, Tuesday.....		General Election Day (holiday)
November 11, Friday.....		Veterans' Day (holiday)
November 23, Wednesday.....		Last day for removal of "Incompletes"
November 24-26, Thursday through Saturday.....		Thanksgiving recess
December 9, Friday.....		Second deficiency reports due
December 12, Monday.....		Last day of withdrawal from courses
December 21, Wednesday.....		Last day of instruction before Christmas recess
January 5, Thursday.....		Instruction resumes
January 24, Tuesday.....		Last day of instruction, first semester
January 25, Wednesday.....		Final examinations begin
January 31, Tuesday.....		First semester ends

Second Semester

February 11, Saturday.....	8:00 A.M. to 1:00 P.M.	Registration of graduate and unclassified students and auditors
February 13, Monday.....	2:30 to 5:00 P.M.	Registration of graduate and unclassified students and auditors
February 13, Monday.....		Instruction begins
February 20, Monday.....		Last day of registration for credit
February 22, Wednesday.....		Presidents' Day (holiday)
March 6, Monday.....		Last day of withdrawal from courses without "grade" penalty
March 24, Friday.....		First deficiency reports due
March 24, Friday.....		Last day for removal of "Incompletes"
March 27-April 1, Monday through Saturday.....		Easter recess
May 5, Friday.....		Second deficiency reports due
May 8, Monday.....		Last day for withdrawal from courses
May 30, Tuesday.....		Memorial Day (holiday)
June 6, Tuesday.....		Last day of instruction
June 7, Wednesday.....		Final examinations begin
June 12, Monday.....		Holiday following Kamehameha Day
June 14, Wednesday.....		Second semester ends
June 18, Sunday.....		Commencement

1961-62

September 25, Monday..... Instruction begins

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General Information

Because of the strategic location of the State 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, the Bernice P. Bishop Museum, with its large collections of Hawaiian and South Pacific plants and insects, and the Honolulu Biological Laboratory of the U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries.

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. Preparation for sending skilled Americans to Asia is offered by the Overseas Operations Program.

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 Honolulu Biological Laboratory of the Bureau of Commercial Fisheries, located on the campus, co-operate with the regular faculty in offering a graduate program in marine zoology, botany, and fishery biology.

Excellent library facilities are provided by a number of institutions. The University's Sinclair Library contains 300,025 bound volumes and 792,752 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 Hawaiian history; the library of the Honolulu

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 be admitted to the Graduate School. Persons who do not intend to work for an advanced degree may be admitted as unclassified students and in lieu of official transcripts may submit a certification of their having been awarded the baccalaureate degree. A form for such certification may be obtained from the office of the Graduate School. Those wishing to work for an advanced degree must submit a formal application and official transcripts of undergraduate and previous graduate records to the Dean of the Graduate School. 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 the proper 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 so 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 to candidacy 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.

Potential candidates for advanced degrees will not be admitted to candidacy if they obtain more than two failing grades (below *B*) in courses taken as a graduate student to remove undergraduate deficiencies at the University of Hawaii.

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 400-799) in any two of the courses forming part of his program for the advanced degree shall be automatically dropped from candidacy.

Candidates for the Master's degree who fail to complete all requirements within five years after admission to candidacy must again qualify for candidacy.

REGISTRATION AND GRADES

Sixteen credit hours in a semester and seven in a 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 9 hours of course work for credit (including thesis research 800).

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 (800), 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 three 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.

Graduate students may obtain credit by examination in courses numbered 400-599 with the approval of the Qualifying Committee, Thesis Committee or Program Committee, the instructor concerned, and the Dean of the Graduate School, subject to the general University regulations and procedures except that there shall

be no limit on the number of such examinations which a graduate student may take during any one semester.

No graduate credit is allowed for correspondence courses.

Courses numbered 600-799 are intended primarily for graduate students. Courses numbered 400-599 are undergraduate courses which also carry graduate credit. Graduate students are graded on a scale of *A* to *F*. A grade of *A* or *B* must be earned in any course to secure graduate credit. No credit is granted for thesis research courses (number 800 in each field) until the thesis has been accepted. The thesis is graded *H* (honors) or *S* (satisfactory). Failure to make satisfactory progress on a thesis does not entitle a student to 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 pay \$8.00 per credit hour. Summer session students pay \$10.00 per credit hour and an activities fee of \$2.00. Students registered in the College of General Studies pay fees as indicated in the bulletins of that College. 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. Graduate students carrying a course load of 10 or more credits must file a medical record form with the Student Health Service. Forms are available in the Graduate School office. Persons who register after the announced days of registration pay a late registration fee of \$5.00.

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 no housing facilities on campus for graduate students. However, the University maintains a file of rooming houses, single rooms in private homes, and an occasional apartment. A brochure which provides information on housing and food costs for out-of-state students is available from the Graduate School office.

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 off-Island student are estimated at from \$1,500 to \$1,800 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 \$2,040 payable in twelve monthly installments. Half-time graduate teaching and research assistants are exempt from registration and tuition fees for a maximum of nine credit hours. 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. A few half-time research assistantships are available for graduate students in agriculture. Inquiries and applications should be addressed to the Dean of the College of Agriculture.

THESIS REQUIREMENT

A thesis in the major field is required of all candidates for advanced degrees with the exception of the M.F.A. (p. 24) and M.S.W. (p. 43), the special programs in Counseling Psychology (p. 42), Public Administration (p. 35), and the alternate program for the M.Ed. (p. 29). When the thesis problem has been approved by the qualifying committee, the chairman of the field of study sends to the office of the Graduate School the candidate's name, the proposed thesis title, and his recommendations for a thesis committee, including one member from outside the major field of study. The thesis committee, appointed by the Dean of the Graduate School, subsequently approves the thesis outline and forwards three 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 (800). 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.

Upon request by the Thesis Committee, relevant work done by the student in directed reading and research courses may be utilized as part of the thesis research. In such instances the total credit for such directed reading and research courses and thesis research (800) shall not exceed the maximum specified for thesis credit for the degree granted.

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 for the master's degree and four weeks prior to the date of the final examination for the doctor's degree. 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, including 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 State 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 (600-799) 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 School of Social Work is accredited by the Commission on Accreditation of the Council on Social Work Education.

Applicants for admission to the School must complete the Personal Information Form, 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 300.

FOREIGN STUDENTS

In addition to the general requirements for admission to the Graduate School all foreign students must have proficiency in oral and written English which will allow them to pursue work at the graduate level. Therefore, all applicants from foreign countries where the English language is not the usual means of communication are required to have filed with the Dean of the Graduate School a certificate of proficiency in English. This certificate is issued by the nearest United States consulate, and applicants must make their own arrangements with the consulate to take the examination.

After arrival at the University all foreign students are referred to the Director of the University's English Language Institute for determination of their proficiency in the English language. Those found to be in need of further training in English may be assigned to the Institute for a full-time or part-time program. The Institute offers intensive noncredit training in reading, writing, speaking, and listening. Students linguistically capable of carrying on graduate-level work will be so certified to the Dean of the Graduate School and allowed to enroll for a full-time credit program. Students assigned full time to the Institute must pay \$75.00 in special course fees in addition to regular tuition and student activity fees. Students assigned to the Institute on a part-time basis would pay a smaller amount for special course fees.

All foreign students must present for admission positive evidence of adequate financial support during their expected stay at the University and must carry accident and medical insurance coverage. A brochure describing the requirements for foreign students is sent to all such applicants for admission.

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, Overseas Operations, Pacific Islands Studies, Philosophy, Psychology, Sociology, Speech and Teaching of English as a Second Language; the Master of Science degree in Agricultural Economics, Animal Science, Botany, Chemistry, Entomology, Genetics, Meteorology, Microbiology, 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, and English.

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

A minimum of 24 credit hours of course work and 6 credit hours of thesis research are required. In unusual cases, upon recommendation by the Thesis Committee no later than the registration period of the session during which the degree is conferred, either fewer credits or a maximum of 12 credits may be granted for thesis research.

For the nonthesis programs, a minimum of 36 graduate credit hours of course work is required. Of these 36 credits, at least 6 shall be earned in courses outside the major field.

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 600-799, 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. If the work accomplished in a directed reading or research course is incorporated in the thesis, the maximum credit allowable for the combined directed reading and research course and thesis research (800) shall not exceed the maximum specified for thesis credit (six). 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 (800) 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; it must be completed at least 3 months prior to the final examination. If the candidate fails to pass the comprehensive examination, at least one semester must intervene before re-examination. 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 in the nonthesis programs shall make a seminar appearance near the conclusion of their program to which all members of the graduate faculty shall be invited, at which time they shall be examined by the Program Committee. 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

A. Standard Program

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

B. Nonthesis Program

1. Application for admission to Graduate School
2. Filing of notice of intention to work for a degree
3. Qualifying conference
4. Admission to candidacy and ap-
pointment of Program Committee
5. Comprehensive examination
6. Completion of course work
7. Seminar appearance and examination
8. 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, Psychology, Soil Science, and Zoology—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.

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. At least 48 credit hours of work 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 minimum 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 (800) 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.

Doctoral candidates from foreign countries where the English language is not the language normally used in the school system may use English as one of the foreign languages required.

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. At least eight months must elapse between the satisfactory completion of the comprehensive examination and the final examination.

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

Graduate Study Fields, Requirements, and Courses

Courses numbered 400–599 are upper division courses but open to graduate students when needed to complete a major field. Courses numbered 600 and above are graduate courses.

Only the number and title of courses are given. Course descriptions will be found in the General Catalogue. 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.

AGRICULTURAL ECONOMICS

Candidates for the M.S. degree must present a minimum of 18 hours of undergraduate credit in agricultural economics, general economics, or business, including a minimum of 12 hours in agricultural economics or general economics.

Courses for the graduate program are to be selected from those listed below except that a maximum of 9 hours in related fields may be elected with the approval of the supervisory committee. A minimum of 9 hours must be in agricultural economics and a minimum of 9 hours in economics and business. Twelve hours, exclusive of thesis, must be in courses numbered 600 or above. *Required courses are marked with an asterisk.*

Agricultural Economics

- 421 Agricultural Prices and Policy
- *422 Marketing Agricultural Products
- 423 Agricultural Cooperatives
- *427 Farm Management
- 428 Advanced Farm Management
- 624 Marketing Research as Applied to Agricultural Products
- 625 Economics of Agriculture in Tropical and Asiatic Countries
- 629 Seminar in Production Economics
- 699 Directed Research in Agricultural Economics
- *800 Agricultural Economics Thesis

Economics

- 400 Intermediate Economic Theory
- 402 National Income and Employment
- 404 History of Economic Thought
- 410 Current Economic Problems of Asia and the Far East
- 411 Economic Development of East Asia
- 412 Economic Development of South and Southeast Asia
- 413 Economic Development of Soviet Union
- 430 Comparative Economic Systems
- 450 Public Finance

- 460 International Trade and Finance
- 470 Government and Business
- 480 Agricultural Economics
- 482 Land Economics
- 501 Economics of Transportation
- *600 Theory of Price and Distribution
- 602 Theory of Income and Growth
- 610 Seminar in Economic Development
- 640 Seminar in Money and Banking
- 650 Seminar in Fiscal Problems

- 660 Seminar in International Economics

Business

- 481 Principles of Advertising
- 484 Methods of Market Research
- 486 Marketing Management
- 487 Foreign Marketing
- 500 Applied Business Statistics and Forecasting
- 501 Business Cycles and Business Forecasting

ANIMAL SCIENCE

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

Agriculture

- 502 Principles of Agronomy
- 603 Applied Agricultural Statistics
- 699 Directed Research
- *800 Thesis Research

Animal Science

- 443 Physiology of Domestic Animals
- 444 Animal Nutrition
- 641 Seminar in Animal Science

Botany

- 418 Cytology
- 618 Cytogenetics

Chemistry

- 551-552 Physical Chemistry
- 571-572 Biochemistry
- 631-632 Instrumental Methods of Analysis
- 674 Enzymes
- 676 Proteins
- 679 Carbohydrates and Lipids
- 680 Vitamins and Hormones

Genetics

- 451 Principles of Genetics
- 452 Advanced Genetics
- 654 Genetics Seminar

Home Economics

- 443 Advanced Nutrition
- 445 Diet and Disease
- 447 Seminar in Nutrition
- 652 Laboratory Methods in Nutrition

Mathematics

- 471 Probability
- 472 Statistical Inference

Microbiology

- 464 Immunology

Poultry Science

- 473 Poultry Breeding
- 474 Poultry Nutrition
- 475 Incubation and Hatchery Management

Zoology and Entomology

- 401 Introduction to Ecology
- 410 Parasitology
- 416 Histology
- 425 Microtechnique
- 431 Biometry
- 432 Advanced Biometry
- 445 General Physiology
- 504 Animal Evolution

602 Preparation of Scientific Manuscripts

621 Physiological Ecology
645 Advanced General Physiology

ANTHROPOLOGY

Candidates for the M.A. degree must present a minimum of 18 semester hours of undergraduate credit in anthropology. Closely related courses in human biology, geography, psychology, sociology, history, philosophy, economics, and government are also 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 elected in related courses in the above recommended fields.

Anthropology

- | | |
|---|-----------------------------------|
| 400 Peoples of the South Seas | 515 Anthropology and Education |
| 402 Polynesians | 520 Habitat, Economy, and Culture |
| 403 Micronesians | 530 Magic and Religion |
| 410 Ethnology of Soviet Asia | 540 Folklore |
| 415 South Asian Peoples | 541 Primitive Art |
| 416 Social Anthropology of
Indonesia | 550 Introduction to Linguistics |
| 420 Indians of the Americas | 551 Phonemics |
| 430 Africa South of the Sahara | 552 Linguistic Morphology |
| 440 Folk Cultures of Europe | 600 Anthropological Classics |
| 450 Fossil Men and Living Races | 610 Applied Anthropology |
| 460 Origins of Old World
Civilizations | 620 Field Archeology in Oceania |
| 465 American Indian Prehistory | 630 Ethnographic Method |
| 500 Cultural Dynamics | 640 Malayo-Polynesian Languages |
| 510 Social Organization | 699 Directed Reading or Research |
| | *800 Thesis Research |

ART

The M.A. degree is given only in the field of Far Eastern art history. Candidates must have an undergraduate major in the history of art, and a reading knowledge of either French or German, with an elementary knowledge of the other. Evidence must be presented of the ability to do scholarly research as well as to write effectively.

Candidates for the M.F.A. degree in creative studio work must have the equivalent of an undergraduate major in art, and an adequate background in the history of art. Evidence of the ability to do creative work approaching a professional level must be submitted in one or more of the drawing, painting, graphic, ceramic, visual design (including advertising art) or weaving media.

Any deficiencies in undergraduate preparation for either degree will require additional time.

Courses for the graduate program must be selected from those listed below. A maximum of 10 hours may be earned in certain advanced courses in anthropology, classics, English, history, music and philosophy, or other pertinent fields. *Required courses are marked with an asterisk.*

Art

- | | | | |
|---------|--------------------------------------|------|-----------------------------------|
| 412 | Figure Drawing B | 565 | Visual Communication |
| 415 | Printmaking | 581 | Museum Studies in Far Eastern Art |
| 416 | Illustration | 582 | Chinese Painting |
| 421-422 | Advanced Painting | 585 | Arts of Japan |
| 424 | Water Color Painting B | 621 | Painting |
| 425 | Materials and Techniques of Painting | 636 | Design and Research in Weaving |
| 436 | Advanced Weaving | 642 | Ceramic Design and Research |
| 442 | Advanced Ceramics | 661 | Visual Design |
| 443 | Ceramic Glaze Calculations | *690 | General Seminar |
| 463-464 | Advanced Visual Design | 698 | Seminar in Oriental Art |
| 473-474 | History of Modern Art | 699 | Directed Work |
| 482 | Applied Arts of China | *800 | Thesis Research |
| 483 | Early Chinese Art | | |

BOTANY

Candidates for the M.S. and Ph.D. degrees must present a minimum of 18 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 microbiology 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.*

Botany

- | | | | |
|---------|---------------------------------------|---------|---------------------------------------|
| 410 | Plant Anatomy | 573 | Techniques in Physiology-Biochemistry |
| 412 | Plant Microtechnique | 586 | Biological Productivity of the Sea |
| 418 | Cytology | 610 | Botanical Seminar |
| 425 | Cryptogamic Botany | 612 | Advanced Botanical Problems |
| 430 | Mycology | 615 | Morphology Seminar |
| 440 | Principles of Plant Pathology | 618 | Cytogenetics |
| 460 | Systematic Botany of Flowering Plants | 640 | Phytopathological Literature |
| 461 | Taxonomy and Exploration | 665 | Nomenclature Seminar |
| 470 | Principles of Plant Physiology | 675 | Physiology Seminar |
| 553 | Plant Ecology | 680 | Experimental Marine Botany |
| 562 | Advanced Taxonomy | 681-682 | Phycology |
| 570-571 | Advanced Physiology | 699 | Directed Research |
| 572 | Techniques in Physiology | *800 | Thesis Research |

BUSINESS ADMINISTRATION

Candidates for the degree of Master of Business Administration must have had a minimum of 24 hours of undergraduate credit 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 up to a maximum of 9 credit hours may be elected. Business 642 and 681 plus at least 6 additional credit hours of 600-799 level courses are required. *Required courses are marked with an asterisk.*

Business

400	Intermediate Accounting	464	Elements of Supervision
401	Advanced Accounting	465	Employment Interviewing
402	Budgetary Accounting and Control	480	Principles of Marketing
403	Cost Accounting	481	Principles of Advertising
404	Analysis of Financial Statements	482	Advertising Copy Writing
405	Income Tax Problems	483	Retail Merchandising
407	Auditing	484	Methods of Market Research
408	Accounting Systems	485	Principles of Salesmanship
409	Governmental Accounting	486	Marketing Management
410	Principles of Insurance	487	Foreign Marketing
411	Property Insurance	490	Corporation Finance
412	Miscellaneous Casualty Insurance	491	Investments and Investment Banking
413	Life Insurance	492	Credit Management
420	Real Estate Fundamentals	500	Applied Business Statistics and Forecasting
421	Property Valuation	501	Business Cycles and Business Forecasting
422	Urban Land Utilization	502	Negotiable Instruments
440	Office Organization and Management	601	Management Accounting
441	Principles of Small Business	641	Seminar in Problems of Business
442	Business Organization and Management	*642	Advanced Management
450	Collective Bargaining	*681	Managerial Problems of Marketing
460	Personnel Management	691	Problems in Business Finance
461	Industrial Safety and Health	699	Directed Reading or Research
462	Time and Motion Study	711	Applied Problems of Business and Government
463	Wage and Salary Administration	*800	Thesis Research

CHEMISTRY AND BIOCHEMISTRY

Candidates for advanced degrees (M.S. and Ph.D.) in Chemistry must present the following minimum undergraduate preparation in the subject: year courses in general, organic, analytical, and physical chemistry. Students in departments other than chemistry whose undergraduate major did not require physical chemistry may take the course for graduate credit.

An integrated program leading to an M.S. or Ph.D. with a major in Biochemistry is also offered. It is desirable that students majoring in this field should have some undergraduate preparation in at least one pertinent area of life science (microbiology, nutrition, etc.). Supplementary graduate courses in animal science, botany, entomology, genetics, microbiology, nutrition, plant physiology, zoology, etc. may be taken as part of the graduate program.

Thesis research may be conducted under the direction of the graduate faculty in Chemistry, Biochemistry, the related fields, or under the direction of the affiliate faculty of the cooperating institutions.

Courses in the major may be selected from those listed below. *Required courses are marked with an asterisk.*

Chemistry

- 421 Intermediate Inorganic Chemistry
- 422 Preparative Inorganic Chemistry
- 441 Preparative Organic Chemistry
- 442 Organic Chemistry Theory
- 444 Qualitative Organic Analysis
- 446 Quantitative Organic Analysis
- *491-492 Seminar
- 551-552 Physical Chemistry
- 580 Oceanographic Chemistry
- 582 Chemical Literature
- 621-622 Advanced Inorganic Chemistry
- 631-632 Instrumental Methods of Analysis
- 651-652 Special Topics in Physical Chemistry
- 699 Directed Reading or Research
- 741-742 Special Topics in Organic

- Chemistry
- 745-746 Natural Products Colloquium
- *800 Thesis Research

Biochemistry

- 472 Clinical Chemistry
- *491-492 Seminar
- 571-572 Biochemistry
- 671 Advanced Biochemistry Laboratory
- 674 Enzymes
- 675 Plant Biochemistry
- 676 Proteins
- 677 Medical Biochemistry
- 678 Physical Biochemistry
- 679 Carbohydrates and Lipids
- 680 Vitamins and Hormones
- 699 Directed Reading or Research
- *800 Thesis Research

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 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 in 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 420-421, 430-431, 440 and 445; and 6 from 550, 560, and 570. All candidates are required to take either Drama and Theatre 620 or 650, and 800. *Required courses are marked with an asterisk.*

Drama and Theatre

- | | |
|-------------------------------------|---|
| 410 Creative Dramatics | 445 Stage Lighting |
| 415 Playwriting | 540 Historic Stage Production |
| 420-421 Acting | 550 History of the Theatre |
| 430-431 Direction | 560 Modern Theories of Stage Presentation |
| 440 Stagecraft and Theatre Planning | |

- 570 Aesthetics of the Theatre
- 600 Advanced Theatre Practice
- 620 Seminar in Drama and Theatre
- 650 Seminar in Oriental Theatre
- 699 Directed Work
- *800 Thesis Research
- English**
- 436 History of Literary Criticism
- 440 English Drama to 1642
- 443-444 Modern Dramatic Literature
- 457-458 Shakespeare
- 465 Restoration Literature
- Art**
- 473-474 History of Modern Art
- 481 Far Eastern and Indian Art
- Japanese**
- 401-402 Japanese Literature
- French**
- 411 Literature of the Golden Age
- Greek**
- 403 Greek Literature
- Spanish**
- 456 Spanish Literature to 1700
- 457 Spanish Literature from 1700
- Latin**
- 404 Roman Literature
- German**
- 411-412 The Classical Period
- Chinese**
- 401-402 Chinese Literature
- 404 Chinese Fiction and Drama
- Anthropology**
- 541 Primitive Art
- Sociology**
- 524 Personality and Culture
- Psychology**
- 460 Psychology of Personality
- Philosophy**
- 500 Philosophy of Art
- 510 Philosophy in Literature
- Music**
- 470 Music of the Far East

ECONOMICS

Candidates for the degree of Master of Arts in economics must present a minimum of 24 hours of undergraduate credit in economics and business, including principles, money and banking, and either business statistics or 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 600 and 602 plus a minimum of 6 credit hours in other 600-799 level economic courses. *Required courses are marked with an asterisk.*

Economics

- 400 Intermediate Economic Theory
- 402 National Income and Employment
- 404 History of Economic Thought
- 410 Current Economic Problems of Asia and the Far East
- 411 Economic Development of East Asia
- 412 Economic Development of South and Southeast Asia
- 413 Economic Development of Soviet Union
- 430 Comparative Economic Systems
- 450 Public Finance
- 452 Public Finance in Hawaii
- 460 International Trade and Finance
- 470 Government and Business
- 472 Public Utilities
- 480 Agricultural Economics
- 482 Land Economics
- 490 American Trade Unionism
- 492 Labor Legislation
- 494 Arbitration of Grievances
- 496 Research in Industrial Relations
- 501 Economics of Transportation

*600	Theory of Price and Distribution	650	Seminar in Fiscal Problems
*602	Theory of Income and Growth	660	Seminar in International Economics
610	Seminar in Economic Development	690	Seminar in Current Labor Problems
640	Seminar in Money and Banking	699	Directed Reading or Research
		*800	Thesis Research

EDUCATION

The Bachelor of Education degree or the equivalent (including credit for student teaching) and successful teaching experience are required for admission to graduate study in Education. The latter requirement may be met by intern teaching.

The candidate may select either of two programs of study leading to the degree of Master of Education. Approval of either program is required before 14 credits of graduate work applicable to the degree have been completed.

Program A requires 36 credits of graduate study. This program normally includes 21 credits in Education and 15 credits (and in no instance fewer than 9) in an approved sequence in departments other than Education.

Program B requires 24 credits in graduate courses and a thesis. This program may include a maximum of 10 semester credits in approved courses other than Education which are related to the candidate's announced goals. At least one graduate seminar is required.

Courses required in both programs are marked with an asterisk.

Educational Psychology

507	Remedial Reading	754	Comparative Education: The Orient
601	Guidance in the School	755	Seminar in Philosophy of Education
602	Elementary School Guidance	756	Contemporary Philosophies of Education
603	Sociometry for Classroom Teachers	*758	Seminar in Problems in Education (Required only in Program A)
604	Occupational Information in Guidance	759	Current Issues in Education
605	Problems of School Adjustment		
607	Clinical Procedures in Reading		
609	Tests and Inventories in Guidance		
694	Guidance Practicum		
701	Seminar in Guidance		
*708	Educational Research Methods		
709	Educational Evaluation		

History and Philosophy

*650	History of Education
*655	Philosophy of Education
751	History of American Education
753	Comparative Education: Europe and America

Curriculum

661	The Modern Language Arts Program
662	Elementary School Curriculum
663	Secondary School Curriculum
664	Extra Class Activities in Secondary Schools
668	Education of Slow Learners
669	Education of Rapid Learners
760	Seminar in Curriculum
764	Seminar in Vocational Education

Supervision and Administration

- | | | | |
|-----|--|-----|--|
| 670 | Supervision of Instruction | 683 | Administration of the
Secondary School |
| 679 | Supervision of Student
Teaching | 699 | Directed Reading or Research |
| 680 | Public School Organization | 770 | Seminar in Supervision of
Instruction |
| 681 | Organization and
Administration of Guidance | 780 | Seminar in Educational
Administration |
| 682 | Administration of the
Elementary School | 781 | Legal and Business Aspects
of School Administration |

ENGLISH

Candidates for the M.A. are expected to present, in addition to the customary freshman and sophomore composition and literature survey courses, 24 semester hours of undergraduate credit in English or closely related subjects, including advanced exposition, Shakespeare, English literature and American literature. In addition, courses in English and American history and in classical and European literature are desirable. A reading knowledge of an ancient or modern European language is required. Courses for the graduate program are to be selected from the list below; however, a number of advanced courses in other disciplines may be approved as part of a program. *Required courses are marked with an asterisk; English 780 or 785 is required, not both.*

Degree candidates must submit official scores from the General and Literature portions of the Graduate Record Examination.

Also offered is a Master of Arts in the Teaching of English as a Second Language. This program is available to foreign graduate students only, and is a 36 semester hour, nonthesis program with major emphasis in linguistics and spoken and written English. An attempt is made to adapt each candidate's program to his individual needs. Competence in speaking, writing, and understanding English should be certified by English language experts in the student's own country at the time of application for admission to the Graduate School.

English

- | | | | |
|---------|---|---------|---|
| *420 | History of the English
Language | 466 | Milton |
| 436 | History of Literary Criticism | 470 | Eighteenth-Century English
Literature |
| 440 | English Drama to 1642 | 480 | The Romantic Movement in
England |
| 443-444 | Modern Dramatic
Literature | 485 | Victorian Literature |
| 447 | The English Novel to 1832 | 490 | Twentieth-Century British
Literature |
| 448 | The English Novel, 1832-1900 | 571-572 | American Literature |
| 451 | Medieval English Literature | 573 | American Literature and
Cultural History |
| 452 | Chaucer | 585 | Literature of the Pacific |
| 455 | Sixteenth-Century English
Literature | 590 | Twentieth-Century American
Literature |
| 457-458 | Shakespeare | 620 | Seminar in Teaching
Composition |
| 460 | Early Seventeenth-Century
English Literature | | |
| 465 | Restoration Literature | | |

- | | |
|--|--|
| *630 Seminar in Research Methods | *785 Seminar in American Literature: Problems, Periods |
| 635 Seminar in Comparative Literature | 790 Seminar in History and Literature |
| *685 Seminar in English Literature | *800 Thesis Research |
| 699 Directed Reading or Research | |
| *780 Seminar in American Literature: Authors | |

Advanced courses in other disciplines may be approved as part of a program. The following courses in European languages may be accepted:

French

- 401 Literature since 1800 in Translation
- 411 Literature of the Golden Age
- 413-414 The Eighteenth Century
- 415-416 Literature of the Nineteenth Century
- 471 History of the French Language

German

- 411-412 The Classical Period
- 413-414 The Modern Period

Latin

- 401-402 Classical Civilization

- 403-404 Classical Literature

Russian

- 402 Nineteenth-Century Russian Novel

Spanish

- 454 Introduction to Spanish-American Literature
- 455 Introduction to Literature of Mexico
- 456 Spanish Literature to 1700
- 457 Spanish Literature from 1700
- 471 History of the Spanish Language

ENTOMOLOGY

Candidates for the M.S. or Ph.D. degree in entomology should have completed a minimum of 18 hours of undergraduate credit in entomology and zoology, including general zoology, general entomology, economic entomology, 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 should 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

- | | |
|---|--|
| 401 Introduction to Ecology | 561 Scale Insects |
| 431 Biometry | 571 Immature Insects |
| 432 Advanced Biometry | *601 Zoological Literature |
| 441 History of Zoology | *602 Preparation of Scientific Manuscripts |
| 445 General Physiology | 621 Physiological Ecology |
| 461 Medical and Veterinary Entomology | 622 Isotopic Tracers in Biology |
| 501 Zoogeography | 632 Fisheries Dynamics and Management |
| 515 Invertebrate Zoology | 662 Advanced Systematic Entomology |
| 546 Comparative Invertebrate Physiology | |

- | | | | |
|-----|-----------------------------|------|--|
| 671 | Insect Ecology | 686 | Insect-Transmitted Diseases
of Plants |
| 673 | Insect Pathology | *697 | Entomology Seminar |
| 675 | Biological Control of Pests | 699 | Directed Research |
| 680 | Insect Toxicology | *800 | Thesis Research |

FAR EAST STUDIES

The minimum undergraduate requirements in the area of Far East studies is 37 credits from the following fields: anthropology, art, economics, geography, government, history, language, literature, music, 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.*

Chinese

- | | | | |
|---------|-------------------------------|-----|--------------------------------------|
| 401-402 | Chinese Literature | 581 | Museum Studies in Far
Eastern Art |
| 403 | Chinese Poetry | 582 | Chinese Painting |
| 404 | Chinese Fiction and Drama | 585 | Arts of Japan |
| 411-412 | Third-Year Chinese | 698 | Seminar in Oriental Art |
| 491-492 | Methods in Chinese
Studies | | |
| 699 | Directed Reading or Research | | |

Japanese

- 401-402 Japanese Literature
- 411-412 Third-Year Japanese
- 413-414 Literary Japanese
- 415 Japanese Folk Literature
- 511 Contemporary Japanese
Literature
- 512 Japanese Poetry
- 592 Japanese Bibliography
- 699 Directed Reading or Research

Anthropology

- 410 Ethnology of Soviet Asia
- 415 South Asian Peoples
- 416 Social Anthropology of
Indonesia
- 460 Origins of Old World
Civilizations
- 550 Introduction to Linguistics
- 551 Linguistic Analysis
- 552 Structural Linguistics
- 553 Malayo-Polynesian Languages
- 699 Directed Reading or Research

Art

- 482 Applied Arts of China
- 483 Early Chinese Art

Drama and Theatre

- 650 Seminar in Oriental Theatre

Economics

- 410 Economic Problems of Asia
and the Far East
- 411 Economic Development of
East Asia
- 412 Economic Development of
South and Southeast Asia
- 413 Economic Development of
Soviet Union

Education

- 754 Comparative Education: the
Orient

Geography

- 460 Political Geography
- 541 Geography of Asia
- 552 Geography of Japan
- 553 Geography of China
- 554 Geography of India and
Southeast Asia
- 660 Seminar in Geography of
Japan
- 699 Directed Research

Government

- 443 Government and Politics of
China and Japan

- | | | | |
|----------------|---|-------------------|-------------------------------------|
| 444 | Government and Politics of South and Southeast Asia | 665 | Seminar in Japanese History |
| 462 | International Relations of the Far East | 671 | Russian History |
| 463 | International Relations of South and Southeast Asia | 699 | Directed Research |
| 620 | Seminar in Far Eastern Politics | Music | |
| 621 | Seminar in South and Southeast Asia | 470 | Music of the Far East |
| 699 | Directed Reading or Research | Philosophy | |
| History | | 450 | Introduction to Indian Philosophy |
| 521-522 | History of the Far East | 455 | Introduction to Chinese Philosophy |
| 523 | Early Civilization in the Far East | 460 | Introduction to Buddhist Philosophy |
| 527 | Russian Siberia and the Pacific | 465 | Philosophy, East and West |
| 529 | Southeast Asia | 699 | Directed Reading or Research |
| 531 | History of China to 1800 | Sociology | |
| 532 | History of China since 1800 | 440 | Folk and Peasant Society |
| 539 | American-Chinese Relations | 444 | Peoples and Institutions of China |
| 541-542 | History of Japan | 446 | Peoples and Institutions of Japan |
| 545 | History of Thought in Japan | 452 | Race Relations in the Pacific |
| 551 | India, Pakistan, and Ceylon | 699 | Directed Reading or Research |
| 553 | Russian Central Asia and the Caucasus | Far East | |
| 661 | Seminar in Chinese History | *800 | Thesis Research |

GENETICS

Candidates for M.S. or Ph.D. degrees in genetics must present a minimum of 20 hours of undergraduate credit in genetics, botany, chemistry, entomology, mathematics, 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. This requirement may be waived by the qualifying committee for candidates presenting adequate graduate training from other institutions.

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.*

Agriculture

- 603 Applied Agricultural Statistics
- 699 Directed Research

Genetics

- 451 Principles of Genetics
- 452 Advanced Genetics
- 453 Principles of Plant Breeding
- *654 Genetics Seminar
- *800 Thesis Research

Botany

- 412 Microtechnique
- 418 Cytology
- 460 Systematic Botany of

- Flowering Plants
- 518 Genetics of Micro-organisms
- 610 Botanical Seminar
- 618 Cytogenetics
- 699 Directed Research

Zoology

- 431 Biometry
- 432 Advanced Biometry
- 504 Animal Evolution
- *602 Preparation of Scientific Manuscripts
- 699 Directed Research

GEOGRAPHY

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

410	Physical Geography	553	Geography of China
420	Weather and Climate	554	Geography of India and Southeast Asia
430	Cartography	561	Geography of Australia
440	Field Methods	571	Geography of the Pacific Islands
448	Navigation	574	Geography of Micronesia
450	Urban Geography	575	Geography of Polynesia
460	Political Geography	578	Geography of Hawaii
501	Geography of North America	*601	History of Geography
507	Economic Resources of the United States	660	Seminar in Geography of Japan
521	Geography of Europe	*680	Seminar in Geography
526	Geography of the Soviet Union	699	Directed Research
541	Geography of Asia	*800	Thesis Research
552	Geography of Japan		

GOVERNMENT

Candidates for the M.A. degree must present a minimum of 18 hours of undergraduate credit 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.

Theory

400	Political Theory: Major Concepts	425	Problems in American Government
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401	Political Theory: Problems
402	Democracy and Communism

American Government

420	State Government and Administration
421	Municipal Government and Administration
422	Government of Hawaii
423	Introduction to Constitutional Law
424	Civil Rights

Comparative Government

440	Comparative Politics: Political Parties
441	Comparative Politics: Institutions and Processes
442	Comparative Colonial Government
443	Government and Politics of China and Japan
444	Government and Politics of South and Southeast Asia

International Relations	501 Principles of Management
460 Problems in International Relations	502 Personnel Administration
461 Formulation and Administration of Foreign Policy	503 Introduction to Administrative Law
462 International Relations of the Far East	504 Problems in Public Administration
463 International Relations of South and Southeast Asia	
Politics	Seminars
480 Political Behavior	600 Political Theory
481 American Political Parties	620 Far Eastern Politics
482 Campaigns and Elections	621 South and Southeast Asia
483 Propaganda and Public Opinion	630 International Relations
484 The Legislative Process	640 Politics
Public Administration	650 Public Administration
500 Introduction to Public Administration	651 Comparative Public Administration
	In Addition:
	699 Directed Reading and Research
	800 Thesis Research

A special program leading to the Master's degree in Government in the field of public administration is available. The degree requires completion of 36 hours of course work subsequent to enrollment, of which at least 12 hours must be in courses numbered 600 or above. No thesis is required and there are no course prerequisites for admission to the program. A comprehensive examination in the several sub-fields of public administration must be passed in the semester prior to completion of the program.

No fixed curriculum is prescribed for students working for this degree. The eight courses in public administration listed below, however, are basic to the program and all students are required to have completed them or their equivalent. If any or all of the 500-numbered courses have been taken at the undergraduate level they need not be repeated, but they may not be used to satisfy the 36-hour requirement for the graduate degree.

Basic Courses in Public Administration

500 Introduction to Public Administration	Administration
501 Principles of Management	650 Seminar in Public Administration
502 Personnel Administration	651 Seminar in Comparative Public Administration
503 Introduction to Administrative Law	655 Technology of Public Administration
504 Problems in Public Administration	

Additional courses for the graduate program shall be selected from those listed below.

Government

400 Political Theory: Major Concepts	420 State Government & Administration
--------------------------------------	---------------------------------------

- 421 Municipal Government & Administration
 - 422 Government of Hawaii
 - 424 Civil Rights
 - 425 Problems in American Government
 - 440 Comparative Politics: Political Parties
 - 441 Comparative Politics: Institutions and Processes
 - 480 Political Behavior
 - 481 American Political Parties
 - 484 Legislative Process
 - 600 Seminar in Political Theory
 - 640 Seminar in Politics
 - 699 Directed Reading & Research
- Economics & Business**
- 300 Business Statistics
 - 409 Governmental Accounting
 - 450 Public Finance
 - 452 Public Finance in Hawaii
 - 470 Government & Business
 - 472 Public Utilities
 - 480 Agricultural Economics
 - 482 Land Economics
 - 494 Arbitration of Grievances
 - 610 Seminar in Economic Development
 - 650 Seminar in Fiscal Problems

Education

- 680 Public School Organization
- 682 Administration of the Elementary School
- 683 Administration of the Secondary School
- 780 Seminar in Educational Administration

Philosophy

- 550 Scientific Method

Psychology

- 420 Statistical Techniques
- 462 Social Psychology
- 468 Political Psychology
- 620 Advanced Statistical Techniques

Social Work

- 652 Social Statistics & Research
- 656 Social Welfare—Its Organization & Administration

Sociology

- 420 Human Ecology
- 436 The Urban Community
- 464 Social Institutions
- 560 Methods of Social Research
- 570 Social Statistics
- 572 Advanced Social Statistics
- 602 Graduate Seminar
- 660 Seminar in Methods of Research

HISTORY

Candidates for the M.A. degree must present a minimum undergraduate background of 18 credits 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

- 405-406 Medieval Europe, 1600-1800
 - 300-1300
- 409 Renaissance and Reformation, 1300-1600
- 410 Early Modern Europe, 1600-1800
 - 415 Expansion of European Civilization
 - 419-420 European Ideas and the World Since 1800

- | | | | |
|---------|--|---------|--|
| 425 | Europe in the Nineteenth Century | 523 | Early Civilization in the Far East |
| 426 | Europe since Versailles | 527 | Russian Siberia and the Pacific |
| 427 | Contemporary Western Europe | 529 | Southeast Asia |
| 428 | Contemporary Western Europe | 531 | History of China to 1800 |
| 431-432 | History of England | 532 | History of China since 1800 |
| 435 | Constitutional History of England | 533-534 | Cultural History of China |
| 438 | British Empire and Commonwealth from 1815 | 539 | American-Chinese Relations |
| 439 | Australia and New Zealand | 541 | History of Japan to 1600 |
| 451 | History of Russia to 1850 | 542 | History of Japan since 1600 |
| 452 | History of Imperial and Soviet Russia since 1850 | 545 | History of Thought in Japan |
| 461-462 | History of the United States to 1876 | 551 | India, Pakistan, and Ceylon |
| 463-464 | History of the United States since 1877 | 553 | Russian Central Asia and the Caucasus |
| 471-472 | Diplomatic History of the United States | 571 | Pacific Exploration and Discovery to 1779 |
| 475 | Constitutional History of the United States | 572 | Pacific Islands from 1779 |
| 477 | American Economic History | 575 | United States in the Pacific |
| 481 | American Thought and Culture | 577 | History of the Hawaiian Islands |
| 483 | American Social Reform Movements since 1865 | 611 | European History |
| 491 | The West in American History | 631 | American History |
| 501 | Representative Americans | 641 | American Diplomatic History |
| 511-512 | History of Hispanic America | 661 | Seminar in Chinese History |
| 515 | United States and Hispanic America | 665 | Seminar in Japanese History |
| 521-522 | History of the Far East | 671 | Russian History |
| | | 699 | Directed Research |
| | | *711 | Seminar in Historical Method |
| | | *712 | Seminar in Historiography |
| | | 790 | Seminar in History and Literature (year course; second semester listed as English 790) |
| | | *800 | Thesis Research |

MATHEMATICS

Candidates for the M.A. degree must present a minimum undergraduate preparation of 27 credits 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

- | | | | |
|----------|-------------------------------------|------|--|
| 401-402 | Differential Equations | 444 | Theory of Functions of a
Complex Variable |
| 421 | Introduction to Modern
Algebra | 471 | Probability |
| 422 | Matrices and Theory of
Equations | 472 | Statistical Inference |
| *431-432 | Advanced Calculus | *650 | Seminar |
| 442 | Vector Analysis | *699 | Directed Reading or Research |
| | | *800 | Thesis Research |

METEOROLOGY

Candidates for the M.S. degree in meteorology must present a minimum of 20 hours of undergraduate credit in meteorology including courses in general, dynamic, and synoptic meteorology. Courses in general physics and mathematics through calculus and a reading knowledge of a foreign language are also required.

Courses for the graduate program will usually be selected from those listed below. *Required courses are indicated by an asterisk.*

Meteorology

- | | | | |
|------|---|---------|-----------------------|
| 425 | Tropical Meteorology | 431-432 | Advanced Calculus |
| 431 | Tropical Synoptic Meteorology | 442 | Vector Analysis |
| 475 | Cloud Physics | 471 | Probability |
| *575 | Advanced Tropical
Meteorology | *472 | Statistical Inference |
| *675 | Advanced Mid-latitude
Analysis and Forecasting | | |
| 680 | Theoretical Meteorology | | |
| *685 | Seminar | | |
| 699 | Directed Reading or Research | | |
| *800 | Thesis Research | | |

Mathematics

- 401-402 Differential Equations
- 422 Matrices and Theory of
Equations

Physics

- 530 Heat
- 610 Theoretical Physics—
Analytical Dynamics
- *620 Physics of the Upper
Atmosphere

Chemistry

- 580 Oceanographic Chemistry

Oceanography

- 550 General Oceanography

MICROBIOLOGY

Candidates for the M.S. degree must present a minimum of 18 hours of undergraduate credit in microbiology, 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.*

Microbiology

- | | | | |
|------|----------------------------------|------|----------------------|
| 415 | Descriptive Bacteriology | *630 | Microbial Physiology |
| 464 | Immunology | *690 | Seminar |
| *620 | Advanced General
Microbiology | *699 | Directed Research |
| | | *800 | Thesis Research |

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

441	Food Habits in Hawaii	652	Laboratory Methods in Nutrition
*443	Advanced Nutrition		
445	Diet and Disease	*699	Directed Reading or Research
*447	Seminar in Nutrition	*800	Thesis Research
*651	Dietary Studies		

OVERSEAS OPERATIONS

The Overseas Operations program is an individual study plan leading to the M.A. degree which is designed to prepare selected graduate students for service in Asia with international organizations, agencies of the United States government, and private institutions and industries which operate in the area.

In conjunction with the objectives of the program, courses of study offered in Asian studies are coordinated and utilized to better fit selected students for service in Asia. There is no set curriculum as such. Each program for the individual graduate student will be tailored to fit the student's particular needs. Asian language programs are particularly stressed, and the student must demonstrate a real fluency in at least one of the Asian languages before the degree will be granted. Students will also be expected to engage in more intensive work connected with their individual specialities as these relate to Asia.

No thesis is required for the degree. However, within the 36 required credit hours each student must serve a limited time in an internship in the field.

Prospective candidates for this program should write to the Director, Overseas Operations Program, for details.

PACIFIC ISLANDS STUDIES

The required undergraduate background is 18 hours of credit dealing with the Pacific Islands area in the following fields: anthropology, economics, education, geography, government, history, literature, psychology, and sociology. A basic course in either anthropology or geography of the Pacific Islands is required. Candidates are urged to acquire a reading knowledge of French, German, Hawaiian, Japanese, or Spanish and to utilize the chosen language in 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

- 400 Peoples of the South Seas
- 402 Polynesians
- 403 Micronesians
- 553 Malayo-Polynesian Languages
- 620 Field Archeology in Oceania
- 699 Directed Reading or Research

Economics

- 452 Public Finance in Hawaii
- 480 Agricultural Economics
- 482 Land Economics
- 699 Directed Reading or Research

Education

- 680 Public School Organization
- 699 Directed Reading or Research

English

- 585 Literature of the Pacific
- 699 Directed Reading or Research

Geography

- 561 Geography of Australia
- 571 Geography of the Pacific Islands
- 574 Geography of Micronesia
- 575 Geography of Polynesia
- 578 Geography of Hawaii
- 699 Directed Research

Government

- 422 Government of Hawaii
- 442 Comparative Colonial

Government

- 699 Directed Reading and Research

History

- 438 British Empire and Commonwealth from 1815
- 439 Australia and New Zealand
- 571 Pacific Exploration and Discovery to 1779
- 572 Pacific Islands from 1779
- 575 The United States in the Pacific
- 577 History of the Hawaiian Islands
- 699 Directed Research

***Interdepartmental Seminar**

- 600 Pacific Islands Research

Pacific Islands

- *800 Thesis Research

Psychology

- 460 Psychology of Personality
- 462 Social Psychology
- 699 Directed Reading or Research

Sociology

- 450 Race and Culture Contacts in Hawaii
- 452 Race Relations in the Pacific
- 628 Seminar in Race Relations
- 699 Directed Reading or Research

PHILOSOPHY

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

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

Philosophy

- 410 American Philosophy
- 415 Types of Philosophy
- 420 Problems of Philosophy
- 430 Logic
- 450 Indian Philosophy
- 455 Chinese Philosophy

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|-----|--|------|---|
| 456 | Confucianism | 560 | Philosophy in Contemporary Science |
| 460 | Buddhist Philosophy | *610 | Seminar in Problems of Philosophy |
| 462 | Mahayana Buddhist Philosophy | 620 | Seminar in Contemporary Philosophy |
| 465 | Philosophy, East and West | *699 | Directed Reading or Research (metaphysics, methodology, ethics, Indian philosophy, Chinese philosophy, Buddhist philosophy, East-West philosophy) |
| 500 | Philosophy of Art | *800 | Thesis Research |
| 505 | Philosophy of Religion | | |
| 510 | Philosophy in Literature | | |
| 515 | Philosophical Interpretations of History | | |
| 520 | Existential Philosophy | | |
| 550 | Scientific Method | | |
| 555 | Foundations of Science | | |

PHYSICS

Candidates for the M.S. degree in physics must present a minimum undergraduate background of 27 credits in physics, including courses in general physics, light, electricity and magnetism, mechanics, and modern physics or equivalents. 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: differential equations, advanced calculus, physical chemistry, Philosophy 550 and 560, and Mathematics 444.

Physics

- | | | | |
|------|--|----------|---------------------------------------|
| 420 | Sound | | Atmosphere |
| 440 | Electronics | *650 | Theoretical Physics: Electromagnetism |
| 460 | Light | *670 | Introduction to Quantum Mechanics |
| 461 | Optics Laboratory | 680 | Atomic and Molecular Spectra |
| 480 | Atomic and Nuclear Physics | *690-691 | Seminar |
| 530 | Heat | 699 | Directed Reading or Research |
| 550 | Electromagnetic Waves | *800 | Thesis Research |
| *610 | Theoretical Physics: Analytical Dynamics | | |
| 620 | Physics of the Upper | | |

PSYCHOLOGY

Candidates for the M.A. or Ph.D. degree must present 26 hours of undergraduate credit 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.

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.

The M.A. degree is offered in all traditional fields, with special facilities available for social, developmental, industrial, counseling, and psychophysics. The Ph.D. degree is offered in social, general experimental, developmental, and psychophysics. *Required courses are indicated by an asterisk.*

Psychology

406	Psychology of Learning	574	Problems in Industrial and Business Psychology
408	Psychology of Thinking	600	Seminar: Problems in Psychology
410	History of Psychology	*614	Contemporary Theory
420	Statistical Techniques	*620	Advanced Statistical Techniques
*426	Psychological Measurements	630	Advanced Experimental Psychology
*430	Intermediate Experimental Psychology	662	Advanced Social Psychology
440	Physiological Psychology	672	Advanced Educational Psychology
450	Social Development of Children	682	Psychological Appraisal I
456	Psychology of Exceptional Children	683	Psychological Appraisal II
460	Psychology of Personality	699	Directed Reading or Research
462	Experimental Social Psychology	782	Psychological Counseling I
463	Social Psychology Laboratory	783	Psychological Counseling II
468	Political Psychology	*800	Thesis Research
474	Industrial and Business Psychology		
480	Abnormal Psychology		

A special program leading to the M.A. degree in Counseling Psychology is available. In this program additional course work may be substituted for the thesis. Undergraduate preparation for this program will normally be a major in one of the social sciences or humanities and shall include courses in general psychology, developmental psychology, experimental psychology, and statistical techniques. Fully prepared students may complete this program with a minimum of 36 credit hours of course work. At least 6 credit hours shall be in fields other than Psychology.

The following courses are required. They may all be taken at the graduate level, although some or all of the 400-599 numbered courses might have been taken at the undergraduate level. In the latter case they may not also be used to satisfy the credit requirements for the graduate degree.

Psychology

426	Psychological Measurements	683	Psychological Appraisal II
460	Psychology of Personality	782	Psychological Counseling I
480	Abnormal Psychology	783	Psychological Counseling II
682	Psychological Appraisal I		

Additional courses for the graduate program shall be selected from those listed below. Courses in other fields may be prescribed by the Program Committee.

Economics

- 496 Research in Industrial Relations

Education

- 601 Guidance in the School
 602 Elementary School Guidance
 604 Occupational Information in Guidance
 605 Problems of School Adjustment
 609 Tests and Inventories in Guidance
 681 Organization and Administration of Guidance

Government

- 500 Introduction to Public Administration

Psychology

- 410 History of Psychology
 456 Psychology of Exceptional Children
 462 Social Psychology
 463 Social Psychology Laboratory

- 474 Industrial and Business Psychology

- 614 Contemporary Theory

- 620 Advanced Statistical Techniques

- 782 Psychological Counseling I

- 783 Psychological Counseling II

Social Work

- 610-611 Human Growth and Behavior

Sociology

- 450 Race and Culture Contacts in Hawaii

- 472 The Family

- 486 Industrial Sociology

- 500 Social Disorganization

- 504 Juvenile Delinquency

- 506 Criminology

- 520 Social Control

- 524 Personality and Culture

- 530 Sociology of Small Groups

Speech

- 440 Semantics

- 480 Group Leadership

SOCIAL WORK

Requirements for admission to the School of Social Work are given on page 16. Candidates for the Master of Social Work degree must complete 48 credits of work, including at least 10 credits (750 clock hours) of supervised field work, and the completion of a research project or thesis.

A core curriculum required of all social work students is contained in four sequences; namely, the social services, human growth and behavior, the "methods" courses, and research. For details of this curriculum see the program bulletin of the School of Social Work. Course offerings in social work are listed below.

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

- 605 Social Casework

- 606 Social Casework

- 608 Social Group Work

- 609 Social Group Work

- 610-611 Human Growth and Behavior

- 612 Group Work, Program Activities

- 615 Community Organization

- 624 History of Social Work

- 625 Child Welfare

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|---------|--|-----|--|
| 626 | Treatment of Juvenile Delinquency | 770 | Advanced Social Group Work |
| 650 | Public Welfare in the United States | 771 | Seminar in Social Group Work |
| 652 | Social Statistics and Research | 775 | Advanced Social Psychiatry |
| 653 | Legal Aspects of Social Work | 780 | Administrative Methods in Social Work |
| 656 | Social Welfare—Its Organization and Administration | 781 | Seminar in Social Welfare Policy |
| 660-661 | Supervised Field Work | 785 | Methods of Supervision in Social Casework |
| 760-761 | Advanced Supervised Field Work | 787 | Current Practice in Community Organization |
| 765 | Advanced Social Casework | 790 | Cultural Factors in Social Work Practice |
| 766 | Seminar in Social Casework | 799 | Seminar in Research |
| 767 | Casework with Children | 800 | Thesis Research |
| 768 | Seminar in Rehabilitation | | |

SOCIOLOGY

Candidates for the M.A. degree must present a minimum undergraduate preparation of 18 credits in sociology, including elementary principles and one course from each of the following five combinations of fields: demography and human ecology; the community and related courses; social organization and disorganization; the group and the person, collective behavior and social change; methods and theory. 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

- | | | | |
|-----|-------------------------------------|-----|----------------------------------|
| 410 | Population and Society | 480 | Sociology of Religion |
| 418 | Human Migrations | 486 | Industrial Sociology |
| 420 | Human Ecology | 500 | Social Disorganization |
| 434 | Rural Sociology | 504 | Juvenile Delinquency |
| 436 | The Urban Community | 506 | Criminology |
| 440 | Folk and Peasant Society | 520 | Social Control |
| 444 | Peoples and Institutions of China | 524 | Personality and Culture |
| 446 | Peoples and Institutions of Japan | 530 | Sociology of Small Groups |
| 450 | Race and Culture Contacts in Hawaii | 540 | Collective Behavior |
| 452 | Race Relations in the Pacific | 542 | Social Movements |
| 458 | Race Relations | 544 | Social Change |
| 464 | Social Institutions | 546 | Public Opinion and the Community |
| 472 | The Family | 548 | American Society in Transition |
| | | 560 | Methods of Social Research |

- 570 Social Statistics
- 572 Advanced Social Statistics
- 580 Sociological Theory
- 602 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
- 628 Seminar in Race Relations
- *660 Seminar in Methods of Research
- *680 Seminar in Sociological Theory
- 699 Directed Reading or Research
- *800 Thesis Research

SOIL SCIENCE

Candidates for the M.S. or Ph.D. degree in soil science must have completed a minimum of 18 hours of undergraduate credit in soil science and related subject matter fields and two years of college chemistry. The related subject matter fields are microbiology, chemistry (analytical and physical), geography, mineralogy, physics, and plant physiology.

Ph.D. candidates may be required to spend a year (24 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

- 482 Soil Analysis
- 483 Soil Diagnosis Laboratory
- 484 Soil Physics
- *685 Advanced Soil Technology
- 686 Advanced Soil Classification
- *687 Soil Science Seminar

- 699 Directed Research
- *800 Thesis Research

Agriculture

- 501 Tropical Crop Production
- 502 Principles of Agronomy

Agricultural Engineering

- 435 Irrigation Principles and Practices

SPEECH

Candidates for the M.A. degree must present a minimum of 27 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

- 422 Speech Pathology
- 423 Practicum in Speech

- Correction
- 428 Fundamentals of Audiology

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|-----|---------------------------------|------|--|
| 430 | Advanced Interpretative Reading | 610 | Seminar in Phonetics and Voice Science |
| 440 | Semantics | 620 | Seminar in Speech Correction |
| 450 | Advanced Public Address | 630 | Seminar in Interpretation |
| 455 | Persuasion: A Study in Rhetoric | 640 | Seminar in Semantics |
| 480 | Group Leadership and Discussion | 650 | Seminar in Rhetoric and Public Address |
| 485 | Argumentation and Debate | 660 | General Seminar |
| 598 | Special Problems | *690 | Seminar in Research Methods |
| | | 699 | Research |
| | | *800 | Thesis Research |

TROPICAL CROP SCIENCE

Candidates for the M.S. degree in tropical crop science must have completed a minimum of 18 hours of undergraduate credit 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

- 603 Applied Agricultural Statistics
- 699 Directed Research
- *800 Thesis Research

Agricultural Engineering

- 435 Irrigation Principles and Practices

Botany

- 410 Plant Anatomy
- 411 Structure of Economic Plants
- 412 Plant Microtechnique
- 418 Cytology
- 440 Principles of Plant Pathology
- 460 Systematic Botany of Flowering Plants
- 461 Taxonomy and Exploration
- 470 Elementary Plant Physiology
- 553 Plant Ecology
- 570-571 Advanced Physiology
- 618 Cytogenetics
- 675 Physiology Seminar

Genetics

- 451 Principles of Genetics

- 452 Advanced Genetics
- 453 Principles of Plant Breeding
- 654 Genetics Seminar

Horticulture

- 463 Principles of Floriculture
- 464 Commercial Flower Production
- 565 The Control of Plant Diseases
- 566 Advanced Tropical Pomology
- 667 Horticulture Seminar

Olericulture

- 492 Advanced Vegetable Production
- 493 Vegetable Crops Breeding
- 494 Systematic Vegetable Crops

Soils and Agronomy

- 482 Soil Analysis
- 483 Soil Diagnosis Laboratory
- 484 Soil Physics
- 685 Advanced Soil Technology

Zoology and Entomology

- 431 Biometry

ZOOLOGY

Candidates for the M.S. or Ph.D. degree in zoology (marine aspects in the latter case) must present a minimum of 18 hours of undergraduate preparation in zoology, including courses in comparative anatomy of vertebrates, embryology, and physiology. M.S. candidates should have completed two years of chemistry (inorganic and organic), and courses in algebra and botany. In addition, Ph.D. candidates should have completed one year of physics. Deficiencies in undergraduate preparation must be made up.

Courses must be selected from those listed below. One seminar each year is required. *Other 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 and Entomology

401	Introduction to Ecology	592	Seminar in Fisheries Biology
410	Parasitology	*601	Zoological Literature
416	Histology	*602	Preparation of Scientific Manuscripts
425	Microtechnique	611	Principles of Systematic Zoology
431	Biometry	621	Physiological Ecology
432	Advanced Biometry	622	Isotopic Tracers in Biology
441	History of Zoology	632	Fisheries Dynamics and Management
501	Zoogeography	645	Advanced General Physiology
504	Animal Evolution	691	Seminar in Marine Zoology
515-516	Invertebrate Zoology	692	Seminar in Advanced Marine and Fisheries Biology
520	Marine Ecology	699	Directed Research
525-526	General Ichthyology	*800	Thesis Research
531	Methods of Fishery Investigation		
536	Oceanography		
546	Comparative Invertebrate Physiology		