

no. 4 combined

1974-75 General and Graduate Catalog University of Hawaii at Manoa

UNIVERSITY OF HAWAII
LIBRARY

AUG 26 1 03 PM '74

Hawn
LG 961
H 4 A 13

cop. 2

TUITION CHANGES

Non-resident tuition rates for full-time students were changed by action of the board of regents after this catalog went to press. Part-time tuition rates for residents and nonresidents were also changed. The following, with changes underlined, replaces the tuition schedule listed on page 10. This schedule becomes effective September 1974.

TUITION

Full-time Undergraduate—per semester tuition

| | |
|-------------------|---------------|
| Resident | \$161.00 |
| Nonresident | <u>402.50</u> |

Part-time Undergraduate—per credit hour

| | |
|-------------------|--------------|
| Resident | <u>14.00</u> |
| Nonresident | <u>35.00</u> |

Full-time Graduate—per semester tuition

| | |
|-------------------|---------------|
| Resident | 186.00 |
| Nonresident | <u>465.00</u> |

Part-time Graduate—per credit hour*

| | |
|-------------------|--------------|
| Resident | <u>16.00</u> |
| Nonresident | <u>40.00</u> |

Full-time Law—per semester tuition

| | |
|-------------------|---------------|
| Resident | 205.00 |
| Nonresident | <u>512.50</u> |

Full-time Medical—per semester tuition

| | |
|-------------------|---------------|
| Resident | 223.50 |
| Nonresident | <u>557.50</u> |

1974-75 **General and** **Graduate Catalog** University of Hawaii at Manoa

UNIVERSITY OF HAWAII BULLETIN
Volume LIII, Number 3, June 1974

The University of Hawaii Bulletin is published quarterly at the University of Hawaii at Manoa, Honolulu, Hawaii, U.S.A. Entered as second-class matter at the Post Office at Honolulu, Hawaii, November 14, 1921, under Act of Congress of August 24, 1912.

Price \$1.00 plus postage

1974-75 UH MANOA CALENDAR

(See also Graduate Division Calendar, p. 79)

1974 Fall Semester (83 days)

August 19-23, Monday-Friday Orientation, academic advising
 26-30, Monday-Friday Registration
 August 21-23, Wednesday-Friday
 28-30, Wednesday-Friday
 September 2, Monday Holiday: Labor Day
 September 3, Tuesday First day of instruction
 *September 12, Thursday Last day to withdraw from courses
 September 16, Monday Last day to register
 October 14, Monday Holiday: Discoverers' Day
 October 28, Monday Holiday: Veterans' Day
 November 1, Friday Deadline for undergraduates and unclassified graduates to apply for Spring semester (new and returning students)
 November 5, Tuesday Holiday: General Election Day
 November 27, Wednesday Last day for Records Office to receive "I" removal grades from instructors. Last day to apply for credit by examination for Fall semester.
 November 28, Thursday Holiday: Thanksgiving Day
 December 12, Thursday Last day of instruction
 December 13-14, Friday-Saturday Study period
 December 16-21, Monday-Saturday Final examinations
 December 22, Sunday Commencement
 December 22, Sunday Fall semester ends
 December 25, Wednesday Holiday: Christmas
 January 1, Wednesday Holiday: New Year's

1975 Spring Semester (85 days)

January 6-10, Monday-Friday Orientation, academic advising
 13-17, Monday-Friday
 January 8-10, Wednesday-Friday Registration
 15-17, Wednesday-Friday
 January 20, Monday First day of instruction
 *January 29, Wednesday Last day to withdraw from courses
 January 31, Friday Last day to register
 February 17, Monday Holiday: Presidents' Day
 March 21, Friday Last day for Records Office to receive "I" removal grades from instructors. Last day to apply for credit by examination for Spring semester.
 March 24-29, Monday-Saturday Spring recess
 March 26, Wednesday Holiday: Kuhio Day
 March 28, Friday Holiday: Good Friday
 May 1, Thursday Deadline for undergraduates and unclassified graduates to apply for the Fall semester (new and returning students)
 May 6, Tuesday Last day of instruction
 May 7-8, Wednesday-Thursday Study period
 May 9-15, Friday-Thursday Final examinations
 May 16-17, Friday-Saturday Student-faculty consultation
 May 18, Sunday Commencement
 May 18, Sunday Spring semester ends

*Withdrawal after these dates would be allowed only with the consent and written permission of the instructor of each course and college dean.

1975 Summer Session

May 19-23, Monday-Friday Registration for First Term
 May 26, Monday Holiday: Memorial Day
 May 27-July 3 First Term
 June 11, Wednesday Holiday: Kamehameha Day
 June 30-July 3, Monday-Thursday Registration for Second Term
 July 7-August 14 Second Term
 August 15, Friday Holiday: Admission Day
 July 4, Friday Holiday: Independence Day
 August 17, Sunday Commencement

| | |
|--|---|
| September 1974 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | October 1974 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 |
| November 1974 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 | December 1974 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 |
| January 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | February 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 |
| March 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | April 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 |
| May 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | June 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 |
| July 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 | August 1975 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 |

○ Academic dates of significance.
 □ Holidays.

This combined and abbreviated catalog for academic year 1974-75 contains information about both undergraduate and graduate offerings at the University of Hawaii at Manoa. Because of budget constraints, it does not contain complete course and program descriptions. Furthermore, it is not intended as a full compilation of regulations and policies. Additional information may be found in the 1973-74 General Information and Catalog and the 1973-74 Graduate Catalog. Inquiries about the regulations of the University, the campus, the several colleges and the departments should be addressed to the administrative officers of those units.

Note: specific items of information contained herein are subject to change. Course offerings for each semester will be published in the Schedule of Courses prior to registration week.

COURSE NUMBERS AND TITLES; ABBREVIATIONS USED

The following numbering system applies to all UH campuses.

Undergraduate Courses 1-499

Courses not applicable for credit toward a bachelor's degree 1-99

Courses applicable toward a bachelor's degree 100-499

Initial or introductory courses 100-199

Second-year courses in a sequence or development in a field of study 200-299

Third-year courses in a sequence or first courses in professional curricula 300-399*

Most advanced undergraduate courses .. 400-499*

Post-Baccalaureate Courses 500-800

Courses carrying credit not generally applicable toward degrees 500-599

Courses applicable toward advanced degrees . 600-800

Typically taken in first year of graduate study or first in sequence 600-699

More advanced graduate courses 700-799

Thesis research 800

Other Guidelines. Undergraduate courses ending in -97 or -98 are those being offered for one year on an experimental basis. Courses ending in -99 are directed research or directed study.

Suffix "A" denotes Selected Studies sections. Suffix "L" designates a laboratory course which is companion to a lec-

*May be accepted by Graduate Division to fulfill graduate degree requirements.

ture course bearing the same number. Suffix "V" designates courses carrying variable credit. All other suffixes ("B"- "K", "M"- "U", "W"- "Z") mark separate sections of a course, each section having a distinctive content such that a student may earn credit toward his degree for each section taken.

Courses are listed by colleges, programs, and departments, and may be located through reference to the Table of Contents or Index. An IBM code appears after the name of each department and major division. This code is used in the *Schedule of Courses*, showing the time and place of class meetings, published prior to each semester and summer session.

Course listings include: Number, Title, Credits, Prerequisites, and Cross-listings. **Alpha:** indicates a course offered under various sub-topics. For detailed listings consult the *Schedule of Courses*. **Pre:** indicates the prerequisites necessary to register for a course, which may include courses, class standing or "consent," meaning written consent of instructor and/or department chairman. Any listed prerequisite is intended to imply the phrase "or equivalent." **Cross-listed:** indicates a course that fulfills a requirement in more than one department and specifies the alternate departmental course listing.

In cases where changes in course numbering have been made effective as of academic year 1974-75, the old course number will appear in parentheses for cross-reference to the 1973-74 *General Catalog*.

Alternate year courses and courses that may be repeated for credit are not noted. Check with each department or the 1973-74 issue of the *Manoa General Information and Catalog* for detailed description of courses.



CONTENTS

| | Page | | Page |
|------------------------------------|------|---|------|
| GENERAL INFORMATION..... | 7 | Economics..... | 32 |
| STUDENT AFFAIRS..... | 8 | English..... | 33 |
| TUITION AND FEES..... | 10 | Journalism..... | 34 |
| ACADEMIC REGULATIONS..... | 12 | English as a Second Language..... | 34 |
| UNDERGRADUATE DEGREE PROGRAMS..... | 17 | European Languages and Literature..... | 34 |
| | | Geography..... | 36 |
| | | Geology and Geophysics..... | 37 |
| | | History..... | 37 |
| | | Indo-Pacific Languages..... | 38 |
| | | Information and Computer Sciences..... | 39 |
| | | Linguistics..... | 40 |
| | | Mathematics..... | 40 |
| | | Meteorology..... | 41 |
| | | Music..... | 41 |
| | | Oceanography..... | 42 |
| | | Pacific Islands Program..... | 42 |
| | | Pacific Urban Studies..... | 42 |
| | | Philosophy..... | 43 |
| | | Physics and Astronomy..... | 43 |
| | | Political Science..... | 44 |
| | | Population Studies..... | 44 |
| | | Psychology..... | 44 |
| | | Religion..... | 45 |
| | | Science..... | 45 |
| | | Sociology..... | 46 |
| | | Speech..... | 46 |
| | | Speech-Communication..... | 46 |
| SPECIAL INSTRUCTIONAL PROGRAMS | | | |
| Honors Programs..... | 19 | | |
| Liberal Studies..... | 19 | | |
| English Language Institute..... | 19 | | |
| Military Studies (ROTC)..... | 20 | | |
| Population Studies..... | 20 | | |
| National Student Exchange..... | 21 | | |
| Russian Area Studies..... | 21 | | |
| Marine Option..... | 21 | | |
| Kokua..... | 21 | | |
| Freshmen Seminar..... | 21 | | |
| Ethnic Studies..... | 21 | | |
| COLLEGE OF ARTS AND SCIENCES..... | 22 | | |
| American Studies..... | 26 | | |
| Anthropology..... | 27 | | |
| Architecture..... | 27 | | |
| Art..... | 28 | | |
| Asian Studies..... | 28 | | |
| Biological Sciences..... | | | |
| Biology..... | 29 | | |
| Botany..... | 29 | | |
| Microbiology..... | 29 | | |
| Zoology..... | 29 | | |
| Chemistry..... | 30 | | |
| Communication..... | 30 | | |
| Drama and Theatre..... | 31 | | |
| East Asian Languages..... | 31 | | |
| East Asian Literature..... | 32 | | |
| | | COLLEGE OF BUSINESS ADMINISTRATION..... | 47 |
| | | Accounting..... | 48 |
| | | Business Law..... | 48 |
| | | Finance..... | 48 |
| | | Insurance..... | 48 |
| | | Real Estate..... | 48 |
| | | Business Analysis and Statistics..... | 48 |
| | | Business Economics..... | 48 |
| | | Management..... | 48 |
| | | Marketing..... | 49 |
| | | Personnel and Industrial Relations..... | 49 |
| | | Transportation..... | 49 |
| | | Travel Industry Management..... | 49 |
| | | Graduate Courses..... | 49 |

| | Page | | Page |
|--|------|--|------|
| COLLEGE OF EDUCATION | 50 | SCHOOL OF PUBLIC HEALTH | 67 |
| Curriculum and Instruction | 54 | | |
| Industrial Education | 55 | SCHOOL OF SOCIAL WORK | 69 |
| Educational Administration | 55 | | |
| Educational Communications and Technology | 55 | COLLEGE OF TROPICAL AGRICULTURE | 70 |
| Educational Foundations | 55 | Agriculture | 71 |
| Educational Psychology | 56 | Agricultural Biochemistry | 71 |
| Field Services | 56 | Agricultural Economics | 71 |
| Health and Physical Education | 56 | Agricultural Engineering | 71 |
| Special Education | 57 | Agronomy and Soil Science | 71 |
| | | Animal Sciences | 72 |
| COLLEGE OF ENGINEERING | 58 | Entomology | 72 |
| Civil Engineering | 59 | Food Science and Technology | 72 |
| Electrical Engineering | 60 | Horticulture | 72 |
| Mechanical Engineering | 61 | Plant Pathology | 73 |
| Ocean Engineering | 61 | Plant Physiology | 73 |
| | | Fashion Design, Textiles and Merchandising | 73 |
| COLLEGE OF HEALTH SCIENCES | | Food and Nutritional Sciences | 74 |
| AND SOCIAL WELFARE | 62 | Home Economics | 74 |
| SCHOOL OF MEDICINE | 62 | Human Development | 74 |
| Allied Medical Sciences | | | |
| Comparative Medicine | 62 | COLLEGE OF CONTINUING EDUCATION | |
| Medical History | 62 | AND COMMUNITY SERVICE | 75 |
| Medical Technology | 62 | | |
| Speech Pathology & Audiology | 63 | SCHOOL OF LAW | 77 |
| Stomatology | 63 | | |
| Anatomy and Reproductive Biology | 63 | SCHOOL OF LIBRARY STUDIES | 78 |
| Anesthesiology | 63 | | |
| Biochemistry and Biophysics | 63 | GRADUATE DIVISION | 79 |
| Biomedical Science | 64 | Plan A | 87 |
| Community Health | 64 | Plan B | 88 |
| Genetics | 64 | Plan C | 89 |
| Medicine | 64 | Doctoral Degrees | 89 |
| Obstetrics and Gynecology | 65 | | |
| Pathology | 65 | EAST-WEST CENTER | 91 |
| Pediatrics | 65 | | |
| Pharmacology | 65 | SUMMARY OF ENROLLMENT 1973-74 | 92 |
| Physiology | 65 | | |
| Psychiatry | 65 | INDEX | 93 |
| Radiology | 65 | | |
| Surgery | 65 | | |
| Tropical Medicine and Medical Microbiology | 66 | | |
| SCHOOL OF NURSING | 66 | | |
| Dental Hygiene | 66 | | |
| Nursing | 67 | | |
| Associate Degree Nursing | 67 | | |

GENERAL INFORMATION

The University of Hawaii at Manoa is the principal campus in a nine-campus statewide system of higher education. It offers the bachelor's degree in 69 fields, the master's in 67 and the doctorate in 35.

There are seven colleges at UHM: Arts and Sciences, Business Administration, Continuing Education and Community Service, Education, Engineering, Health Sciences and Social Welfare, and Tropical Agriculture. The Graduate Division organizes and develops graduate programs.

Within the various colleges are the schools of Travel Industry Management (Business Administration) and Medicine, Nursing, Public Health and Social Work (Health Sciences and Social Welfare). The Graduate School of Library Studies and the School of Law are separate professional schools.

Also on the UHM campus is the East-West Center, an international educational institution established by the U.S. Congress to bring together men and women from Asia, the Pacific area and the United States in a variety of cooperative programs of study, professional development and research. Center institutes are devoted to communications, culture learning, food, population, and technology and development. Information on Center programs is available from the East-West Center, 1777 East-West Road, Honolulu, Hawaii 96822.

Accreditation. The University of Hawaii at Manoa is accredited by the Western Association of Schools and Colleges. Professional programs are individually accredited by appropriate organizations.

Academic Year. There are two 17-week semesters and a summer session which offers two consecutive six-week terms. See "Calendar."

Research and Service Units. The Office of Research Administration helps faculty plan and process individual applications for extramural research grants and contracts, maintains a record of all active and pending research projects, serves as liaison with federal and private funding agencies, and provides administrative services, general supervision, coordination and encouragement in support of individual faculty research. Some ten organized research units are coordinated by the office.

It also administers some extramurally sponsored non-research programs for such purposes as training, institu-

tional and departmental development, acquisition of equipment, and fellowships and traineeships.

The following research units operate as part of the University of Hawaii at Manoa: Center for Engineering Research, Environmental Center, Hawaii Cooperative Fisheries Unit, Hawaii Institute of Geophysics, Hawaii Institute of Marine Biology, Industrial Relations Center, Institute for Astronomy, JKK Look Laboratory of Oceanographic Engineering, Harold L. Lyon Arboretum, Hawaii Agricultural Experiment Station, Pacific Biomedical Research Center, Pacific Urban Studies and Planning Program, Population Genetics Laboratory, Social Sciences and Linguistics Institute, Social Welfare Development and Research Center, Survey Research Office, Water Resources Research Center.

The Cooperative Extension Service is the public service arm of the College of Tropical Agriculture. Other units providing major public service functions are the UHM libraries, the Speech and Hearing Clinic, University Press of Hawaii, and the Waikiki Aquarium.

Cooperating Institutions. The University extends its research capacity and service to the state through cooperative agreements with various institutions, including the following:

Bernice P. Bishop Museum; Hawaiian Fruit Flies Investigations Laboratory; Hawaiian Sugar Planters Association; Hawaiian Volcano Observatory, U.S. Geological Survey; Honolulu Academy of Arts; Honolulu Laboratory, Southwest Fisheries Center, National Marine Fisheries Service; Pacific and Asian Affairs Council; Pineapple Research Institute of Hawaii.

Equal Opportunity. The University subscribes to and complies with all state and federal statutes, rules and regulations and amendments thereto, promulgated from time to time, which prohibit discrimination in its policies and practices applicable to its campuses, programs and activities.

Inquiries. *Undergraduates:* Office of Admissions and Records, Bachman Hall 120, 2444 Dole Street. *Graduate students:* Graduate Division Office, 2540 Maile Way. *General studies:* College of Continuing Education and Community Service, 2500 Dole Street. *Summer session:* Summer Session Office, Room 101, 2500 Dole Street. All addresses are at Honolulu, Hawaii 96822.

STUDENT AFFAIRS

STUDENT ACTIVITIES

The Bureau of Student Activities, in the Campus Center, coordinates a variety of student-administered programs and activities serving the UHM community. Two major organizations providing student-related services are the Associated Students of the University of Hawaii (ASUH) and the Campus Center Board (CCB).

ASUH is the student government organization. Primary activities include participation in UHM policy-making councils, funding experimental courses and interdisciplinary programs and sponsoring major symposia on public affairs.

CCB, which includes representatives from the student body, faculty, administration and alumni, manages and directs Campus Center activities and presents programs in the cultural, social, recreational and public affairs areas. Charter flights to the mainland, Europe and the Orient during vacations and summers are a CCB service.

The Board of Publications publishes a campus newspaper, *Ka Leo O Hawaii*, as well as the *Hawaii Literary Review* and an annual telephone directory.

Other activities open to students include theatre productions, the University band, chorus and orchestra, sports, and some 150 scholastic, honorary, professional, religious, social, departmental, special interest and residence organizations.

Sports. An intramural-extramural sports program gives students and staff opportunities to take part in athletic activities as their time and interest permit.

In organized and competitive *intramural* play, teams or individuals compete in meets, leagues and tournaments and play by specified schedules in 20 different activities. The competitions use prearranged facilities, equipment, supervision and officials.

The more informal *extramural* activities emphasize self-motivated impromptu recreation. When facilities are available, for example, students may swim, shoot baskets, lift weights or play tennis, badminton or volleyball.

Most basic equipment is available for checkout. The program is voluntary and free, except for bowling and golf.

Varsity (intercollegiate) sports include both men's and women's sports. Baseball, basketball, cross-country, football, golf, gymnastics, sailing, soccer, swimming, tennis, track field, volleyball, water polo, and wrestling are offered. Contact the athletic department for information.

The University takes no responsibility for injuries which students receive in sports or games. Students participating in varsity sports are insured against accidents.

STUDENT SERVICES

Financial Aids. Forms of assistance available to students include scholarships, grants, loans and student employment. UHM uses the College Scholarship Services (CSS) form as a composite financial aid application for most student assistance programs. Forms are available at high schools, community colleges, and the UHM financial aids office in Bachman Annex 2. Deadline for submission is March 1. Late applications will be accepted but funds may not be available to fill demands.

Information for *graduate students* seeking fellowships or teaching assistantships is in the Graduate Division section of this catalog. For a listing of available scholarships, grants and loans, please see the *1973-74 General Information and Catalog*.

The office also helps students find jobs on and off campus. Pay is based on job requirements and student qualifications. Priority of placement is based on financial need. Incoming students expecting to get a job should have enough money on hand to defray expenses pending placement. Information on the Federal College Work-Study and Basic Opportunity Grant programs is available.

G.I. Bill. Veterans and the orphans and widows of veterans registering for the first time under any of the various federal Veterans' Bills must present a Certificate of Eligibility and Entitlement or Certificate for Education and Training to the financial aids office after completing registration. Direct inquiries about attending UHM under the G.I. Bill to the Honolulu V.A. Regional Office, P.O. Box 3198, Honolulu 96801.

Awards. A complete listing of general and special awards and prizes is in the *1973-74 General Information and Catalog*.

Placement and Career Planning. This office cultivates the interest of prospective island, mainland and overseas employers and provides facilities where they may contact students and former students seeking career employment. Interested students should register with the office early in the final year of study. On-campus interviews for graduating seniors take place primarily in October, November, February and March. The office also lists employment opportunities for employers who do not visit campus.

A library of reference materials is available, and credential files are maintained for students interested in a teaching or other academic career.

Students interested in career guidance and future career opportunities are urged to see a career counselor for assistance at any time.

Counseling and Testing Center. A staff of psychologists, psychiatrists, psychometrists and interns provides educational, vocational and personal counseling to students. Various aptitude, interest and other psychological tests are used as aids in counseling. The center also maintains an educational and vocational library.

Health Service. An outpatient clinic is open during the day from Monday through Saturday morning. A doctor or nurse is on duty during working hours. The service is free, but students must pay for drugs prescribed.

Because health care is limited, supplemental health and accident insurance is essential. The health service strongly endorses the ASUH health plan, the cost and benefits being superior to most health insurance plans open to student subscribers.

See "Student Regulations" for medical clearance requirements.

International Student Office. For students from other countries, the office helps with government regulations and procedures, institutional rules and regulations, finances, employ-

ment and living arrangements. It schedules orientations at the beginning of each semester to help students understand American culture, values and institutions and assist in the foreign student's transition to American academic life. It encourages relationships between foreign students and the community.

The office also advises American students seeking opportunities for overseas service and travel or wishing to engage in international student activities at UHM.

Housing. The prospective student should understand that acceptance to the University does NOT assure him of housing, and that housing in Honolulu is scarce and expensive.

Almost all room assignments in on-campus residence halls go to Hawaii residents, who have priority. There are no facilities on campus for married students.

Students should make temporary housing arrangements in hotels or other quarters prior to arrival, and should bear in mind that rental rates can quickly use up personal funds. Inquiries regarding housing should be addressed to: Student Housing Office, Johnson Hall A, 2555 Dole Street, Honolulu, Hawaii 96822.

On Campus. Residence halls for University students administered by the housing office include:

Frear Hall and Hale Kahawai (for undergraduate women) —\$426 room and board per semester.

Johnson Hall and Hale Laulima (coed halls for undergraduates)—\$426 room and board per semester.

Hale Aloha (coed hall for undergraduates and graduates) —\$481 room and board per semester.

Gateway House (coed hall for graduates and upper division undergraduates)—\$456 room and board per semester.

Board includes 10 meals per week (Monday-Friday, breakfast and dinner.)

All halls have double rooms except for fourteen single rooms in Hale Laulima and one single room in Johnson Hall at \$481 room and board per semester, and twenty single rooms in Hale Aloha at \$565 room and board per semester.

Off Campus. To eligible full-time students, the off-campus housing office offers limited space in leased hotels and apartments in the Waikiki area. Assignments are on a first-come, first-served basis. Inquire at the office, Bachman Annex 5.

Reference maps, telephone service and a free central listing service are available in the office. Contact with off-campus landlords must be handled directly by students. Names of landlords are not sent through the mail.

Related Services. Complete food service facilities, including a cafeteria, snack bar, and specially catered party and banquet facilities, are available in the *Campus Center*. The *East-West Center Cafeteria* also offers cafeteria, snack bar and private dining room service. The *Gateway House* cafeteria serves an *a la carte* lunch open to anyone on campus. The *Snack Bar* near Hamilton Library offers plate lunches, sandwiches and snacks. Food vending machines throughout the campus provide 24-hour service.

Students living in residence halls contract for meals in the required meal plan in the cafeteria designated to serve the individual hall.

Steel book lockers are in Wist Hall. Students may obtain a locker for first and second semesters by calling the Facilities Management office. All keys must be returned before Commencement.

Change of Address. Students are responsible for keeping the University informed of their correct mailing address.

Rights and Freedoms of Foreign Students

The University of Hawaii, like all state universities, embraces those aspects of academic freedom which guarantee the freedom to teach and the freedom to learn. Free inquiry and free expression for both students and faculty are indispensable and inseparable. Students, whether from the United States or from foreign countries, as members of the academic community are encouraged to develop a capacity for critical judgment and to engage in sustained and independent search for truth.

Students from foreign countries, as full participants in the educational process at the University of Hawaii, have the right to pursue formal knowledge, verbal or written, in whatever directions and with whatever legitimately appropriate associations as are necessary, without fear of reprisal.

For its part, the University of Hawaii guarantees all students the freedom of silence. No student is required to engage in research on any topic or to make statements of any kind, unless it is his wish to do so.

The University of Hawaii would be most concerned if any government placed its own nationals in jeopardy for engaging in normal academic studies on its campus; it urges other governments to accept the concepts of academic freedom prevalent here if they intend for their nationals to study at this institution.

STUDENT REGULATIONS

Student Conduct. A UHM Code of Community Standards defines expected conduct for members of the University community and specifies acts subject to University sanctions. Honorable conduct is expected of all students. Misrepresentation, cheating or plagiarism, such as the offer to sell and/or use purchased writing and research to obtain academic credit, is contrary to the student conduct code and subject to sanctions including, but not limited to, expulsion from the University.

A student conduct committee with four students, four faculty members, and a nonvoting chairman, hears allegations of misconduct and exercises discipline. Complete copies of the code and the committee's procedures are in the *Student Handbook* and are available from the dean of students.

Financial Obligations. Students who have not adjusted their financial obligations (traffic fines, library fines, locker fees, lab breakage charges, transcript fees, loans, rental contracts, etc.) to the satisfaction of the treasury office may be denied graduation, transcripts, and further registration.

Medical Clearance. All newly registered daytime students must have a complete medical examination. Results must be submitted for approval to the health service on the UHM Health Form before medical clearance can be granted and registration completed. **REGISTRATION AND MEDICAL SERVICES WILL BE DENIED ALL STUDENTS WHO DO NOT COMPLY WITH THIS REQUIREMENT.** Students returning to the University after being away more than four years come under the same regulations as newly registered students. Payment for these preadmission medical examinations is the personal responsibility of the student.

All students must have a TB skin test or chest x-ray performed three months prior to initial enrollment. Positive reactors to the skin test must follow up with a chest x-ray taken immediately and then annually thereafter.

All foreign students will be skin-tested upon arrival on campus, and positive reactors subsequently must have a chest x-ray taken in Hawaii. The state also requires a repeat chest x-ray for all students applying for visa renewals.

Applicants for University housing must obtain a medical clearance from the health service before they can live in the

residence halls. Students afflicted with contagious illness may be required to leave the residence hall for the duration of the contagious period.

Parking and Traffic. Regulations and special instructions may be obtained in the registration area or from the Auxiliary Services traffic desk. Parking permits are sold at registration, or at the traffic desk throughout the year.

Lethal Weapons. Lethal weapons are prohibited on campus except with specific prior permission.

Alcoholic Beverages. Alcoholic beverages are allowed on the campus under certain conditions. Guidelines may be obtained from the Dean of Students.

Other Student Services. The office of the Dean of Students administers the National Student Exchange Program (see p. 21). Special services also are available to disadvantaged students through the College Opportunities Program and the Special Student Services Program. Inquiries on these programs should be addressed to the office of the Dean of Students.

1974-75 TUITION AND FEES

The tuition and fee schedule set forth here is subject to change.

Tuition and fees are charged according to the number of credit hours carried by the student; auditors (those enrolled in a course for no credit) pay the same fees as students enrolled for credit. For tuition purposes only, a full-time student is any student enrolled for 12 or more credit hours.

The tuition to be charged is determined by the degree status of the student, not by the level of the courses taken: i.e., all students who have earned a baccalaureate degree will be charged graduate tuition except for students admitted to law or medical school, who will be charged the stated tuition for these schools.

TUITION

| | |
|--|----------|
| Full-time Undergraduate—per semester tuition | |
| Resident | \$161.00 |
| Nonresident | 644.00 |
| Part-time Undergraduate—per credit hour | |
| Resident | 13.50 |
| Nonresident | 54.00 |
| Full-time Graduate—per semester tuition | |
| Resident | 186.00 |
| Nonresident | 744.00 |
| Part-time Graduate—per credit hour* | |
| Resident | 15.50 |
| Nonresident | 62.00 |
| Full-time Law—per semester tuition | |
| Resident | 205.00 |
| Nonresident | 820.00 |
| Full-time Medical—per semester tuition | |
| Resident | 223.50 |
| Nonresident | 894.00 |

*Students registering for 1 credit hour of Dissertation 800 pay \$30.00 which includes all tuition and fee assessments.

ADVANCE PARTIAL TUITION PAYMENT*

All *continuing* and *returning* students are required to make an advance partial tuition payment of \$27. *New nonresident* students pay \$90, and *new resident* students pay \$27. This advance partial tuition payment is applied at registration time toward tuition for that semester. The payment is nonrefundable and nontransferable if the student does not register, except when the student is denied further registration by the University.

FEES

Course fees for applied music and institutes—see listing under appropriate colleges.

Identical fees are charged all students without regard to degree status except for the ASUH fees.

| | |
|---|--------|
| Campus Center Fee | |
| Students carrying 9 or more credit hours | \$7.50 |
| Students carrying 8 or fewer credit hours | 4.50 |

| | |
|---|------|
| Activity Fee | |
| Students carrying 9 or more credit hours | 4.50 |
| Students carrying 8 or fewer credit hours— per credit hour | .50 |

| | |
|---|------|
| ASUH Fee | |
| Undergraduate students carrying 12 or more credit hours per semester | 2.20 |

*Under review and subject to change.

Summer Session Fees

Tuition (courses audited or taken for credit)

| | |
|--------------------|-------------------------|
| Residents | per credit hour \$20.00 |
| Nonresidents | per credit hour 30.00 |

Student activities fee, Campus Center fee, course fees for applied music, institutes and other special programs as noted in *Summer Session Catalog*.

College of Continuing Education Fees

Students registered in courses offered by the College of Continuing Education pay fees as indicated in the bulletin of that division.

Other Registration Fees

Late registration fee which is added to the student fees when a student registers or pays the fees after the regular registration period \$5.00

Change of program after the initial registration 2.00
(does not apply to complete withdrawals from the University)

Graduation Fees and Rentals

Graduation fee (payable at time of application)

| | |
|--|-------|
| Bachelor's degree (each) | 5.00 |
| Advanced degree (each) | 5.00 |
| Professional certificate | 2.50 |
| Associate of Science and Dental Hygiene certificates | 2.50 |
| Thesis binding, 2 copies | 4.00 |
| Rental of cap and gown | 4.00* |
| Rental of master's hood | 4.50* |
| Rental of doctoral hood | 5.00* |

Special Fees

Application fee

| | |
|---|-------|
| (all out-of-state undergraduate and unclassified applicants)† | 10.00 |
| Transcript of record | 1.00 |
| Credit by examination (per course) | 5.00 |
| (payable at time of application) | |

Special examination 10.00
(in regularly constituted courses at other than the specified times, except for make-up examinations)

Replacement of laboratory equipment (items broken or lost)..... Cost of Item

Check tendered to University or any department therein and returned for any cause:

| | |
|---|-------|
| Drawn on bank within State of Hawaii | 5.00 |
| Drawn on bank outside State of Hawaii | 10.00 |

*The rental schedule set forth here is subject to change.

†Applications from outside Hawaii must be accompanied by a \$10.00 application fee (*money order, cashier's check, or certified check*). This fee is not refundable and does not carry credit toward tuition, even though the applicant may be admitted to the University.

Payments

For registration to be official all fees must be paid within 24 hours after the close of the final day of regular registration.

Refunds*

In the event of complete withdrawal from the University or change to part-time status before the fifth week of instruction, certain fees may be refunded as indicated below:

1. Tuition and special course fees

a. 100% refund (less \$12.50 general fee) for complete withdrawal only if made on or before the following dates:

August 30, 1974, for the fall semester

January 17, 1975, for the spring semester.

b. 80% refund if complete withdrawal or change to part-time status is made within the first two weeks of instruction.

c. 40% refund if complete withdrawal or change to part-time status is made during the third and fourth weeks of instruction.

2. Student activities fee and Campus Center fee

a. 100% refund if complete withdrawal is made within two weeks after the regular registration period.

b. No refund is made after the second week of registration.

3. If complete withdrawal or change to part-time status is precipitated by an action on the part of the University, refunds in addition to the above may be arranged.

4. Summer Session

See *Summer Session Catalog*.

Application for refund should be made at the treasury office, Bachman Hall 110, after following the procedures on pp. 14-15, "Withdrawals and other Changes."

Residence Regulations

Students who do not qualify as bona fide residents of the state of Hawaii according to University regulations in effect at the time that they register must pay nonresident fees.

An official determination of residence status will be made at the time a student applies for admission. Students classified as nonresidents continue to be so classified throughout their term at the University of Hawaii until they can present to the residency officer satisfactory evidence that proves otherwise. Some of the pertinent residence regulations follow. For further information or interpretation, contact the residency officer in the office of student affairs.

Statutory Exemptions

The following categories of nonresidents are exempt under statute from payment of tuition differential:

1. Persons who are residents of a state or foreign country which permits Hawaii residents to pay the same tuition fees at its public institutions of higher learning as are paid by its own residents.

*Under review and subject to change.

2. United States military personnel and their authorized dependents during the period such personnel are stationed in Hawaii on active duty.
3. Persons domiciled in a district, commonwealth, territory, or insular jurisdiction, state, or nation which provides no public institution of higher learning.
4. Employees of the University and their spouses and legal dependents.

"Residents"—In General

1. The basic rule is that adult and minor students are resident students if the adult students, or in the case of minor students, their parents or guardians, have been bona fide residents of this state at least twelve consecutive months

next preceding the first day of instruction at the University.

2. Residence in Hawaii and residence in another place cannot be held simultaneously.
3. Presence in Hawaii primarily to attend an institution of higher learning does not in itself create resident status.
4. The residence of unmarried students who are minors follows that of the parents or of the legal guardians.
5. The residence of a married student may be that of the student or the spouse.
6. Resident status, once acquired, will be lost by future voluntary actions of the resident inconsistent with such status. However, Hawaii residence will not be lost solely because of absence from the state while employed in the service of the United States, while engaged in navigation, or while attending an institution of learning.

ACADEMIC REGULATIONS

STUDENT CLASSIFICATION

Persons attending classes at UHM may enroll in courses for academic credit or as auditors.

Classified Students. A classified undergraduate is one following a prescribed program of study leading to a bachelor's degree. Undergraduates include freshmen, 0-24 credit hours completed; sophomores, 25-54; juniors, 55-88; seniors, 89 or more. Freshmen and sophomores are lower-division students, juniors and seniors upper-division.

A classified graduate student is one who has been accepted by the University's Graduate Division in one of three categories: regular, probational or special (*see p. 83*).

Unclassified Students. Students not seeking a degree or completion of a special Graduate Division program or undergraduate degree or certificate program are termed unclassified.

Full-time and Part-time Students. For registration purposes, undergraduates, graduates, and unclassified students are either part-time or full-time students. A full-time undergraduate ordinarily carries a minimum of 12 credits. A graduate student's status is determined by Graduate Division regulations (*see p. 83*).

Auditors. Auditors may attend a certain class with the consent of the instructor. They receive no credit for the course, and they do not take course examinations. The extent of their classroom participation is at the instructor's option. Auditors generally are not allowed in laboratory science, mathematics, elementary and intermediate modern languages, creative writing, English composition, speech courses, or in classes where they might usurp the place of credit students. The admissions and records office keeps no records for auditors; they must submit an application to the admissions office for each semester they enroll.

ADMISSION INFORMATION FOR ENTERING STUDENTS*

GENERAL INFORMATION

UHM admission requirements are similar to those of other comparable state institutions of higher learning. In general, the University admits applicants who demonstrate ability to benefit from, and contribute to, one of its educational programs. The number of nonresident students is limited.

Applications. To obtain applications and/or information, prospective students should contact their high school counselor (in Hawaii) or write to Director, Office of Admissions and Records, University of Hawaii at Manoa, 2444 Dole Street, Bachman Hall 120, Honolulu, Hawaii 96822.

The application, along with instructions for completing and submitting it, is contained in the booklet *How to Enroll in the University of Hawaii System*.

All non-U.S. citizens should request the foreign student supplementary information form and follow the additional instructions for foreign students.

Deadlines. Applications for fall semester are processed from December 1 to May 1; for spring semester, from June 1 to November 1. They should include official transcripts, sent directly from the institution involved, and all other necessary credentials. No applications, even those received before the closing date, will be acted upon once enrollment is filled for the semester for which a student applies.

*Graduate students refer to p. 80 for details.

Application Fee. Applications from nonresidents must be accompanied by a nonrefundable \$10 application fee. Applications submitted without this fee will be returned. The application and the fee are valid only for the one semester specified on the application. The fee should be in certified check or money order, made payable to the University of Hawaii. Do not send currency. Applicants from foreign countries should send an international money order.

Student Numbers. UHM normally uses social security numbers as student identification numbers. U.S. citizens should indicate their social security number on their application. Foreign students need not have a social security number.

ADMISSION REQUIREMENTS

Admission of Residents as Freshmen

State of Hawaii residents applying for admission as freshmen must submit an application, official Scholastic Aptitude Test (SAT) scores, high school transcripts, and recommendations from school officials as directed in the instruction booklet accompanying the application form. Applicants may submit high school General Educ. Development (GED) test results in lieu of high school transcripts. High rating in one area will not ensure admission, nor will poor performance in an area exclude applicants if other evidence shows they may be successful in university work.

Scholastic Aptitude Test. Candidates for fall admission should take the SAT no later than December of their senior year in high school. Candidates for spring admission should take the test before July. Information on SAT is available from high school counselors or from the College Entrance Examination Board, c/o Educational Testing Service, Box 1025, Berkeley, California 94701 or Box 592, Princeton, New Jersey 08540.

High School Record. Applicants should have grades high enough to place them in the upper two-fifths of their graduating class, and should be recommended by their principal or a designated school representative.

Minimum Unit Requirements. Applicants should complete 15 units of high school work (grades 9-12) of which at least 10 are college preparatory. A listing of courses and grades from the ninth grade must be included. The college preparatory subjects must include at least 3 units in English; 1 in algebra; and 6 in such subjects as physical, biological and social sciences, mathematics beyond first-year algebra, English beyond the three-unit minimum, and foreign language. All other courses for which the high school grants credit may be offered to satisfy the remaining unit requirements, although there should be no less than a half-unit nor more than two units in any one subject. Students entering curricula in engineering, mathematics and biological and physical sciences must meet the special math requirements listed in the college sections. The term unit means satisfactory completion of a full school year's course of study, or the equivalent in laboratory and shop exercises.

Early Admission. Qualified high school students may enroll in University courses while completing high school graduation requirements. Students wishing to take advantage of this program should follow the procedures for high school students above. In addition, a supporting letter of recommendation from the high school counselor or principal is required. Deadlines for regular University admission apply to the early admission program. Students in the program are invited to become affiliates of the Selected Studies Program.

Admission of Nonresidents as Freshmen

Freshmen nonresident applicants must submit the same documents and test scores as Hawaii applicants. Admission standards for out-of-state students are generally higher than those for state residents. Candidates should await notice of acceptance before coming to Hawaii.

Admission decisions are made without regard to availability of housing. The student must arrange for his own housing.

Admission of Transfer Students

Transfer students are those presently or previously enrolled at a college or university other than UHM.

Candidates who have earned at least 24 hours of work in courses comparable to UHM offerings at an accredited U.S. college or university must submit an application and must have each institution previously attended send official transcripts (including courses taken and grades received) directly to the office of admissions and records. Unofficial transcripts and student copies of transcripts or grade reports will not be accepted. Submitted transcripts are not available for distribution except to other campuses in the University of Hawaii system.

Candidates who have earned fewer than 24 acceptable credits or who have enrolled in an unaccredited institution must submit high school transcripts and official SAT scores along with official transcripts from each institution previously attended.

The transfer candidate is expected to present a satisfactory academic record in courses comparable to UHM offerings. Nonresident candidates must present a better than average record.

Applicants enrolled at another college or university must have a final transcript submitted to the office of admissions and records at the end of the current term. Until this is received, any action on the application is provisional. Failure to submit the transcript or to satisfactorily complete the semester's work will result in denial of admission.

The University of Hawaii at Manoa accepts transfer credits only in subjects substantially equivalent to UHM offerings, and grades earned in these courses must be C or better. Credit-No Credit and Pass/Fail credits may be accepted if the standard for these credits is the same as at UHM (see p. 16). However, all transfer credits allowed may not necessarily satisfy curricular requirements toward a degree and students may find it takes longer than anticipated to meet degree requirements. UHM accepts no more than 60 semester hours in transfer from a junior college.

Transfers from unaccredited institutions must meet UHM admission standards for new freshmen. After students complete a minimum of 30 semester hours with an average of C or better at UHM, they may be granted credit for the courses completed at the unaccredited institution. This credit, however, will not exceed 60 semester hours and will be granted only for courses usually considered lower-division and substantially equivalent to UHM courses.

The University does not offer correspondence courses. However, up to one-fourth of credit requirements for undergraduate degrees may be met by correspondence courses taken at accredited institutions of higher education.

Admission of Foreign Students

Foreign students interested in undergraduate admission should request the *Information for Prospective Undergraduate Students from Other Countries* brochure from the office of

admissions and records. Students deciding to apply must fill out the Request for Application form enclosed with the brochure. The University then will send an application, an instruction booklet and a supplementary information sheet for foreign students.

In addition to the application, candidates must present evidence of having completed or received the equivalent of a U.S. high school diploma. Official transcripts of all secondary and post-secondary work must be sent directly to the University by each institution attended. Certified photo copies of the results of any qualifying examinations (e.g., General Certificate of Education) also must be submitted. Certified English translations must be attached to documents and transcripts written in a foreign language. Submitted records are not available for distribution to other institutions.

Candidates also must submit official results of the Scholastic Aptitude Test (SAT) and the Test of English as a Foreign Language (TOEFL). The SAT and TOEFL are normally required of all foreign applicants, including students who either have been admitted to or have matriculated at other universities. SAT applications may be obtained by writing the College Entrance Examination Board, Educational Testing Service, Box 1025, Berkeley, California 94701 or Box 592, Princeton, New Jersey 08540.

(Students who have earned at least 24 semester hours of work comparable to UHM offerings—excluding English Language Institute and/or English as a Second Language courses—at an accredited American college or university are exempt from submitting the SAT results.)

TOEFL applications may be obtained by writing to Educational Testing Service, Box 899, Princeton, New Jersey 08540. Candidates must attain a minimum score of 450 on the TOEFL examination.

Applicants exempt from taking the TOEFL examination are (a) those whose native language is English; (b) those who hold a bachelor's or master's degree from an accredited university in the United States, Australia, England, Canada or New Zealand, and (c) those who have completed four years of high school and/or university education in the countries aforementioned.

All foreign students on nonimmigrant visas must show proof of adequate health insurance before completing the registration process. Health insurance information will be sent students accepted for admission.

Students should have official notice of acceptance before coming to Hawaii. Upon arrival, foreign students are subject to placement in English Language Institute courses. See page 19.

Admission of Returnees in Good Standing

A student who leaves UHM in good standing or on probation and who has not attended another institution must submit a regular application according to the deadlines outlined on p. 12. A request to re-enroll may be denied because of enrollment limitations. A student who has attended another university subsequent to attendance at UHM applies as a transfer student. See p. 13.

Admission of Professional Diploma Students

Candidates for admission to the Professional Diploma (PD) program may obtain admission and PD application forms from the admissions and records office. Official transcripts from each previous institution attended must be sent to the office.

Persons residing on Oahu must arrange for a personal interview with staff members of the division of student services, College of Education. Others must submit directly to the College of Education a recommendation form (available at the admissions and records office) in lieu of an interview.

Admission of Unclassified Students

A person who wishes to take University courses for professional or personal reasons, but does not wish to enroll in a degree program, may apply for admission as an unclassified student through the admissions and records office in Bachman Hall. Applicants must meet the admission standards for a regular degree-seeking undergraduate, or submit official verification of a baccalaureate or advanced degree earned at an accredited college or university.

Classified applicants receive admission priority, and thus, unclassified applicants may be denied admission because of enrollment restrictions.

Persons interested only in taking a course offered by the College of Continuing Education and Community Service (CCECS) should inquire at the CCECS office, Krauss Hall 105.

REGISTRATION FOR COURSES; WITHDRAWALS AND OTHER CHANGES

Regular Registration

Registration dates are given in the "Calendar" (p. 2). A *Schedule of Courses*, including registration instructions and time and place of course meetings is issued by the admissions and records office prior to registration.

To assist in projecting the number and needs of new and continuing students, the University collects a partial advance tuition payment. See Tuition and Fees, p. 10.

To pick up a registration packet, students must present a medical clearance card, which is issued by the Student Health Service upon receipt of the prescribed health forms. These forms are mailed to all new and returning students with their acceptance letters. Continuing students also must present a medical clearance card; they may obtain medical forms at the health service. Students arriving on campus without a medical clearance card must report to the health service before obtaining registration packets.

Undergraduates. Advisers assigned by the respective colleges may assist undergraduates in preparing an academic program to meet self-established goals. Tuition and fees are payable at the time of registration; a student is not officially registered until the tuition and fees are paid.

Graduates. Graduate students follow the same registration procedure as undergraduates. See p. 83 for specific instructions.

Auditors and Unclassified Students. Auditors and unclassified students register after classified students.

Late Registration

Students may register for credit up to and including the day designated as the last day for registration for credit. See

"Calendar," p. 2, "Last day to register." Similar restrictions apply to the summer session. There is a fee for late registration.

Registration to audit courses is permitted at any time, but auditors may not change to credit status after the above late registration period.

Other Provisions

Maximum Registration. Undergraduate students who request enrollment in more than 19 credit hours of work in any semester must obtain special approval of their college dean or designated representative. Students may not register for courses in the College of Continuing Education, for credit or audit, in excess of the maximum registration allowed by the college in which they are enrolled.

Full-Time Status. Undergraduate students carrying a minimum of 12 credits are considered full-time. Graduate students see p. 83.

Class Attendance. Regular attendance at class and laboratory sessions is expected for all courses in which a student enrolls. Unavoidable absence should be explained to the instructor concerned.

Variable Credit Courses. The number of credits obtainable in most courses is stated in this catalog and in the *Schedule of Courses*. Certain courses designated by "v" offer variable credit. The number of credits for which a student enrolls and will earn in such a course must be approved by the instructor prior to registration. Students must register for a definite number of credits and may earn no more or less than the stated number.

Prerequisites. Most advanced courses stipulate certain prerequisites (abbreviated "Pre" in the course listings) as minimum acceptable preparation for the course. These prerequisites are noted in the individual course titles or at the beginning of a department's listing of courses. Students are responsible for ascertaining that they have met prerequisites or equivalents. A student who is uncertain should consult the instructor *before* registration.

Course Changes (Not Complete Withdrawal)

To Add a Course. Courses may be added during the first eight instructional days following the regular registration period. A form may be obtained from the student services office of the student's college. A service fee is required.

To Drop a Course. Courses may be dropped through the eighth working day after the beginning of instruction (*see* Calendar) unless a later date is announced by the instructor. Withdrawal during the first three weeks is not indicated on the student's record. If students withdraw after the first three weeks of instruction, a grade of *W* will be entered on their record if they have the approval of their instructor and the dean of their college. Students may obtain a "drop" form from the student services office of their college. A service fee is required.

When an undergraduate student ceases to attend class without officially withdrawing, the instructor may award any one of the following final course grades: *A*, *B*, *C*, *D*, *F*, *CR* (Credit), *NC* (No Credit), or, if applicable, *W* or *I*. An instructor will award an *I* or *W* on the basis of the feasibility of the student's making up the work within the prescribed time limit. If an *I* (Incomplete) is awarded the instructor *must* also award an alternate grade to be recorded on the student's record if the work necessary to remove the *I* is not undertaken. Students are advised that withdrawal from courses after the 8-day period may jeopardize their chances for registration in the same courses in succeeding semesters.

Graduate students should consult p. 83.

Complete Withdrawal from the University

If a student completely withdraws from the University prior to the end of the third week of instruction, no record of course registration is maintained. After that period, with the approval of the dean of the college, marks of *W* may be recorded for each course.

Applications for complete withdrawal are available at the admissions and records office. Signatures as indicated on the form must be obtained and the completed form turned in to the treasury office.

Refunds for withdrawals are noted in this catalog under "Tuition and Fees—Refunds."

Transfers Within the University

An undergraduate may apply for transfer from one college to another during either semester. Application for transfer must be made on a form supplied by one of the deans concerned. The application must be approved by the deans of the two colleges and left with the dean of the college the student wishes to enter. Changes of college, curriculum or major are not permitted during registration periods.

Graduate students see p. 82.

CREDITS, GRADES, AND EXAMINATIONS

Work accomplished by students is usually recognized in terms of credits, grades, grade points and grade-point ratios. Grade reports are given out at the end of each term.

Credits

A credit (also called a semester hour or a credit hour) is given to a student for work satisfactorily accomplished during one hour of classroom instruction. Laboratory or field work required in addition to the basic classroom instruction varies, and such work may carry credit. Credits granted for courses are listed in this catalog and also in the *Schedule of Courses*.

Grades

Grades given in all courses are *A*, *B*, *C*, *D*, *F*, *CR* (credit),

NC (no credit), *W* (withdrawal), and *I* (incomplete), except for 800 (thesis research) in which the grade of *S* (satisfactory) is given upon acceptance of the thesis. The lowest passing grade is *D*.

An *I* is given to an undergraduate student who has failed to complete a small but important part of a semester's work before the semester grades are determined if the instructor believes that the failure was caused by conditions beyond the student's control and not by carelessness, and procrastination. Each student receiving an *I* should contact the professor to determine the steps to be taken to remove the *I*. The deadline for removing an *I* received in the fall semester is in March of the spring semester; for removing an *I* received in the spring semester or the summer session, the deadline is in November of the fall semester (*see* Calendar for specific dates).

An instructor recording a grade of *I* on the final grade card must also record the grade which will replace the *I* if the work is not made up by the deadline; that grade should be computed on the basis of what grades or other evidence the instructor does have, averaged together with *F*'s for all the incomplete work (including the final examination, if it is not taken). If the work is completed prior to the deadline, the instructor will report a change of grade, taking the completed work into consideration.

Graduate students should consult p. 84.

Credit-No Credit. Credit-no credit options encourage students to broaden their education by venturing into subject areas outside their fields of specialization without hazarding a relatively low grade. Undergraduates may, with approval of their adviser, take some electives on a credit-no credit basis. The *CR* (credit) designation denotes *D* caliber work or better. Departments may, at their option and upon the approval of the appropriate curriculum committee of the college, designate certain lower division introductory courses in the 100-199 series on a compulsory credit-no credit basis. No more than 40 credit hours taken on a credit-no credit basis, in addition to the required *CR-NC* courses, may be counted toward the degree. A grade of *CR* (credit) is not computed in the grade-point average; neither is a grade of *NC* (no credit). The credits for a course in which a *CR* is obtained are listed as advanced standing on a student's grade report.

A course in which *CR* is earned may not be retaken for an *A, B, C, D, F* grade nor may a course in which a student earns a grade on the *A, B, C, D, F* basis be retaken for a *CR-NC* grade.

The *CR-NC* option may be exercised only at the time of registration for the course.

Prior to deciding upon taking courses on a credit-no credit basis, students contemplating transferring to other institutions are advised to consult the catalogs of those institutions to determine their policies regarding acceptance of "*CR*" grades. Students contemplating applying for scholarships are advised to consult the awarding policies.

Graduate students should consult p. 84.

Grade points are given for all courses in which grades of *A, B, C, D, or F* are reported. They are computed as follows: For each credit received in a course, 4 grade points are granted if the grade is *A*, 3 if *B*, 2 if *C*, 1 if *D*, 0 if *F*.

Students entering as undergraduates with advanced standing are not given grade points for work done outside the University of Hawaii system.

Grade-point ratios are determined by dividing the total number of grade points by the total number of credits for which a student has been registered. Courses for which grades of *W, I, NC* or *CR* have been recorded are not included in the computation of ratios.

Grade Reports. Grade reports are sent to students at the end of each semester and the summer session.

Examinations

Course Examinations. Final examinations are required in all undergraduate courses except writing courses, directed reading, research and seminar courses. No examinations (other than short quizzes) are allowed during the two weeks prior to the final examination period. The schedule of final examinations is published in the *Schedule of Courses* and also issued prior to the testing period by the office of admissions and records.

Foreign Language Courses. Registration in foreign language courses is not permitted until students who plan to continue

the study of a language begun elsewhere have taken a placement test which helps to determine the course in which they should enroll. If the results of the placement test indicate that students should begin with a course that is more advanced than the 101-level, their successful completion of that advanced course will entitle them to credit for it and for all courses prerequisite to it, up to a total of 14 credits. If the results of the placement test indicate that students should begin with a course that is more advanced than the 202-level, they may either take that advanced course or (in some languages) a proficiency validation test of mastery at the 202-level; successful completion of either will satisfy the foreign language requirements of the College of Arts and Sciences.

Native or bilingual speakers of a foreign language may not enroll in nor receive credit for courses in that language, which are designed for non-native speakers.

For specific regulations consult the offices of the departments of European languages, East Asian languages, or Indo-Pacific languages.

Credit for Previous Foreign Language Study. Credit towards graduation for a foreign language studied outside the University may be given in one of the following ways: by transfer of advanced standing credits from another institution, by placement and proficiency validation test during registration or by credit by examination (see below).

Credits toward graduation may also be earned by attaining a score of 3 or better on some of the Advanced Placement examinations. (Write to the office of admissions and records for credit granting policy.) The Advanced Placement examinations are administered in high schools by the Educational Testing Service for the College Entrance Examination Board on a nationwide basis for students who have completed specific college level courses in high school. Further information may be obtained in most high schools, or directly from the Educational Testing Service, Princeton, New Jersey.

To obtain credit by the above procedures, students should contact their student services office.

Credit by Examination. Students who wish to obtain credit by examination for basic courses in economics, calculus, general chemistry, psychology, sociology, and English literature should contact the Counseling and Testing Center. Students apply to the center, pay the fee (currently \$15) and take the corresponding general or subject examination under the College-Level Examination Program. A satisfactory score on these examinations, as determined by the appropriate department, yields course credit.

For other courses the examinations are specially prepared by University faculty members, and so the requirements to take them are somewhat more stringent. Enrolled students who present evidence to their college dean that they have the equivalent of a course through experience or training but have not received college credit for the course, may apply, with departmental approval, for credit by examination. (See preceding section for foreign languages.) Graduate students may also obtain credit in this manner for certain undergraduate courses. (see p. 84.) The fee schedule is under review. The deadline for filing applications in the deans' offices for each semester is indicated in the Calendar.

In each case the examination must be prepared under the auspices of the department concerned, must be more comprehensive than the usual "final examination" and must be designed to serve as the scholastic equivalent of the course. Applications are available in the college student services offices.

Courses passed by examination do not carry grades or grade points.

ACADEMIC PROBATION, SUSPENSION, DISMISSAL

Undergraduates. Students who fail to meet the minimum scholastic requirements of the University are put on probation, suspended or dismissed. For purposes of measuring this minimum requirement, the grade-point ratio (GPR) is used. The following guidelines are generally applied:

Probation. A student may be placed on academic probation at the end of any semester in which the cumulative GPR falls below 2.0. The probationary student continues work at the University but must achieve a GPR in each probationary semester of at least 2.0 to be allowed further registration.

Regulations governing academic probation will be applied at the end of each semester.

Suspension. A student who has been denied continuing registration for the first time is placed on academic suspension. Failure to achieve a cumulative GPR of at least 1.7 after attempting 24 credits will result in academic suspension even though the student was not on probation. A student will also be suspended for failure to maintain a GPR of at least 2.0 while on academic probation.

Regulations governing academic suspension are applied at the end of each semester.

A suspended student is eligible to return to the University after remaining out of the University for at least one semester (not including summer session). However, a student suspended at the end of the spring semester is permitted to attend the summer session immediately following suspension. If the student brings the cumulative GPR up to 2.0 at the end of the first summer term, a committee on academic standing has the option of setting aside the suspension period and allowing the student to enroll for the fall semester.

Dismissal. Students are dismissed when they have been previously suspended and have failed on readmittance to maintain a GPR of at least 2.0 in the initial semester, or when they are admitted on academic probation and fail to meet academic requirements during the probationary period. Such students will be readmitted only in unusual circumstances. Regulations governing academic dismissal are applied at the end of each semester.

Applications for Return from Suspension or Dismissal. Students applying for return from suspension should do so at the office of admissions and records for the fall semester from December 1 to May 1 and for the spring semester from June 1 to November 1. Applications, even though received before the closing deadline, will not be processed once enrollment is filled for the semester for which a student applies.

Other Provisions. Ordinarily, failure in the first semester of a year course bars a student from registering for the second semester of that course. However, there are a number of exceptions to this, wholly at the discretion of the individual departments. A department may choose to withhold credit from a student registered illegally in such a course.

Upon finding that a student is suffering from a physical or mental condition detrimental to the student or the University, the dean of students will, on medical advice, recommend proper action to the appropriate college dean. The dean may then request that the student be withdrawn officially, without prejudice or academic penalty. Readmission is contingent upon review and recommendation by the college dean and the dean of students.

17

UNDERGRADUATE DEGREE PROGRAMS

The University offers the following undergraduate degrees:

- College of Arts and Sciences: bachelor of arts (B.A.), fine arts (B.F.A.), music (B.Mus.), science (B.S.).
- Colleges of Tropical Agriculture, Engineering, or Health Sciences and Social Welfare: bachelor of science (B.S.); the diploma designates the program of study completed.
- College of Education: bachelor of education (B.Ed.), except in the recreation leadership program, where a bachelor of science (B.S.) is granted. Holders of bachelor's degrees who complete the five-year program in education receive a certifying diploma.
- College of Business Administration: bachelor of business administration (B.B.A.).
- School of Nursing: in addition to the baccalaureate program, associate of science (A.S.) for completing two-year program in technical nursing; two-year certificate in dental hygiene.

Baccalaureate Requirements. To qualify for any baccalaureate degree from the University, students must satisfactorily complete (1) the general education requirements outlined below,

(2) at least 60 additional credit-hours of non-introductory courses (i.e., those numbered 200 and above) and (3) the requirements of the college (which may overlap University requirements).

General Education "Core." Students intending to receive a bachelor's degree must take courses or demonstrate their competence by examination in the six broad areas listed here. These "core" courses frequently are concentrated in the first two years, but need not be completed within that period. The "core" constitutes about a third of a four-year curriculum and embraces the following areas of emphasis:

Communications: Students must demonstrate competence in expository writing within their first five semesters by passing any English course in the 100 series (for foreign students ESL 100), or a proficiency exam administered periodically by the English department, or by submitting at least three college level papers that, in the judgment of the English department's Composition Committee, satisfy the requirement.

Quantitative and Logical Reasoning: Students must show ability to apply, understand or appreciate the uses of mathe-

matics or its philosophic base in logic by passing any mathematics course at the University level, or a course in logic, or any basic course in statistics or computers.

World Civilizations: Students must pass History 151-152, World Civilization, or its counterpart in the Honors program, 161-162. With concurrence of their academic advisers, students with adequate comprehension of Western civilization may substitute one or more courses in the history of Asia, such as History 241-242. Students with satisfactory comprehension of Eastern civilization may substitute one or more courses in Western (most appropriately European) history or European Languages 161-162.

Humanities: Students may fulfill the requirement by passing three semester courses, distributed among two or more of the following three groups. The following list of courses is a guide. Substitutions may be made upon approval of the dean of the college in which a student is registered.

- I. English 251, 252, 253, 254, 255, 256; Drama 160; literature courses offered by the language departments (in original language or in translation).
- II. Philosophy 100, 200, 201; Religion 150, 151.
- III. (History, Theory of the Arts) Art 101, 270, 280; Asian Studies 241-2, 310; Drama 180, 260; English 320, 331, 335, 351-2, 360, 471-3; History 241-2, 281-2; Linguistics 102; Music 160, 170, 180, 190.

Natural Sciences: Students must pass three semester courses chosen from the following, preferably including both biological and physical sciences. The accompanying list is a general guide. Substitutions may be made upon approval of the dean of the college in which a student is registered.

- Biochemistry 441; Biology 220; Botany 101, 130, 201, 450; Genetics 352; Microbiology 130, 351; Zoology 101, 450.
- Chemistry 100 and 101, 113 and 115, 114 and 116, 117 and 118 (each combination of lecture and lab is here considered one course); Geography 101; Geology and Geophysics 101, 102; Meteorology 101.
- General Science 121, 122, 123, 124, 350; Information Sciences 301, 302.
- Oceanography 201; Physics 100, 102, 110, 111, 151, 152, 163, 164, 170, 272, 274.

Social Sciences: Students may complete this requirement by passing three semester courses, including at least one

semester course from each of the following groups. The list is a general guide. Substitutions may be made upon approval of the dean of the college in which a student is registered.

- I. American Studies 201, 202, 301, 302; Anthropology 150, 200; Asian Studies 312; Botany 105; Psychology 100, 110, 112, 320, 321, 322; Sociology 100, 200, or any course at the 300 level except 362.
- II. Economics 120, 150, 151; General Engineering 203 (same as IS 203); Geography 102, 151; Political Science 110.

Credits and Grade-Points. Minimum credit requirements for baccalaureate degrees are set by each college. Students must have earned at least twice as many grade points as total registered credits, i.e., have a C average.

Residence Requirements. Students must earn a minimum of 30 semester hours in residence (that is, taking credit courses or their equivalent by examination) at the University of Hawaii at Manoa.

Degree candidates must be registered and in attendance during the semester or summer session in which the degree is to be granted. A college dean may modify this requirement, in exceptional cases, by granting a leave of absence.

Time Within Which Work Must Be Completed. Students should complete their academic work in a 10-year period. The University will deny credits earned more than 10 years before graduation in courses which have materially changed content or standards.

Application for Degree. An application for graduation must be filed at the admissions and records office, Bachman Hall 120, at least a semester, and preferably a year, prior to graduation. The student must file a new Degree Application form if the date of graduation should change.

Graduate Credit for Seniors. Seniors at the University of Hawaii at Manoa may earn credit toward an advanced degree for some courses completed during the last semester as undergraduates provided (1) that the courses taken are in excess of the requirement for the bachelor's degree, (2) that such courses may be used to fulfill requirements in the major field and (3) that, in the field of education, student teaching has been completed. To obtain such credit, students must have written approval when registering for the course from the dean of the appropriate undergraduate college and the Graduate Division.

SPECIAL INSTRUCTIONAL PROGRAMS

Honors Programs

Professors: John E. Bardach, Robert B. Buchele, Robert W. Clopton, John P. Craven, Jack R. Davidson, Shosuke Goto, Judson L. Ihrig, E. Alison Kay, Ann M. Keppel, James R. Linn.

Associate Professors: James M. Gray, Sheldon S. Varney.

Assistant Professors: Frederick T. Bail, Mirella Belshe, Judith R. Gething, Lorraine C. Stringfellow, Patrick K. Takahashi.

Instructors: Marilyn Harman.

Selected Studies (lower division). The program provides academically promising freshmen and sophomores the opportunity to plan a curriculum and within certain limits tailor it to the student's special interests and abilities. Admission is by invitation to students whose high school records and aptitude test scores, or whose recommendations from University faculty, indicate they have the qualities needed to profit from the opportunity. Special courses and sections are available in various subjects. Students taking the majority of their lower division work in these may be eligible for Sophomore Honors.

Honors (upper division). Honors degrees are granted only to participants in the University Honors Program. Successful completion of the program entitles the student to a bachelor's degree with "honors," "high honors," or "highest honors." Any regularly registered undergraduate may apply for admission to the program at the end of the sophomore or during the junior year.

During the junior year the nature of work is determined chiefly by the student's major department or curriculum. In the senior year, students pursue a program of independent research culminating in a senior thesis. In addition, two semesters of the Honors Colloquium are required.

For further information, consult the Honors director, Sinclair Library 504-B.

Academic Distinction. Graduating seniors not in the Honors Program who have completed 30 semester hours of work at UHM with a GPR of 3.5 are eligible for graduation "with distinction" subject to the following stipulations: (1) The 30 credit hours at Manoa must come from courses carrying grade points (this excludes credit-no credit). (2) The cumulative GPR of the total college work must be at least 3.5.

Honors Courses (Hon)

(Limited to SSP and Honors students)

151-152 Science and Ideas (4-4)

317-318 Research Method (v) Selected fields.

491-492 Honors Colloquium (3-3)

493-494 Senior Honors Thesis (2-2)

Interdisciplinary Courses (IS)

In addition to the many interdisciplinary courses listed among the offerings of the departments of the several colleges in the following pages, there are a few such courses which do not fit within any department. The following are administered by the Honors Program but are open to any qualified student.

197 Energy: Its Sources & Use (3) (Cross-listed as ME 210)

203 Technology & Society (3) (Cross-listed as CE 203)

221-222 International Agriculture (1-1)

291 Community Service Practicum (3) Pre: consent.

293 Pre-Education Practicum (3)

297 Man, the Ocean, & the Environmental Crisis (2) Pre: Ocean 201.

298 Living Wealth of the Oceans (3)

300 Field Study (v) Pre: consent.

311-312 Independent Study Tutorial (v) Pre: consent.

321 Seminar in International Agriculture (1)

331 Legal Thought (3)

332 Legal Reasoning (3)

345 Literature of Women (3)

347 Sex and Law (3)

397 Women Artists (3)

399 Introduction to Independent Study (v) Limited; consent.

461 The Sea and Society (3) Pre: senior.

463 Economics of Sea Systems (3) Pre: Econ 120 or 151.

491 University Services Practicum (3)

499 Graduation Contract Independent Study (v) Limited; consent.

597 Marine & Freshwater Aquarium Systems (2)

600 Theory of Administration (3)

751-752 Interdisciplinary Teamwork (2-2) Pre: consent.

Liberal Studies B.A. Program

This program permits a qualified undergraduate to construct a multi-disciplinary major-equivalent with the advice and consent of the program director and a faculty member chosen by the student. It leads to a bachelor's degree in liberal studies from the College of Arts and Sciences. Any student not on academic probation may apply for admission at the program office, Sinclair Library 504-A.

Students must satisfy University degree requirements, Arts and Sciences credit requirements and the Arts and Sciences language requirement. They must also maintain a 2.5 grade-point ratio in the courses forming the major equivalent. These courses may not be taken on a credit-no credit basis.

The program is designed for students who wish to (1) study a particular problem or theme, e.g., revolution or the urban crisis, through a multi-disciplinary constellation of courses or (2) create a special undergraduate major or program for which there are courses but for which no baccalaureate program has been established yet. Hawaiian Studies, Comparative Literature, and Women's Studies are all possible "majors" in the Liberal Studies Program.

English Language Institute (ELI)

The institute evaluates the English of all new foreign students and provides suitable instruction for those whose English fails to meet standards determined by the University to be sufficient for pursuit of full-time studies. The evaluation must be completed before students are allowed to register for University courses. Registration for ELI courses is limited to students officially admitted to the University.

Exemptions and Waivers. After evaluation, the following students are exempted from ELI training: (a) those whose native language is English; (b) those holding a bachelor's or master's degree from an accredited university in the United States, Australia, Canada, England or New Zealand, and (c) those whose English meets the University's standards for full-time study.

An academic department may waive any or all of a foreign graduate student's recommended ELI courses. Signed waiver forms must be submitted to the ELI office in Moore 570.

Assignment to ELI Courses. Students not exempted are assigned to an ELI program. ELI courses take precedence over all other course work. They may not be postponed to a subsequent semester, nor may they be dropped or taken with auditor status. Students failing to comply with ELI assignments may be denied further registration.

Relationship to Other Course Work. Students in ELI training take a reduced academic load—those with relatively large amounts of ELI work during the first and second semesters must expect to make proportionately slower progress in regular University studies. This is an especially important factor in some graduate programs, and should be carefully considered by students whose time or financial support is limited.

Hawaii English Language Program

Students applying for the sole purpose of entering ELI to improve their English will not be accepted. Such students may be eligible for HELP (Hawaii English Language Program). For information, write HELP, College of Continuing Education and Community Service, University of Hawaii at Manoa, 2500 Dole Street, Honolulu 96822. (See p. 75)

Military Studies Program: ROTC

Military Science (MS). The Army Reserve Officers Training Program (ROTC) qualifies successful participants for commissions as second lieutenants in the U.S. Army. Once commissioned, graduates enter active duty or if selected may pursue an advanced degree on educational delay status. Four-year and two-year program options are available.

The four-year program is divided into basic and advanced courses. Students who have participated in Junior Division ROTC or who have had more than four months active military service may be exempt from part or all of the basic course. The advanced course, in the junior and senior years, includes a six-week summer camp between the junior and senior years at a mainland military installation. Pay for this period is \$100 per month during the school year and approximately \$300 per month at camp. To be eligible for the advanced course a student must (1) be a citizen of the U.S., (2) successfully complete the basic course or its equivalent.

The two-year advanced program (male students only) can be taken without taking the two-year basic course by attending and completing a six-week summer camp at Fort Knox, Kentucky before entering the advanced course. Students must have four semesters of college work remaining after finishing the summer camp and must apply for selection early in the spring semester of the year in which they plan to attend the basic summer camp. Summer camp pay is approximately \$326 per month.

The Army Flight Instruction Program, offered to qualified seniors, can lead to a private pilot's rating.

Financial assistance scholarships are available for each year of the program. They provide for tuition, fees, books, laboratory expenses and \$100 per month for the period of the scholarship.

Information and counseling on the ROTC Program are available at the offices of the Military Science Program.

Director: David M. Peters.

Associate Director: Robert P. Greene.

Assistant Directors: Harry G. Lane, James E. Krause, Michael V. Farrell, Sylvester A. Ryan, Jr.

Staff Members: Louis Laul III, John R. Lopez, Harold Y. Imasaka, Curtis Weeks.

Leadership Laboratory required 1 hour per week.

101 Fundamentals of Leadership & Management (2)

102 Applied Leadership & Management (2) Pre: 101 or consent.

201-202 American Military History (2-2) Pre: 101-102; consent.

301-302 Advanced Leadership & Management (3-3) Pre: 201-202; consent.

401-402 Seminar in Leadership & Management (3-3) Pre: 301-302; consent.

Aerospace Studies (AS). Aerospace Studies (AS) is part of the Air Force Reserve Officers Training Corps (AFROTC) program. Students who successfully complete all requirements are commissioned as second lieutenants in the U.S. Air Force. They then serve on active duty or may in some cases obtain an educational delay for graduate study. Academic courses are open to any student.

The program spans two academic years. Usually, juniors and seniors are enrolled, but sophomores and graduate students may also qualify. Applicants receive six weeks of training at a mainland Air Force base, with expenses paid, before entering the program. Once enrolled, they study defense policy and the military in contemporary society, and Air Force leadership and management. Seniors who medically qualify will receive no-cost flight instruction which can allow them to obtain a private pilot flying certificate.

All cadets receive \$100 monthly and are also paid while attending the six-week training sessions. Scholarships covering tuition, fees, and books are available on a competitive national basis. Interested students may obtain information from the Director of Aerospace Studies, 1309 Lower Campus Drive.

Director: Lt. Col. Thomas E. Boyle, USAF.

Assistant Directors: Capt. John A. Brightbill, USAF, Capt. Warren S. Shibuya, USAF.

Leadership laboratory required 1 hour per week for each course listed for Air Force commission candidates.

301-302 National Security Forces in Contemporary American Society (3-3)

451 Air Force Leadership (3)

452 Air Force Management (3)

Population Studies Certificate

For listing of courses, see "College of Arts and Sciences."

Population Studies is an interdisciplinary certificate program, involving faculty from several University departments, under the supervision of a Population Studies Committee composed of the program director and the chairmen of the departments of anthropology, economics, geography and sociology. The program is primarily for advanced degree candidates—M.A., M.S., M.P.H. or Ph.D.—who wish to acquire an understanding of demographic structures and processes and to develop a special competence in the application of the concepts and tools of their primary discipline to various aspects of population study. The program emphasizes the social and economic aspects of the causes and consequences of population trends and examines the rationale and the ways by which societies attempt to modify these trends, with special reference to the Asian and Pacific area. Special attention is paid to training in techniques of demographic analysis appropriate to deficient or limited data.

Students who successfully complete 15 credits drawn from an approved list of courses, offered by the program and by several departments, and who pass a comprehensive examination, will be eligible to receive a certificate in Population Studies.

National Student Exchange

Under this program, UHM students are provided the opportunity to become better acquainted with different social and educational patterns in other areas of the United States, to experience new life-styles and appreciate various cultural perspectives. This program also allows students to take advantage of specialized courses that might otherwise not be available to them.

Students may elect, in their sophomore or junior year, to spend a year, or a semester, of exchange study at another university in this program, if that university can send a student in exchange. Institutions in NSE include: University of Alabama, California State College (Bakersfield), University of Delaware, University of Hawaii (Manoa), University of Idaho, Illinois State University, University of Maine (Fort Kent and Portland-Gorham), University of Massachusetts, Montana State University, University of Montana, Moorhead State College (Minnesota), Morgan State College (Maryland), University of Nevada (Reno), Ohio University, Oregon State University, University of Oregon, Rutgers College (New Jersey), South Dakota State University, University of South Florida, Towson State College (Maryland), West Chester State College (Pennsylvania), William Paterson College, College of New Jersey, University of Wisconsin (Green Bay).

Extra cost is minimal, and out-of-state residence fees are waived to program participants. In some cases, scholarship and other financial aids may be used. Students pay transportation costs. For further information inquire at the office of the Dean of Students.

Russian Area Studies Certificate

The UHM Committee on Russian Studies offers a certificate signifying the completion of certain requirements in addition to a regular major. These are (1) advanced reading and conversation courses in Russian, equivalent to at least third-year Russian and (2) 9 credits of work, exclusive of courses taken as part of the major, chosen from at least two different areas of the following offerings:

Geography 445 Geography of the Soviet Union (3)
History 396 History Colloquium (3)
History 449-450 History of Russia (3-3)
History 451-452 Modern Russia and Soviet Foreign Policy (3-3)
History 453-454 Russian Intellectual and Cultural History (3-3)
History 457 The Russian Revolution (3)
Philosophy 403 Marxist Philosophy (3)
Russian Literature 311-312 Introduction to Russian Literature and Civilization (3-3)
Russian 411-412 Literature of the 19th-C (3-3)
Russian 413-414 Literature of the 20th-C (3-3)
Russian 418 Advanced Composition and Stylistics (3)
Russian 419 Advanced Reading in the Russian Daily Press (3)
Religion 480-481 History of Religions in Russia (3-3)
European Languages 331 19th-C Russian Novel (3)
European Languages 332 20th-C Russian Literature (3)
European Languages 333 Ideology and Literature in the Soviet Society (3)

For further information call Professor Michael Klimenko in the Department of European Languages, Moore Hall 454, or telephone 948-8520, 948-8828.

Marine Option Program

The Office of Marine Programs offers a certificate in Marine Studies to undergraduates who complete certain requirements in addition to a regular major. The certificate requires an academic core of 12 credits in marine related courses, consisting of (1) Oceanography 201 or equivalent, (2) one three-hour marine interdisciplinary course, and (3) two three-hour courses in the student's major field having a marine orientation. In addition, the student must acquire a marine skill, defined as a level of proficiency attained through repetitive exposure to and practice of a marine-related technique. Further information is available from the office of the Marine Option Program, Holmes Hall 404, telephone 948-8444.

Tutoring and Services to Handicapped

The *Kokua* program operates a tutoring service to help students who need special, but temporary, help in a subject. Academic advisers or instructors may make referrals; self-referrals are also accepted.

Kokua also offers aids to students with physical impairments. These include student aides, help with registration, readers for the blind, and other help.

Freshman Seminar Program

This unique program allows freshmen to learn in small seminars under the guidance of qualified senior students. Seminars are limited to eight students, led by seniors selected from their academic departments by academic record, faculty recommendations, group experience, and interest in teaching. Teaching seniors receive 6 credits for participating.

English, psychology, anthropology, and religion are the courses offered. Participants must enroll in two or three of these, selecting the rest of their curriculum from regular University offerings. Enrollment is on a first-come, first-served basis; interested students should contact the program director or course instructor as far in advance of the beginning of the semester as possible. Information and registration forms are available at Johnson Hall B-7.

Ethnic Studies (ES)

Focus is on traditions, history and current problems of ethnic groups in Hawaii. The program strives to instill in members of ethnic groups living in Hawaii a sense of intelligent pride in being themselves and in finding out who they are and how they have come to be in the position they are in today.

Much learning takes place in interaction with community residents. Comparative data on ethnic groups elsewhere in the world is used to put the Hawaiian experience in clearer perspective. Parallels and contrasts with other ethnic groups in Asia, the Pacific, and the mainland U.S. enable the student to understand better the social and economic development of Hawaii's ethnic groups.

200 Japanese in Hawaii (3)
201 Chinese in Hawaii (3)
202 Filipinos in Hawaii (3)
203 Caucasians in Hawaii (3)
205 Black Americans (3)
221 Hawaiian Americans (3)
301 Ethnic Identity (3) Pre: Anth 305, Psy 322, or ES 200-level courses.
340(397) Land Tenure Change in Hawaii (3)
380 Field Studies (3) Pre: consent.
399 Directed Reading (3)

COLLEGE OF ARTS AND SCIENCES

Programs of the College of Arts and Sciences provide students opportunity to gain comprehensive knowledge of the major fields of learning—a general education—and an intensive knowledge of a particular field of the humanities, the social sciences or the natural sciences.

Advisers in the student services office of the college assist students (primarily freshmen and sophomores) in planning academic goals and curricula. When students complete 55 credits, they select a major field of concentration and are assigned an adviser from that department's faculty for their major program. However, they may still use student services, especially for a final senior check *before* registering for their final semester.

For certain preprofessional programs, such as predentistry, premedicine and prepharmacy, and for the bachelor of fine arts, bachelor of music and bachelor of science degree programs, the major should be indicated at the beginning of the first year.

Students seeking baccalaureate degrees in medical technology, professional nursing, or education must complete entrance requirements of the program they wish to enter and then transfer, ordinarily as juniors, to the College of Health Sciences and Social Welfare or the College of Education. To be eligible for admission to any of these programs, a student generally must have completed a minimum of 60 credit hours, including the general education requirements of the University (p. 17) and certain specified courses.

Admission and Degree Requirements. Admission requirements for the college are the same as those for the University (p. 12). Candidates for admission are strongly advised, although not required, to offer a minimum of two years of college preparatory mathematics and three years of a foreign language.

To be entitled to a bachelor's degree offered by the college, students must:

1. Complete certain basic subjects specified by their degree program.
2. fulfill the prescribed requirements of a major field of concentration, and present to the student services office the goldenrod colored sheet attesting to completion of the major.
3. offer at least 60 semester hours of credit in other than introductory courses.
4. acquire an aggregate of 124 semester hours of credit, of which no more than 20 hours is acceptable in subjects not offered within the college.
5. earn at least 2.0 grade-point ratio (*C* average) for all registered credits, and in the major field.
6. submit, during the semester preceding the award of the degree, two copies of an application for graduation, one to the office of admissions and records and one to the office of student services.
7. pay a graduation fee of \$5 to the treasury office.

No course will satisfy more than one kind of requirement.

Students may apply to the appropriate departments for exemption by examination in expository writing, speech-communication and foreign language. They may also obtain credit by examination in any course which is offered by the college and required in a particular curriculum. Such credit carries a corresponding reduction in the 124 hours required for graduation. (See p. 16.)

In exceptional cases, the dean of the college may exercise his discretion in modifying some of these requirements after consulting the graduation committee.

Bachelor of Arts Degree Programs

Basic Requirements

Students must complete college requirements in written communication (by passing a course in the English 100 series, by proficiency examination, or by demonstrating writing competence to English department); in quantitative or logical reasoning (one course from Anthropology 400, Economics 321, Philosophy 210, Philosophy 445, Psychology 113, Communication 406, Mathematics 100 or above, Business Analysis and Statistics 301-302, BAS 351, Educational Psychology 429, Information Sciences 301-302, Agricultural Economics 434, Agricultural Economics 480); and in world civilizations.

In addition, students must complete this language/culture requirement:

1. satisfactory completion of second-level (i.e., through 202 or equivalent) study of a foreign language, or, unless prohibited by the major requirement,
2. satisfactory completion of first-level (i.e., 102 or equivalent) study of a foreign language plus two semester courses in the culture of that language as approved by the college.

Students with previous training in a foreign language may be denied admission to the 100-level courses in that language.

Area Requirements

Humanities: 6 semester courses, including at least two English courses from Group I, at least one course from Group II, and at least one course from Group III.

- I. Courses identical with those in University Group I.
- II. Courses identical with those in University Group II.
- III. Courses identical with those in University Group III.
- IV. (Creative Endeavor) *Note: most of these courses have limited enrollment.* Art 105, 106, 107, 108; Drama 221-2, 240, 281-2, 283-4, 490; English 313; Music 123-4, 125-6, 127-8, 129; Speech 231.

Natural Sciences: Completion of the University curricular requirements in Natural Sciences including one lab science.

Social Sciences: Completion of the University curricular requirements in Social Sciences, plus one additional course chosen from the University list.

Majors (B.A. Degree)

The following list indicates the major fields of concentration available to students and the requirements of each, viz., the number of semester hours and required courses (generally not to exceed 40 credits in any one subject), as well as related required courses. Major requirements become effective beginning with the junior year. Admission to a particular major program cannot be assured.

American Studies. *Major requirements:* 30 semester hours of upper division courses. *Required courses:* 381-382; 481-482. The remaining 18 semester hours, taken from courses in American studies and allied fields of the humanities and social sciences, will be arranged on an individual basis between each student and the assigned American studies adviser.

Students planning to major in American studies must take

201-202 and be interviewed by a faculty member. Information concerning the interview is available in the departmental office.

Anthropology. *Major requirements:* 27 semester hours. *Required courses:* 200, 210, 215 and six courses from the 300 and 400 levels. At the recommendation of the student's adviser 150 may be substituted for 200, 210, or 215. Three of the 300 and 400 level courses may be from related disciplines with prior approval of the student's adviser. Students going on to graduate school are urged to take 305 or 306 and one course from among 370, 380, or 381.

Art. *Major requirements:* 39 semester hours. *B.A. History of Art:* Art 101, 12 hours foundation studio, 24 hours history of art (including 270 and 280). *B.A. Studio:* Art 101, 12 hours foundation studio, 12 hours history of art (including 270 & 280), and 12 hours non-introductory studio.

Asian Studies. *Major requirements:* 36 semester hours. *Required courses:* 241-242 (same as Hist 241-242); 310 or 312; 6 hours of a third-level Asian language or equivalent (excluding conversation and aural comprehension courses); and one of two alternatives: (1) 15 hours, predominantly Asia-related, from one of these fields: anthropology, art, drama and theatre, Asian literature, economics, geography, history, linguistics, music, philosophy, political science, religion, sociology; plus 6 hours of Asia-related courses outside this field from the humanities or social sciences, OR (2) 15 hours of courses on one Asian country or region plus 6 hours of courses on another Asian country or region.

Biology. *Major requirements:* 220 and 250 plus 21 hours in approved courses in the biological sciences. The proposal for the major will be worked out between the student and an area adviser at the earliest possible time in the student's career, and must be approved by the Biology Program committee no later than the end of the first semester of the junior year. *Related courses required:* Chem 243-244, Phys 151-152 or 170-272 or preferably 163-164 (including all related laboratories); and Math 205-206. Prospective majors should contact the Biology Program office early in their studies in order to design a curriculum which satisfies the major requirements.

Botany. *Plan A. Major requirements:* 32 semester hours. *Required courses:* a core of 201, 410 and 470, preliminary to at least 16 credit hours in other courses above 200. Credits from two courses taken in other biological curricula as approved by adviser are required as part of the total of 32 credits. *Related courses required:* Chem 243-246, or 241-242 and Ag Biochem 402-403; Math 205. *Plan B. Major requirements:* 32 semester hours including not more than 4 credits in courses below 200. *Required courses:* a core of Biol 220, 250, Bot 201, 410 and 470, preliminary to at least 12 credit hours in other courses above 300. *Related courses required:* Chem 243-246; Math 205. *Honors Program:* Requirements for Plan A or B but with the addition of Math 206 and either Phys 151-154, or 170-171. Students interested in majoring in botany should seek advice from the chairman of the department immediately on entering the University.

Chemistry. *Major requirements:* 24 semester hours, in addition to 114-114L or 117-117L; including 133-133L, 243-243L, 244-244L, 333, 351, 352, 352L. A reading knowledge of scientific German, French, or Russian recommended.

Chinese. *Major requirements:* (a) *Language Emphasis:* 36 hours above 201-202, including 301-302, 401-402 and 6 hours from a list of approved courses in Chinese literature or civilization. (b) *Literature Emphasis:* 36 hours above 201-202, including Chinese Literature 261-262, 341-342, 441-442, 451,

East Asian Literature 491, plus Japanese Literature 261 or 262, Korean Literature 261 or 262 and Chinese 301-302 or 321-322.

Classics. *Major requirements:* 24 semester hours in upper-division Latin and Greek courses.

Communication. *Major requirements:* 30 semester hours in Communication courses. *Required:* Communication 200, 201, 384, 406. *Additional requirements:* one of the following: Psychology 322, Sociology 322, Sociology 342, Anthropology 330; and also one of the following: Psychology 430, Educational Psychology 311, Psychology 320.

Drama and Theatre. Recommended Area Requirements: for *drama concentration*, Art 101, Drama 160, 260, Music 160 or 170, Phil 200; for *dance concentration*, Drama 180, Music 180 and 190. *Major requirements:* *Drama concentration*, 24 semester hours, which may include drama courses above if not applied to area requirements. *Required:* a semester each of acting, technical theatre, history of the theatre, and directing; 6 hours of dramatic literature. *Dance concentration:* 24 semester hours, including a semester each of intermediate modern dance, intermediate ballet, dance composition, dance history, and two theatre courses above 100 level in two areas—221 and 240 are recommended. For *either* concentration: majors acquire production experience in scenery, lighting, costumes, and acting, and take a major responsibility in at least one before graduation; credit for this work may sometimes be earned in 299 and 499.

Economics. *Major requirements:* 24 semester hours of upper division courses. *Required courses:* 150-151, 300, 301, 321, 340.

English. *Major requirements:* 27 hours of upper-division courses. *Normally required:* 3 hours of each of five of the following areas: Medieval, Renaissance, Restoration and Eighteenth Century, Romantic and Victorian Periods, Modern Literature, American Literature, Language, Imaginative Writing; 3 additional hours in one of these five chosen areas; 6 additional hours in courses numbered 300-499; 3 hours in Shakespeare. It is recommended that majors or prospective majors in English take English 336 as early as possible in their undergraduate career.

Special major programs: Students with other special interests may, with the concurrence of their adviser and of the director of undergraduate advising, plan a major program of their own; this program may include related upper-division work outside the department of English, but must include a total of 27 hours of upper-division work. Such a program must be approved before the beginning of the senior year.

French. *Major requirements:* 30 semester hours, exclusive of 101-102, 201-202. Required are 331 and 332, one of which must be completed as prerequisite to courses numbered 400 and above.

Geography. *Major requirements:* 30 semester hours. *Required courses:* 101, 151, 375, 380, 390, and four additional courses at the 300 or 400 level of which at least three must be in systematic human or physical geography and at least one from each grouping. Geography 490 is recommended for all majors and required for admission to the graduate program. *Related courses required:* 9 non-introductory credits in related field(s) approved by the department. In choosing courses under the college area requirements, students are advised to select Anthropology 150 or 200 and Economics 151 under the Social Sciences options, Mathematics 134 and 201 or 205 under the Basic Requirements, and basic courses in physics (151-152L), chemistry, biology, or geosciences under the Natural Sciences options.

Geology. *Major requirements:* 24 semester hours beyond 101-102, and including 301, 302, 303, and 305. As related courses, 16 hours chosen from chemistry, physics and/or biology. Recommended foreign languages are French, German, or Russian.

German. *Major requirements:* 30 semester hours of courses numbered 300 and above. 203 may count toward major.

Greek. *Major requirements:* 24 semester hours exclusive of 201-202. *Required courses:* Latin 101-102.

History. *Major requirements:* 28 semester hours of courses over 200. *Required courses:* 496 and at least one course (3 credits) in each field (United States, Pacific and Asia, Europe). Honors students take 493-494 instead of 496. No more than 6 credits applicable to the major may be taken at the 200 level. 200 level courses applied to distribution requirements may not be counted toward the major.

Japanese. *Major requirements:* (a) *Language Emphasis.* 36 hours above 201-202, including 301-302, 401-402 and 6 hours from a list of approved courses in Japanese literature or civilization. (b) *Literature Emphasis.* 36 hours above 201-202, including Japanese Literature 261-262, 341-342, 441-442, 451, East Asian Literature 491, plus Chinese Literature 261 or 262, Korean Literature 261 or 262 and Japanese 301-302 or 321-322.

Journalism. *Major requirements:* 20 semester hours in required journalism courses (205, 206, 255, 305, 306, 350) and 15 non-introductory semester hours in a discipline of choice.

Latin. *Major requirements:* 24 semester hours exclusive of 201-202. *Required courses:* Greek 101-102; Latin 301-302.

Mathematics. *Major requirements:* 18 semester hours in courses numbered above 300.

Microbiology. *Major requirements:* 24 semester hours. *Required courses:* 351 and three of the following: 431, 441, 451, 461-461L, 445, 463, 475, 480, 490. Additional work to consist of an integrated group of courses selected from appropriate offerings in biochemistry, biology, botany, chemistry, genetics, microbiology, and zoology. As related courses, Biol 220; Chem 351; Math 206; and Phys 151-152L, 163-164L or 170-272L.

Music. The degree may be obtained through a general program of music study or in one of three emphases—ethnomusicology, music literature, or music theory. *Major requirements:* 38 semester hours, including 181-182, 183-184, two semesters of second-level music theory and two semesters of music history. For specific course requirements in *ethnomusicology*, *music history* and *music theory*, see departmental bulletin. For *general major*, see departmental adviser. All students planning to major in music should consult with the chairman of the music department immediately upon entering the University of Hawaii.

Philosophy. 24 semester hours in addition to 210 and at least one of the following: 100, 200, 201. Undergraduates planning work in Asian and Comparative Philosophy should take introductory courses in Indian, Buddhist and Chinese Philosophy.

Physics. *Major requirements:* 32 semester hours including 170-170L, 272-272L, 274-274L, 310, 350, 430 or 450, 460, 480-481, 480L. The following in mathematics: 205-206, 231, 232, 402 or 403, and Chem 113-115L or 117-117L are also required. Upon recommendation of a physics department adviser, the requirements 170-272L may be satisfied by 151-152L or 163-164L.

Political Science. *Major requirements:* 27 semester hours. *Required courses:* 110 and 300-301. As part of the major, each

student is required to complete introductory one-year sequences in three subfields, numbered 300 and above, including 300-301. Political Thought. The remaining subfields are: International Relations; Policy Formation; Comparative Government and Politics; Public Administration; Judicial Process, Behavior, and Criminal Justice. The balance of the political science courses may be taken either within the same subfields or in others. "Topics" and other courses will be offered each semester; as their contents will vary from year to year, they may be taken more than once for credit. Students should consult the department for a complete listing of offerings.

Psychology. *Major requirements:* 24 semester hours. *Required courses:* The student must select at least one course from four of the following five groups. Group A: 110, 424, 426, 491. Group B: 215, 317, 318. Group C: 230, 320, 330, 401, 430. Group D: 112, 113, 216, 319. Group E: 321, 322, 428, 471. It is strongly recommended that students who are considering applying to graduate schools enroll in 112 and 113.

Religion. *Major requirements:* 24 semester hours plus Rel 300 for a total of 27 semester hours. Individual programs will be worked out with an assigned adviser, preferably before the beginning of the junior year.

Russian. *Major requirements:* 30 semester hours from courses numbered 209 and above.

Sociology. *Major requirements:* 25 semester hours. *Required course:* 200.

Spanish. *Major requirements:* 30 semester hours above the intermediate level. *Required courses:* 303-304, 330, 351-352, 441 or 444 or 450, plus six units of literature. Majors must also pass the MLA Proficiency Tests for Teachers and Advanced Students (on Listening, Speaking, Reading and Writing). Portuguese 360 or 361 may be counted towards the major requirement.

Speech. *Major requirements:* 30 semester hours. *Required courses:* 231, 251 or 253, 350, 385, 491. *Additional requirements:* 6 hours in a related field such as anthropology, communication, drama, linguistics, sociology, as approved by major adviser.

Zoology. *Major requirements:* Biol 220; or Zool 101 plus any one of the following: Bot 101, 130, 201, 480, or Micro 130. In addition at least 20 credits including Zool 490 and 3 laboratory courses from 3 of the following 5 areas. Acceptable courses listed in parentheses. Developmental (Zool 420); Physiology (Zool 430, 497 and 497L, Biol 250); Ecology and Behavior (Zool 306 & 306L, 439 & 439L, 470); Genetics (Genet 451 & 451L); Morphology & Taxonomy (Zool 310, 320, 340, 411, 412, 416, 460, 465; Ento 261, 361, 362).

Related required courses: One year of introductory chemistry (Chem 113-114L or 117-117L); one year of organic chemistry, or one semester of organic chemistry and one semester of biochemistry; Math 134.

The beginning student intending to major in zoology should consult a departmental adviser at his earliest convenience. The recommended procedure is either to take Biol 220, or take Zool 101 without prerequisites and fulfill chemistry and mathematics requirements later.

Students planning to continue their professional education beyond the B.A. degree should also include a course in genetics, botany, one year of physics, mathematics through calculus, and proficiency in a scientifically active language. In addition, a candidate for a higher degree in zoology at UH is required to pass a comprehensive examination covering the following areas: evolution & genetics, cell biology, organismic biology, ecology, and physiology.

Bachelor of Fine Arts Degree Programs

The basic requirements are identical with the University core curriculum. A foreign language is not required.

Majors (B.F.A. Degree)

Art. Basic preparation in ceramics, design, drawing and painting, printmaking, sculpture, textile design, and weaving. *Major requirements:* 66 semester hours: Art 101, 12 hours foundation studio, 18 hours history of art (including 270 and 280), and 33 hours non-introductory studio courses (including a minimum of 12 hours concentration in one program).

Architecture. Curriculum leads to degree in Environmental Design; requirements are adaptable for advanced studies and professional careers in general architectural practice, urban/regional design or interior design. Admission to program is limited. Selection of sophomores and juniors for required 200-level courses is based on cumulative grade point following completion of 30 or more credits of University core requirements, including all art, math and physics courses prerequisite to the major. Selection of students for 300-level courses is based on relative success in prior work in the major, e.g. in the 200-level courses, all of which are prerequisite to the 300-level. *Prerequisites:* Math 134, 150; Phys 151, 151L, 152, 152L. *Major requirements:* Arch 271, 273, 274, 275, 276, 311, 312, 321, 322, 323, 334, 373 plus 27 credits in approved courses including the following additional requirements:

- (for those intending to enter general architectural practice): 301, 302, 303, 313, 314, 315, 372.
- (for those intending to specialize in urban/regional design): 301, 302, 303, 341, 342, 372. Recommended electives are: CE 463, 464; Geog 375, 421; Plan 310. Prerequisite courses in the core requirements: Geog 101, 151.
- (for those intending to specialize in interior design): 361, 362, 363; Art 113, 114, 270 or 280; FDM 220, 221; HE 267. Prerequisite courses in the core requirements: Art 101, 270 or 280 (whichever is not credited to the major).

Bachelor of Music Degree Programs

Basic Requirements

Completion of college basic requirements in written communication, in quantitative or logical reasoning, and in world civilizations (see p. 17). For students concentrating in voice, French 101-102 and German 101-102 are required.

Distributive Requirements

- Humanities:** one course from the following.*
 - English 251, 252, 253, 254, 255, 256; Drama 160; literature courses offered by language departments in original language or translation.
 - Philosophy 100, 200; Religion 150, 151.
- Natural Sciences:** completion of the University curricular requirements in Natural Sciences.
- Social Sciences:** completion of the University curricular requirements in Social Sciences.

Music Concentrations

Consult department for requirements in programs of concentration. Programs include: Composition, Instrumental, Piano or Organ, Voice.

*Distributive requirements are supplemented by Music 180 and 265-266 required in the music concentration.

Bachelor of Science Degree Programs

Basic Requirements

Completion of college basic requirements in written communication, in quantitative or logical reasoning, and in world civilizations (see p. 17). Also required are Chemistry 114-114L or 117-117L; Mathematics 205-206; Physics 170 through 272L, or 151-152L.

Distributive Requirements

Humanities: A total of at least three semester courses, chosen from three of the four Humanities groups in the B.A. requirements (p. 18).

Social Sciences: Three semester courses, including at least one from each group:

- Am St 201, 202, 301, 302; Anthro 150, 200; Asian 312; Psy 100, 110, 112, 320, 321, 322, 430; Soc 100, 200, 312, 322, 332, 342, 352.
- Econ 120 or 150, 151; GE 203; IS 203; Geog 102, 151; Pol Sci 110.

Majors (B.S. Degree)

Biology. *Major requirements:* Biol 220 and 250 plus 28 hours in *approved* courses from each of the following fields: genetics, physiology, ecology, physical environment, biochemistry and applied or advanced mathematics. Students are required to complete a minimum of two laboratory courses at the 300 level or above. These courses are to be selected from at least two of these three areas: genetics/ecology; biochemistry/physiology; morphology/taxonomy. The language requirement is an intermediate year of German, French, Russian, Chinese or Japanese. (The culture and Cr-NC options are not acceptable.) *Related courses required:* Chem 243-244, Phys 151-152 or 170-272 or preferably 163-164 (including all related laboratories); and Math 205-206. Prospective majors are requested to contact the Biology Program office early in their studies in order to design a curriculum which satisfies the major requirements.

Chemistry. *Major requirements:* 37 semester hours in addition to 114-114L or 117-117L; including 133-133L, 243-243L, 244-244L, 333, 351, 352, 352L, 422, 444 and a minimum of 6 semester hours from the following: 399, 445, 601, 602, 603, 622, 623, 631, 632, 633, 641, 642, 651, 653, 655, 658; Honors 493-494; Biochem 441; and Bioph 601-602. As related courses, Math 231 and Phys 170-170L, 272-272L are required. A year of an intermediate foreign language—German 211-212, Russian 207-208 or French 201-202—is strongly recommended for those who plan to continue with graduate studies. Recommended electives: Math 232, 311, 402, 431, 432, Physics 274.

Geology and Geophysics. Undergraduate specialization may be in geodesy, geology, geophysics or hydrology, and shall be stipulated at the beginning of the third year. A suitable program of courses, selected with departmental approval can lead from these specializations to future professional work in geochemistry, geodesy, geology, geophysics, hydrology, or oceanography. *Major requirements:* 38 semester hours, including 101-102 or the equivalent, from among appropriate offerings in geology and geophysics and in departments of natural sciences, mathematics, and engineering. As related courses, Physics 274-274L are required, except for geology majors, who may substitute GG 360-361, or for geophysics majors, who may substitute 465-466.

Meteorology. *Major requirements:* 38 semester hours from among appropriate offerings in meteorology (courses 300 through 400), and in departments such as engineering, geography, geology and geophysics, information sciences, mathe-

matics, oceanography, physics and soil science. As related courses, Phys 170-170L and 272-274L are required.

Physics. *Major requirements:* 35 semester hours, including 170-170L, 272-272L, 274-274L, 310-311, 350, 430 or 450, 460, 480-481, 480L. The following in mathematics: 205-206, 231, 232, and 402, and Chemistry 113-115L, or 117-117L are also required. Upon recommendation of a physics department adviser, the requirements 170-272L may be satisfied by 151-152L or 163-164L. Requirements for courses above 310 may be modified in order to accommodate special emphasis, or interdisciplinary programs for which the major in physics is appropriate—by recommendation of a physics adviser and by approval of the department chairman.

Recommended First Year Program For All B.S. Candidates

It is recommended that entering students who have had high school courses in mathematics through precalculus, take the following courses during their freshman year:

Chem 113-114L or 117-117L; Math 205 and perhaps Phys 151-152L or 170-170L.

If students do not have a high school course equivalent to Math 134 (precalculus), they may take this course at the University during a prior summer session. Otherwise, Math 134 must be taken in an alternative first year schedule. They should obtain the recommendations for such a program from the appropriate departmental adviser before registering.

Preprofessional Programs

Students who wish to prepare themselves for admission to professional and graduate schools should make their plans following recommendations of the appropriate national professional organization. In addition, they should elect courses fulfilling specific requirements of the schools which they hope to enter.

The college maintains a Premedical Sciences Committee to give students specific aid preparing for schools of dentistry, medicine, veterinary medicine, pharmacy, or public health.

Information on scholastic requirements of other professions is available at the office of student services of the college, at the Counseling and Testing Center, and at the Career Planning office.

Premedical Curriculum

The following is based upon the general admission requirements of medical schools. The majority of schools, however, require the entering student to have a bachelor's degree, as well.

Biology: Biology 220 and 250 (general), 320 (vertebrate), and 420 (embryology).

Chemistry: Chemistry 114-114L or 117-117L (general), 243, 244, 243L, and 244L (organic), 133 and 133L (quantitative).

Physics: Physics 151 through 152L (general).

Mathematics: Mathematics 205 and 206 (calculus).

Desirable electives: physical chemistry, statistics and genetics.

It is recommended that premedical students obtain the book entitled *Admission Requirements of American Medical Colleges* (\$4.00; address: AAMC, Dept. 3B, 2530 Ridge Ave., Evanston, Illinois 60201) for detailed information on individual medical schools and their admission policies.

Requirements of dental schools are similar to those of medical schools, with the exception that more do not require a bachelor's degree. For details see *Admission Requirements of American Dental Schools* (\$2.00; address: AADS, 211 East Chicago Avenue, Chicago, Illinois 60611).

Schools of pharmacy usually require for admission one year of college study. This must include courses in English, chemistry, zoology, botany, trigonometry, and algebra.

Catalogs of individual schools of medicine, dentistry, veterinary medicine, and pharmacy with more specific admission requirements and information may be found in Sinclair Library. Interviews with the premedical adviser throughout the program are recommended.

Students interested in preveterinary medicine should see "College of Tropical Agriculture."

ARTS AND SCIENCES COURSES

American Studies (AmSt)

Department Office: Moore Hall 324

Professors: Stuart G. Brown, Reuel Denney, Seymour Lutzky, Floyd Matson, James McCutcheon.

Associate Professors: David Bertelson, Jay Gurian, Dennis Ogawa.

Assistant Professors: Mark Helbling, Paul Hooper.

Instructors: Ruben Alcantara, Daniel Boylan, Anne Kauka, Peter Senecal.

201-202 is prerequisite to all 400-level courses except as noted.

201-202 Introduction to American Civilization (3-3)

211-212 (301-302) Contemporary American Issues (3-3)

310 The Japanese-American Experience (3)

381-382 Junior Seminar (3-3) Pre: consent.

419 American Environment: Topics (3)

420 American Subcultures: Survey (3)

421 American Subcultures: American Indians (3)

422 American Subcultures: Black Americans (3) Pre: U.S. hist.

423 American Subcultures: Japanese-Americans (3) Pre: 310 or consent.

424 American Subcultures: Filipino-Americans (3)

429 American Subcultures: Topics (3)

430 American Institutions: Survey (3)

431 American Institutions: Leaders and Movements (3)

432 American Institutions: Radical Tradition (3)

433 American Institutions: Presidential Leadership (3)

439 American Institutions: Topics (3)

441 American Thought & Beliefs: Regionalism (3)

442 American Thought & Beliefs: Values (3)

449 American Thought & Beliefs: Topics (3)

450 Culture & Arts in America: Survey (3)

451 Culture & Arts in America: Popular Culture (3)

452 Culture & Arts in America: Writers and Their Times (3)

453 Culture & Arts in America: American English (3)

Pre: 2 sem soph lit. (Cross-listed as Eng 403)

454 Culture & Arts in America: Music in Modern America (3)

Pre: soph. (Cross-listed as Mus 370)

455 Culture & Arts in America: Themes in American Literature (3)

459 Culture & Arts in America: Topics (3)

460 America & the World: Comparative Cultures (3)

461 America & the World: Comparative Arts (3)

462 America & the World: Foreign Policy and American Character (3)

463 America & the World: As Others See Us (3)

469 America & the World: Topics (3)

481-482 Senior Seminar (3-3) Pre: consent.

499 Readings in American Studies (v)

610 American Environment: Seminar Topics (3)

620 American Subcultures: Seminar Topics (3)

- 630 American Institutions: Seminar Topics (3)
- 640 American Thought & Beliefs: Seminar Topics (3)
- 650 Culture & the Arts in America: Seminar Topics (3)
- 660 America in the Modern World: Seminar Topics (3)
- 701-702 Proseminar—M.A. (3-3)
- 710 American Environment: Readings (3) Pre: consent.
- 720 American Subcultures: Readings (3) Pre: consent.
- 730 American Institutions: Readings (3) Pre: consent.
- 740 American Thought & Beliefs (3) Pre: consent.
- 750 Culture and the Arts in America: Readings (3) Pre: consent.
- 760 America in the World: Readings (3) Pre: consent.
- 799 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

Anthropology (Anth)

Department Office: Crawford Hall 206

Professors: Alice G. Dewey, S. Alan Howard, William P. Lebra, Richard W. Lieban, Thomas W. Maretzki, Douglas L. Oliver, Wilhelm G. Solheim.
Associate Professors: Stephen T. Boggs, Ben R. Finney, P. Bion Griffin, Richard A. Gould, Takie Lebra, Michael Pietruszewsky.
Assistant Professors: Jacob M. Bilmes, C. Fred Blake, Joel M. Hanna, H. David Tuggle.

Most 300 and 400 level courses have as a prerequisite one of the 200 level courses. If passed with a grade of A or B, 150 may be substituted for any of these 200 level prerequisites. Otherwise, written consent of the instructor will be required. 300 and 400 level courses may be taken for graduate credit with prior approval of the student's adviser.

- 150 Introduction to Anthropology (3)
- 200 Cultural Anthropology (3)
- 210 Archaeology (3)
- 215 Physical Anthropology (3)
- 300 Study of Contemporary Problems (3)
- 305 History of Anthropology (3) Pre: 200.
- 306 Foundations of Anthropological Method (3) Pre: 200.
- 310 Human Evolution (3) Pre: 215.
- 320 Archaeological Theory & Interpretation (3) Pre: 210.
- 330 Social Organization (3) Pre: 200.
- 350 Oceania (3) Pre: 200.
- 355-356 Asia (3-3) Pre: 200.
- 370 Ethnographic Field Techniques (3) Pre: 200.
- 380 Archaeological Field Techniques (3) Pre: 210.
- 381 Archaeological Laboratory Techniques (3) Pre: 210.
- 384 Human Osteology (3) Pre: 215 & consent.
- 385 Undergraduate Proseminar (3) Pre: consent.
- 399 Directed Reading or Research (v) Pre: consent.
- 400 Anthropological Statistics (3) Pre: 200, 210, or 215.
- 414 Introduction to Linguistics Anthropology (3) Pre: consent. (Cross-listed as Ling 414)
- 415 Ecological Anthropology (3) Pre: 200.
- 416 Economic Anthropology (3) Pre: 200.
- 417 Political Anthropology (3) Pre: 200.
- 418 Culture & the Individual (3) Pre: 200.
- 419 Oral Art (3) Pre: 200.
- 422 Comparative Religion (3) Pre: 200. (Cross-listed as Rel 422)
- 423 Social & Cultural Change (3) Pre: 200.
- 425 Medical Anthropology (3)
- 445 Regional Ethnology (3)
- 460 Regional Archaeology (3) Pre: 210.
- 480 Anthropological Applications (3) (Cross-listed as EdEF 480)
- 481 Applied Anthropology (3) Pre: 200.
- 483-484 Japanese Culture & Behavior (3-3)
- 485-486 Peoples of Hawaii (3-3) Pre: 200, 485 pre for 484.
- 488-489 Chinese Culture & Society (3-3)
- 620 Theory in Social & Cultural Anth (3) Pre: consent.
- 630 Theory in Physical Anthropology (3) Pre: consent.
- 632 Field Study of Population (3) Pre: consent. (Cross-listed as Geog 632)

- 635 Culture History (3) Pre: consent.
- 640 Method & Theory in Archaeology (3) Pre: consent.
- 699 Directed Reading or Research (v) Pre: consent.
- 710 Seminar in Research Methods (3) Pre: consent.
- 712 Data Processing in Archaeology (3) Pre: consent.
- 750 Research Seminar (3) Pre: consent.
- 800 Thesis Research (v)

Architecture (Arch)

Department Office: George Hall Annex B-2

Professors: A. Bruce Etherington, T. David Terazaki.
Associate Professors: J. Hugh Burgess, Luciano Minerbi, Jack Sidener.

Assistant Professor: Rolf Preuss.

Instructors: Joan Brooking, Leighton Liu.

Lecturers: Dolores Devries, Barron Eldridge, Francis Haines, Ronald Lee, Mark Masuoka, James Pearson, Samuel Sweitzer, David Woolsey, Andrew Yanoviak.

Colleagues: Thomas Creighton, Alfred Yee.

The department of architecture may retain any student work for departmental use.

- 271 World of Environmental Design (3)
- 273 Design Processes (3)
- 274 Communication & Presentation (3)
- 275 Basic Design (3)
- 276 Basic Environmental Design Studio/Seminar (3) Pre: credit or concurrent 271, 273, 274, 275.
- 301 Architectural Structures "A" (4) Pre: 276, Math 150, Phys 151-152.
- 302 Architectural Structures "B" (4) Pre: 301.
- 303 Architectural Structures "C" (4) Pre: 302.
- 311 Building Materials and Codes (3) Pre: 276, Math 150, Phys 152.
- 312 Basic Drafting (3) Pre: 311.
- 313 Construction Management & Technology (3) Pre: 312.
- 314 Construction Practicum (1) Pre: credit or concurrent 311.
- 315 Surveying Practicum (1) Pre: credit or concurrent 312.
- 321 Environmental Controls "A" (3) Pre: 276, Math 150, Phys 152.
- 322 Environmental Controls "B" (3) Pre: 321.
- 323 Environmental Controls "C" (3) Pre: 322.
- 334 History & Theory of Western Architecture (3) Pre: 276.
- 335 History & Theory of Asian Architecture (3)
- 341 History & Theory of Urban Planning and Design (3)
- 342 Methods of Urban and Regional Design (3) Pre: 341.
- 351 Landscape Architecture "A" (3) Pre: 276.
- 352 Landscape Architecture "B" (3) Pre: 351.
- 353 Landscape Architecture "C" (3) Pre: 352.
- 361 Interior Design "A" (3) Pre: 276.
- 362 Interior Design "B" (3) Pre: 361.
- 363 Interior Design "C" (3) Pre: 362.
- 372 Environmental Analysis and Planning (3)
- 373 Internship (6) Pre: Sr. status & consent.
- 374 Introductory Computer Applications (3)
- 375 Design with Nature (3)
- 399 Directed Work (2-4 v)
- 401 Architectural Structures "D" (4) Pre: 303.
- 411 Working Drawings & Specifications (3) Pre: 313, 314, 315.
- 441 Strategy in Urban and Regional Design (4)
- 472 Environmental Design Studio/Seminar "A" (6) Pre: 372, 373.
- 476 Architectural Archetypes (3)
- 477 Research Seminar (v)
- 601 Architectural Structures "E" (4) Pre: consent.
- 616 Professional Practice (3)
- 671 Advanced Environmental Psychology (3) Pre: 471. (Cross-listed as Psy 671)
- 672 Environmental Design Studio/Seminar "B" (6) Pre: 472.
- 680 Housing in Tropical & Developing Countries (3) Pre: consent.
- 681 Problems in Developing Countries (3) Pre: consent.
- 685-686 Development Planning (3-3) Pre: consent. (Cross-listed as Plan 645/646)
- 699 Directed Work (v) Pre: consent.
- 800 Thesis Research (v)

Art (Art)

Department Office: George Hall 131

Professor Emeritus: J. Halley Cox.

Professors: Webster Anderson, Lee Chesney, Jon Carter Covell.

Betty Tseng Yu-Ho Ecke, Claude Horan, Sueko M. Kimura.

Kenneth Kingrey, Ronald Kowalke, Prithwish Neogy, Ben Norris.

Hester A. Robinson, Edward A. Stasack, Murray Turnbull.

Associate Professors: Kenneth Bushnell, Harue McVay, Duane

Preble, John Wisnosky.

Assistant Professors: Wayne Creekmore, Russell Davidson, Jeffrey

Dunn, Marion Everson, Helen Gilbert, Fred Roster, Mamoru Sato.

Norman Shapiro, Deborah Waite, Suzanne Wolfe.

Instructor: Frank Beaver.

Except as noted, completion of courses 113, 114, 115, 116 and 101 is prerequisite to all studio courses numbered 200 and above. Art 101 should be taken concurrently with foundation studio courses in paired sequence (113 and 114; 115 and 116). Art 101 is prerequisite to all history of art courses. Waivers of prerequisites may be granted for equivalent experience. The department may retain selected student works with consent of the student.

- 101 Introduction to Visual Arts (3) Cr/NC only.
- 105 Elementary Studio—Ceramics (3) Nonmajors.
- 106 Elementary Studio—Sculpture (3) Nonmajors.
- 107 Elementary Studio—Photography (3) Nonmajors.
- 108 Elementary Studio—Drawing & Painting (3) Nonmajors.
- 113 Foundation Studio (3) Pre: 101. Rec: concurrent 114.
- 114 Foundation Studio (3) Pre: 101. Rec: concurrent 113.
- 115 Foundation Studio (3) Pre: 101. Rec: concurrent 116.
- 116 Foundation Studio (3) Pre: 101. Rec: concurrent 115.
- 399 Directed Work (v) Pre: consent.
- 400 Special Projects in Art (v) Pre: consent.
- 699 Directed Work (v) Pre: consent.
- 800 Thesis Research (v)

HISTORY OF ART

- 270 Aspects of European & American Art (3) Pre: 101.
- 280 Aspects of Asian Art (3) Pre: 101.
- 370 Ancient Art (3) Pre: 270.
- 371 Medieval Art (3) Pre: 270.
- 373 Classical Art (3) Pre: 270.
- 375 Art of Tribal Africa (3)
- 376 Art of the 19th Century (3) Pre: 270.
- 384 Art of Japan & Korea (3) Pre: 280.
- 385 Early Chinese Sculpture (3) Pre: 280.
- 391 Art of South Asia (3) Pre: 280.
- 470 Renaissance Art (3) Pre: 270.
- 471 Baroque & Rococo Art (3) Pre: 270.
- 472 American Art (3) Pre: 270.
- 473 (474) Art of the First Half of 20th C. (3) Pre: 270.
- 474 (473) Art Since the Middle of 20th C. (3) Pre: 270.
- 475 Art of the Pacific (3)
- 476 Primitive Art
- 478 Art of Melanesia (3) Pre: consent.
- 479 (675) Art of Hawaii (3) Pre: jr. status.
- 483 Applied Arts of Japan (3) Pre: 280.
- 485 Applied Arts of China (3) Pre: 280.
- 492 Comparative Aspects of Art (3) Pre: 270, 280, or consent.
- 495 Art of Southeast Asia (3) Pre: 280.
- 496 Art & Architectural Field Studies (v)
- 677 Tribal Art of Indonesia & South Asia (3) Pre: consent.
- 685 Early Chinese Painting (3) Pre: 385 or consent.
- 686 Later Chinese Painting (3) Pre: 385 or consent.
- 780 Japanese Sculpture (3) Pre: consent.
- 781 Japanese Painting (3) Pre: consent.
- 791 Buddhist Art of South Asia (3) Pre: consent.
- 792 Hindu Art of South Asia (3) Pre: consent.

CERAMICS

- 243 Beginning Ceramics (3)
- 244 Intermediate Ceramics (3) Pre: 243.
- 341 Advanced Ceramics (3) Pre: 6 cr. 244.
- 342 Technical Ceramics (3) Pre: 244.
- 343 Advanced Technical Ceramics (3) Pre: 342.
- 401 Glass Blowing (3) Pre: 341 or 353 or consent.
- 402 Glass Blowing (3) Pre: 6 cr. 401.

- 646 Ceramics (3) Pre: consent.
- 647 Ceramics (3) Pre: consent.
- 648 Ceramics Glazes & Clay Bodies (3) Pre: consent.
- 649 Ceramics (3) Pre: consent.

DESIGN

- 207 Photography Studio I (3) Student provides camera with adjustable speed & aperture settings.
- 209 The Image in Motion (3)
- 265-266 Design Studios I, II (3-3)
- 307 (208) Photography Studio II (3) Pre: 207.
- 309 Cinematography (3) Pre: 209.
- 361-362 Design Studios III & IV (3-3) Pre: 207 & 266.
- 407 Photography Studio III (3) Pre: 307.
- 463-464 Design Studio V & VI (3-3) Pre: 362; 209, or consent.
- 665 Graduate Design Studio VII (v to 6) Pre: consent.
- 773 Graduate Design Studio VIII (v to 6) Pre: consent.

DRAWING/PAINTING

- 213-214 Life Drawing (3-3) Pre: 213 for 214.
- 223 Painting (3) Pre: consent to repeat.
- 224 Painting (3) Pre: consent to repeat.
- 225 Painting (3) Pre: consent to repeat.
- 313 Advanced Drawing (3) Pre: 213 & 214.
- 320 Brush Art of the Far East (3) Pre: consent.
- 323 Advanced Painting (3) Pre: 223, 224, 225, 213, 214 & recommendation.
- 420 Materials & Techniques of Painting (3) Pre: 223, 224, 225, or consent.
- 624 Painting (v to 6) Pre: consent.

PRINTMAKING

- 215 Printmaking—Intaglio (3)
- 216 Printmaking—Lithography (3)
- 315 Advanced Printmaking—Intaglio (3) Pre: 215.
- 316 Advanced Printmaking—Lithography (3) Pre: 216.
- 616 Lithography (v to 6) Pre: consent.
- 617 Intaglio (v to 6) Pre: consent.

SCULPTURE

- 253 Sculpture (3)
- 254 Intermediate Sculpture A (3) Pre: 253.
- 255 Intermediate Sculpture B (3) Pre: 253.
- 353 Advanced Sculpture (3) Pre: 254, 255.
- 653 Graduate Sculpture (v to 6) Pre: consent.

TEXTILE DESIGN

- 230 Textile Design (3)
- 330 Intermediate Textile Design (3) Pre: 230.
- 331-332 Advanced Textile Design (3-3) Pre: 330.
- 630 Textile Design (v to 6) Pre: consent.

WEAVING

- 238 Weaving (3)
- 239 Weaving (3) Pre: 238.
- 338-339 Advanced Weaving (3-3) Pre: 239.
- 638 Weaving (v to 6) Pre: consent.

Asian Studies (Asian)

Department Office: Moore Hall 315

Faculty from the departments of: anthropology, art, drama and theatre, East-Asian languages, East-Asian literature, economics, geography, history, Indo-Pacific languages, linguistics, music, philosophy, political science, religion, sociology.

- 241-242 Civilizations of Asia (3-3) (Cross-listed as Hist 241-242)
- 310 Asian Humanities (3) Pre: 241-242.
- 312 Contemporary Asian Civilizations: Problems and Topics (3) Pre: 241-242.
- 499 Directed Reading (v) Pre: consent.
- 601 Contemporary Chinese Studies Seminar (3) Pre: Hist 409-410. (Cross-listed as Hist 725-726)
- 603 Contemporary Japanese Studies Seminar (3) Pre: Hist 413-414.
- 605 Contemporary Korean Studies Seminar (3) Pre: Hist 418.
- 750 Seminar in Asian Studies (3)
- 799 Directed Research (v) Pre: consent.

Biological Sciences

Biology (Biol)

Program Office: Snyder Hall 113

A program offered by the departments of botany, microbiology and zoology.

- 220 General Biology (5) Pre: Chem 243, 245 & Math 205.
- 250 Cellular Biology (4) Pre: 220 or consent, Chem 244, 246.
- 310 Symbiosis (2) Pre: 250.
- 313 Patho-biology of Air Pollution (4) Pre: 220 and 250 or consent.
- 401 Molecular Basis of Cell Function (2) Pre: 250, Chem 243-246 or consent.
- 421 Developmental Biology (3) Pre: 220, 250, or Zool 421, Micro 421. (Cross-listed as Bot 421)
- 440 Environmental and Space Biology I (2) Pre: 220 & 250, Chem 243-246, and consent.
- 499 Biological Problems (v) Pre: senior status.

Botany (Bot)

Department Office: St. John Lab 101

Professors: Bruce J. Cooil, Maxwell S. Doty, Douglas J.C. Friend, Noel P. Kefford, Charles H. Lamoureux, Dieter Mueller-Dombois, Gerald A. Prowse, Sanford M. Siegel.

Associate Professors: Edison W. Putman, Clifford W. Smith, William L. Theobald.

Instructor: Ruth A. Gay.

- 101 General Botany (4)
- 105 Ethnobotany (3)
- 130 Plants in the Hawaiian Environment (4)
- 160 Identification of Tropical Plants (2)
- 201 The Plant Kingdom (4) Pre: 101 or Biol 220.
- 399 Botanical Problems (v) Limited enrollment.
- 410 Plant Anatomy (3) Pre: 201.
- 412 Microtechnique (3) Pre: 410 or consent.
- 421 Developmental Biology (3) (Cross-listed as Biol 421, Micro 421, Zool 421)
- 430 Mycology (3) Pre: 201 or Biol 220 or consent.
- 436 Medical Mycology (3) Pre: 430 or Micro 351, or consent.
- 450 Natural History of Hawaiian Islands (3) Pre: one sem. college biological sci. (Cross-listed as Zool 450)
- 453 Plant Ecology (4) Pre: 201 or Biol 220.
- 454 Vegetation Ecology (4) Pre: 201 or Biol 220.
- 461 Systematics of Vascular Plants (4) Pre: 101 or Biol 220 or consent.
- 470 Principles of Plant Physiology (4) Pre: 201 or Biol 220, Chem 114, 116, Phys 151, with consent.
- 480 Phycology (3) Pre: 101 or Biol 220 or Zool 101 or Micro 351.
- 610 Botanical Seminar (1)
- 612 Advanced Botanical Problems (v) Pre: consent.
- 615 Morphology Seminar (2) Pre: consent.
- 618 Cytology (3) Pre: Biol 250 or consent.
- 619 Seminar in Biology Teaching (1) Pre: PhD candidates in biological sciences.
- 631 Marine Phytoplankton (3) Pre: grad or consent.
- 637 Physiology of Fungi (4) Pre: 430 or Micro 431 or AgBio 402-403 or consent. (Cross-listed as PPath 637)
- 640 Environmental & Space Biology II (v) Pre: grad & consent.
- 650 Ecology Seminar (1) Pre: grad or consent.
- 651 Marine Agronomics (3) Pre: grad or consent.
- 662 Advanced Taxonomy (4) Pre: consent.
- 665 Nomenclature Seminar (2) Pre: 461.
- 670 Plant Nutrition & Water Relations (3) Pre: 470, Chem 244, Phys 152.
- 671 Energetics & Biosynthesis in the Plant Kingdom (3) Pre: Chem 244, Biol 250.
- 672 Techniques in Physiology (2) Pre: 470, Chem 244, Phys 151, consent.
- 673 Techniques in Physiology-Biochemistry (2) Pre: 672, consent.
- 675 Physiology Seminar (1) Pre: consent.
- 681 Phycology—Chlorophyta (2) Pre: consent.

- 682 Phycology—Phytoplankton (2) Pre: consent.
- 683 Phycology—Myxophyta & Phaeophyta (2) Pre: consent. (Not offered 74-75)
- 684 Phycology—Rhodophyta (2) Pre: consent. (Not offered 74-75)
- 699 Directed Research (v) Pre: MS candidate, consent.
- 799 Directed Research (v) Pre: PhD candidate, consent.
- 800 Thesis Research (v)

Microbiology (Micro)

Department Office: Snyder Hall 207

Professors: Albert A. Benedict, Leslie R. Berger, David E. Contois, Clair E. Folsome, Kaare R. Gundersen, John B. Hall, Mendel Herzberg, Philip C. Loh.

Associate Professors: Richard D. Allen, Barbara A. Siegel.

Assistant Professor: Bruce G. Adams.

Affiliate Graduate Faculty: Benjamin L. Gordon.

- 130 General Microbiology (3)
- 130L(140) Microbiology Laboratory (1) Pre: 130 or concurrent, Chem 113-114L.
- 197 The Origins of Life (3)
- 351 Prokaryotic Biology (4) Pre: Biol 220, Chem 241-242 or 244; or consent.
- 397 Microbial Physiology (3) Pre: Biol 250, 1 sem. biochem.
- 421 Developmental Biology (3) Pre: Biol 250 & 1 yr. org. chem.
- 431 Microbial Biochemistry and Function (4) Pre: 351; Math 206; gen. biochem; consent.
- 445 Protozoology (4) Pre: 351 or Biol 250; Chem 243-244.
- 451 Biology of Bacteria (4) Pre: 351, 431.
- 461 Immunology (3) Pre: 351. Math 205 or consent.
- 461L(462) Immunology Laboratory (1) Pre: Math 205; concurrent Micro 461 or consent.
- 463 Microbiology of the Pathogens (4) Pre: 351, 461, 461L, or consent.
- 475 Microbial Genetics (4) Pre: 351, consent; Math 206.
- 480 Microbial Ecology (4) Pre: 351 or consent.
- 490 Virology (4) Pre: 351, 461; Bioch 441; or consent.
- 499 Microbiological Problems (v) Limited.
- 632 Advanced Microbial Physiology (3) Pre: 431 or consent.
- 655 Virology (3) Pre: 463, 490; Bioch 441 or 601; & consent.
- 665 Electron Microscopy (2) Pre: 441 & consent.
- 675 Exobiology (3) Pre: Chem 351, Biol 440.
- 690 Seminar (1) Required of grad students.
- 699 Directed Research (v) Pre: consent.
- 795 Special Topics in Microbiology (v)
- 800 Thesis Research (v)

Zoology (Zool)

Department Office: Edmondson Hall 152

Senior Professor: Albert L. Tester.

Professors: Albert H. Banner, John E. Bardach, Andrew J. Berger, Ian M. Cooke, Fred I. Kamemoto, S. Arthur Reed, Ernst S. Reese, Sidney J. Townsley, Pieter B. van Weel.

Associate Professors: John A. Maciolek, Arthur N. Popper, E. Donald Stevens.

Assistant Professors: Julie H. Brock, Michael G. Hadfield, Samuel R. Haley, Robert A. Kinzie III, George S. Losey, John S. Stimson.

- 101 Principles of Zoology (4)
- 230 Survey of Ecology (2) (no credit for zool. majors)
- 306 Ethology (2)
- 306L(307) Ethology Lab (1) Pre: 306 concurrent.
- 310 Invertebrate Zoology (3) Pre: 101 or Biol 220.
- 320 Vertebrate Zoology (4) Pre: 101 or Biol 220.
- 340 Parasitology (3)
- 411 Zoology of the Lower Invertebrates (4) Pre: Biol 220 or Zool 101 or Chem 113-114L.
- 412 Zoology of the Higher Invertebrates (4) Pre: Biol 220 or Zool 101 & Chem 113-114L.
- 416 Histology (3) Pre: 320 or 420.
- 417 Microtechnique (3)
- 420 Embryology (4) Pre: 101 or Biol 220.

- 421 Developmental Biology (3) Pre: 1 yr. organic chem & Biol 250. (Cross-listed as Biol 421 & Micro 421)
- 430 Animal Physiology (4)
- 435 Endocrinology (2) Pre: 1 sem. biological science.
- 439 Animal Ecology (3) Pre: 101 or Biol 220 & Math 205.
- 439L(440) Lab in Animal Ecology (2) Pre: 439 or concurrent.
- 441 History of Zoology (2) Pre: 101, Biol 220, or consent.
- 450 Natural History of Hawaiian Islands (3) Pre: 1 sem. college biological sci. (Cross-listed as Bot 450)
- 460 Avian Biology (3) Pre: 101 or Biol 220.
- 465 General Ichthyology (3) Pre: 101 or Biol 220.
- 480 Animal Evolution (4) Rec: Genet 451.
- 485 Biogeography (3) Pre: 101 & Bot 101 or 201 or Biol 220.
- 490 General Zoology Seminar (1)
- 497 General & Comparative Physiology (3) Pre: 1 course biological sci. 5 cr. chem, Math 205.
- 497L(498) Comparative Physiology Lab (2) Pre: 497 or concurrent.
- 499 Directed Reading or Research (v) Limited.
- 604 Comparative Endocrinology (3) Pre: 435 or consent.
- 604L(605) Comparative Endocrinology Lab (1) Pre: 604 concurrent.
- 606 Principles of Animal Behavior (2) Pre: grad status.
- 606L(607) Principles of Animal Behavior Lab (1) Pre: 606 conc.
- 608 Growth and Form (4)
- 609 Biology of Symbiosis (3) Pre: zool major or grad.
- 610 Topics in Developmental Biology (v)
- 619 Seminar in Teaching (1) (Cross-listed as Bot 619)
- 620 Marine Ecology (3) Pre: zool major, consent, or grad in zool. ocean or botany.
- 622 Isotopic Tracers in Biology (3)
- 631 Biometry (3) Pre: Math 134.
- 632 Advanced Biometry (3) Pre: 631.
- 642 Cellular Neurophysiology (3) Pre: 1 upper division biol. sci.; 5 cr. chem; Math 205; & consent.
- 666 Advanced Ichthyology (3) Pre: 465.
- 691 Seminar in Zoology (1)
- 699 Directed Research (v)
- 702 Preparation of Scientific Manuscripts (1) Req. for PhD.
- 714 Topics in Animal Behavior (v) Pre: consent.
- 715 Topics in Invertebrate Zoology (3)
- 716 Topics in Fish & Fisheries Biology (3)
- 718 Topics in Animal Physiology (3)
- 800 Thesis Research (v)

Chemistry (Chem)

Department Office: Bilger Hall 118

Professors: George Andermann, Judson Ihrig, Richard Inskeep, Edgar Kiefer, Harold Larson, Robert Liu, John Naughton, Robert Pecsok, Paul Scheuer, John Waugh, Harry Zeitlin.

Associate Professors: Roger Cramer, John Gilje, Arthur Hubbard, J. Adin Mann, Ray McDonald, Richard Moore, Larry Schaleger, Karl Seff.

Assistant Professors: Thomas Bopp, Charles Fadley, David Muenow.

- 100 Chemistry and Man (3)
- 100L(101) Chemistry and Man Laboratory (1) Pre: 100.
- 113-114 General Chemistry (3-3) Pre: high school algebra & plane geometry.
- 113L(115) General Chemistry Laboratory (1) Pre: 113.
- 114L(116) General Chemistry Laboratory (1) Pre: 113L, 114.
- 117 Principles of Chemistry (4) Pre: high school chem, 117L, and Math 205.
- 117L(118) Principles of Chemistry Laboratory (1) Pre: 117.
- 133 Elementary Quantitative Analysis (2) Pre: 114-114L or 117-117L.
- 133L(134) Elementary Quantitative Analysis Lab (2) Pre: 133.
- 241 Survey of Organic Chemistry (3) Pre: 114-114L or 117-117L.
- 241L(242) Survey of Organic Chemistry Lab (1) Pre: 114L or 117L, 241.
- 243-244 Organic Chemistry (3-3) Pre: 114-114L or 117-117L.
- 243L(245) Organic Chemistry Laboratory (1) Pre: 243.

- 244L(246) Organic Chemistry Laboratory (1) Pre: 243L, 244.
- 333 Intermediate Quantitative Analysis (4) Pre: 133L, 351.
- 351-352 Physical Chemistry (3-3) Pre: 114-114L or 117-117L, Math 206, Phys 272-273.
- 352L(353) Physico-Chemical Measurements (2) Pre: 333, GE 251 or 253, Chem 352.
- 399 Directed Reading or Research (v) (Limited enrollment)
- 422 Intermediate Inorganic Chemistry (3) Pre: 352.
- 444 Qualitative Organic Analysis (4) Pre: 133L, 244L, 351.
- 445 Intermediate Organic Chemistry (3) Pre: 244.
- 601 Theory of Chemical Bonding (3) Pre: 352.
- 602 Chemical Applications of Spectroscopy (3) Pre: 601.
- 603 Structure and Reaction Mechanisms (3) Pre: 244, 422.
- 622 Advanced Inorganic Chemistry I (3) Pre: 352, 422.
- 623 Advanced Inorganic Chemistry II (3) Pre: 352, 422.
- 631 Theory of Analytical Instrumentation (3) Pre: 333.
- 632 Electroanalytical Chemistry (3) Pre: 333.
- 633 Molecular Spectroscopy (3) Pre: 601.
- 641 Organic Structure Determination (3) Pre: 444 or consent.
- 642 Organic Synthesis (3) Pre: 445 or consent.
- 651 Intermediate Physical Chemistry I (3) Pre: 352.
- 653 Introductory Quantum Chemistry (3) Pre: 352.
- 655 Radiochemistry and Nuclear Reactions (3) Pre: 352 or consent.
- 656 Radiochemical Techniques (1) Pre: 655.
- 658 Crystallography (3) Pre: Math 232 or equivalent.
- 691-692 Seminar (1-1)
- 721 Special Topics in Inorganic Chemistry (v) Pre: consent.
- 731 Special Topics in Analytical Chemistry (v) Pre: consent.
- 741 Special Topics in Organic Chemistry (v) Pre: consent.
- 751 Special Topics of Physical Chemistry (v) Pre: consent.
- 753 Quantum Chemistry (3) Pre: 653.
- 756 Statistical Mechanics (3) Pre: 651, 653.
- 761 Special Topics in Environmental Chemistry (v) Pre: consent.
- 799 Directed Research (v) Pre: consent.
- 800 Directed Research (v) Pre: consent.

Communication (Comun)

Program Office: George Hall 313

Professors: John W. Bystrom, Gerald Dykstra, Huber W. Ellingsworth, Paul J. Heinberg, Richard L. Rider.

Associate Professors: Burton H. Byers, L. Stanley Harms, Sarah E. Sanderson, Terry A. Welden.

Assistant Professors: Elizabeth N. Kunitomo, Florangel Z. Rosario.

Instructors: Emily W. Reese, Roger T. Virta.

- 145 Interpersonal Communication (3)
- 200 Introduction to Theories of Communication (3)
- 201 Message Development (3) Pre: 200.
- 221 Communication Contexts for Creative Learning (3) Rec: 200.
- 261 Broadcasting (3)
- 263 Broadcast Lab (3)
- 304 Communication Characteristics of the Source (3) Pre: 145 or 200.
- 305 Language & Meaning in Communication (3) Pre: 200.
- 365 Writing of Broadcast Messages (3) Pre: 263.
- 366 Methods in Broadcast News (3)
- 367 Management of Broadcast Stations (3)
- 384 Communication Among Cultural Groups (3) Pre: 200, 201 (majors); soc. sci. background (nonmajors).
- 390 Organizational & Administrative Communication (3) Pre: 200.
- 399 Broadcasting Workshop (3) Pre: 263.
- 406 Evaluation of Communication (3)
- 407(397) Futures of Human Communications (3)
- 454 Communication Strategies in Social Action & Development (3) Pre: 390.
- 467 Broadcasting & Government (3) Pre: 261.
- 468 Broadcasting & the Public (3)
- 469 World Broadcasting (3) Pre: 261 plus 6 hrs. adv. social science courses.
- 471 Broadcast Programming (3) Pre: 201 or 261.
- 499 Special Problems (v) Pre: consent.

Drama and Theatre (Drama)

Department Office: Kennedy Theatre 115

Professors: James R. Brandon, Bernard F. Dukore, Edward A. Langhans, Joel Trapido.

Associate Professors: Glenn Cannon, Terence R. Knapp, Richard G. Mason, Carl Wolz.

Assistant Professors: W. Dennis Carroll, Sandra K. Finney, Tamara R. Hunt, Yasuki Sasa.

Instructors: Mark A. Boyd, Elizabeth L. Cole.

- 160 Introduction to Drama & Theatre (3)
- 180 Introduction to Dance (3)
- 201 Introduction to Art of the Film (3)
- 202 Plays into Films (3)
- 221-222 Beginning Acting (3-3) Pre: 221 for 222.
- 225 Voice & Speech for the Actor (1) Pre: consent.
- 240 Basic Stagecraft & Stage Lighting (3)
- 260 Dramatic Production (3)
- 264 Introduction to Asian Theatre (3)
- 281-282 Beginning Modern Dance (3-3) Pre: 281 for 282.
- 283-284 Beginning Ballet (3-3) Pre: 283 for 284.
- 299 Theatre Practice (3)
- 321-322 Intermediate Acting (3-3) Pre: 221-222 or consent, 321 for 322.
- 330 Direction (3) Pre: 221-222 or consent.
- 340 Advanced Stagecraft (3)
- 353-354 Design in the Theatre (3-3) Pre: 353 for 354.
- 356 Costume for the Stage (3)
- 370 Creative Dramatics (3)
- 372 Drama in Performance (3)
- 380 Creative Movement for Children (3)
- 381-382 Intermediate Modern Dance (3-3) Pre: 281-282 or consent; 381 for 382.
- 383-384 Intermediate Ballet (3-3) Pre: 283-284 or consent; 383 for 384.
- 387-388 Dance Composition (3-3) Pre: 382 or consent.
- 410 Theatre Management (3)
- 421-422 Advanced Acting (3-3) Pre: 321-322 or consent; 421 for 422.
- 440 Advanced Stage Lighting (3)
- 461-462 History of the Theatre (3-3)
- 464 Asian Drama & Theatre: India & Southeast Asia (3)
- 465 Asian Drama & Theatre: China & Japan (3)
- 468 Dance History (3)
- 470 Advanced Creative Dramatics (3) Pre: 370 & consent.
- 474 Children's Theatre (3) Pre: 240 & 260.
- 476 Puppetry (3)
- 480 Dance Workshop (v) Pre: 384 or consent.
- 481-482 Advanced Modern Dance (3-3) Pre: 381-382 or consent, 481 for 482.
- 483-484 Advanced Ballet (3-3) Pre: 383-384 or consent, 483 for 484.
- 490 Playwriting (3) Pre: 3.0 grade-point average in English comp.
- 492 Advanced Playwriting (3) Pre: 490.
- 499 Directed Work (v) Pre: limited to sr. majors with 2.7 gpa, or 3.0 gpa in drama & theatre.
- 610 Seminar in Theatre Research (3)
- 620 Advanced Acting Techniques (3)
- 631-632 Seminar in Direction (3-3) Pre: 631 for 632.
- 640 Problems in Stagecraft & Stage Lighting (3)
- 650 Advanced Design (3) Pre: 353-354.
- 662 Seminar in Drama & Theatre (3)
- 664 Seminar in Asian Theatre (3) Pre: consent.
- 665-666 Theories of the Theatre (3-3)
- 688 Advanced Choreography (3) Pre: 387-388 or consent.
- 699 Advanced Theatre Practice (3)
- 730 Seminar in Direction (3) Pre: 631-632.
- 750 Seminar in Design (3) Pre: 650.
- 760 Seminar in Aesthetics of the Theatre (3)
- 799 Directed Work (v) Pre: consent.
- 800 Thesis Research (v) Pre: consent.

East Asian Languages

Department Office: Moore Hall 370

Professors: John DeFrancis, Agnes M. Niyekawa-Howard, John Young.

Associate Professor: Robert L. Cheng.

Assistant Professors: David Ashworth, Hsin-I Hsieh, Yukiko Jolly, Shozo Kurokawa, Yutaka Kusanagi, James R. Landers, Dong Jae Lee, Ying-che Li, Emiko Sakurai, Ho-min Sohn, Zino Song, Harvey Taylor, Munee Yoshikawa.

Instructors: Setsuko Aihara, Pauline Chang, Dian-wen Chinn, Yaeko Habein, Nobuko Hasegawa, Kazuo Hatano, Nori Herman, Kyoko Hijirida, Genkyu Hirayama, Shang-Hsien Ho, Yukiyasu Ishigami, Mamoru Kondo, Julia Kwan, Kenneth Liu, Nobuko Loncar, Linda Onouye, Jae-doo Park, Masako Sakihara, Kakuko Shoji, Ineko Suehiro, Emiko Sugita, Cecilia Takaki, Sachiko Takeshita, Toshio Tatsuta, Keiko Yamamoto, Norman Yamamoto, Chia-ye Yung.

Specialists: Peter Kobayashi, Evelyn Nakanishi, Masahito Sato.

General (EALa)

- 100 Directed Elementary Language Study (v) Pre: consent.
- 200 Directed Intermediate Language Study (v) Pre: consent.
- 271 Survey of Asian Languages (3) (Cross-listed as IP 271)
- 300 Directed Third-Level Study (v) Pre: consent.
- 400 Directed Fourth-Level Study (v) Pre: consent.
- 451-452 Structure of an East Asian Language (3-3)
Pre: 2 levels of EA language.
- 543 Methodology of Teaching East Asian Languages (1)
- 690 Directed Reading (v) Pre: consent.
- 699 Directed Research (v) Pre: consent.
- 750 Seminar in Comparison of East Asian Languages (3) Pre: Jpnse 452 or Chnse 452 or consent.

Chinese (Chnse)

See also General (EALa)

- 101-102 Elementary Chinese (3-3)
- 103 Accelerated Elementary Chinese (6) Pre: consent.
- 105 Special Elementary Chinese (3) Pre: placement test.
- 107-108 Beginning Cantonese (3-3)
- 141 Introductory Calligraphy (1)
- 142 Advanced Calligraphy (1)
- 201-202 Intermediate Chinese (4-4) Pre: 102.
- 204 Accelerated Intermediate Chinese (8) Pre: consent.
- 206 Special Intermediate Chinese (4) Pre: 105.
- 207-208 Intermediate Cantonese (3-3) Pre: 108 or consent.
- 240 Elementary Chinese Composition (2) Pre: 201.
- 272 Survey of the Chinese Language (3) Pre: 102.
- 301-302 Third-Level Chinese (4-4) Pre: 202.
- 303 Accelerated Third-Level Chinese (8) Pre: consent.
- 321-322 Chinese Conversation (3-3) Pre: 202.
- 331-332 Chinese for Reading Knowledge (3-3) Pre: 202, consent.
- 401-402 Fourth-Level Chinese (4-4) Pre: 302 or 303.
- 404 Accelerated Fourth-Level Chinese (8) Pre: consent.
- 421-422 Advanced Chinese Conversation (3-3) Pre: 202, consent.
- 431-432 Selected Readings in Chinese (3-3) Pre: consent.
- 435-436 Introductory Classical Chinese (3-3) Pre: 202 or consent.
- 437-438 Advanced Classical Chinese (3-3) Pre: 436.
- 440 Advanced Chinese Composition (2) Pre: 402, consent.
- 451-452 Structure of Chinese (3-3) Pre: 202.
- 453-454 Study of Chinese Characters (2-2) Pre: 402, consent.
- 470 Language & Culture of China (3) Pre: 322, 402 or 422.
- 490 Reference Materials for Chinese Studies (1) Pre: 302.
- 495-496 Chinese Translation (3-3) Pre: 402.
- 631 History of the Chinese Language: Phonology (3)
Pre: 452 or Ling 421; consent.
- 632 Chinese Dialects (3) Pre: 452 or consent.
- 634 History of the Chinese Language: Syntax (3) Pre: 452 or consent.
- 641 Contrastive Analysis of Mandarin & English: Phonology (3)
Pre: 452.
- 642 Contrastive Analysis of Mandarin & English: Morphology
& Syntax (3) Pre: 641.
- 643-644 Methodology in Teaching Chinese as a Second
Language (3-3) Pre: 452.

- 750 Research Seminar in Chinese (3) Pre: consent.
800 Thesis Research (v) Pre: consent.

Japanese (Jpnse)

See also General (EALa)

- 101-102 Elementary Japanese (3-3) Pre: placement test.
103 Accelerated Elementary Japanese (6) Pre: consent.
121-122 Elementary Japanese Conversation (3-3) Pre: placement test.
130 Special Elementary Japanese Reading (3) Pre: placement test.
133 Elementary Japanese Reading (6) Pre: consent.
151-152 Essential Japanese (3-3)
201-202 Intermediate Japanese (4-4) Pre: 102.
204 Accelerated Intermediate Japanese (8) Pre: 103, consent.
221-222 Intermediate Japanese Conversation (3-3) Pre: 122 or placement test.
233 Intermediate Japanese Reading (6) Pre: 133 or placement test.
272 Survey of the Japanese Language (3) Pre: 102.
301-302 Third-Level Japanese (4-4) Pre: 202.
303 Accelerated Third-Level Japanese (8) Pre: 204.
311-312 Japanese Aural Comprehension (3-3) Pre: 202.
321-322 Japanese Conversation (3-3) Pre: 202.
331-332 Japanese for Reading Knowledge (3-3) Pre: 202.
340 Japanese Composition (2) Pre: 202.
370(470) Language & Culture of Japan (3) Pre: 301.
401-402 Fourth-Level Japanese (4-4) Pre: 302.
404 Accelerated Fourth-Level Japanese (8) Pre: 303.
411-412 Advanced Japanese Aural Comprehension (3-3) Pre: 312.
421-422 Advanced Japanese Conversation (3-3) Pre: 302.
431-432 Selected Readings in Japanese (3-3) Pre: 332.
437 Development of the Japanese Written Language (3) Pre: 401, Rec: 352.
440 Advanced Japanese Composition (2) Pre: 302.
451-452 Structure of Japanese (3-3) Pre: 202.
455-456 Topics in Japanese Grammar (3-3) Pre: 302.
457-458 Japanese Grammar—Classical (3-3) Pre: 402.
471 Contemporary Japanese Language & Society (3) Pre: 402.
473 The Varieties of Japanese (3) Pre: 302.
475 The Sociolinguistics of Japanese (3) Pre: 402, or concurrent.
490 Reference Materials for Japanese Studies (1) Pre: 302.
491-492 Japanese Interpretation (3-3) Pre: 402.
495-496 Japanese Translation (3-3) Pre: 402.
631-632 History of the Japanese Language (3-3) Pre: 452.
641-642 Contrastive Study of Japanese & English Structure (3-3) Pre: 452.
643-644 Methodology in Teaching of Japanese as a Second Language (3-3) Pre: 452.
750 Research Seminar in Japanese (3) Pre: consent.
800 Thesis Research (v) Pre: consent.

Korean (Kor)

See also General (EALa)

- 101-102 Elementary Korean (3-3)
201-202 Intermediate Korean (4-4) Pre: 102.
301-302 Third-Level Korean (3-3) Pre: 202.
401-402 Fourth-Level Korean (3-3) Pre: 302.
431-432 Selected Readings in Korean (3-3)

East Asian Literature

Department Office: Moore Hall 383

Professors: James T. Araki, Hiroko Ikeda, Peter H. Lee, Chin-Tang Lo, Valdo H. Viglielmo, Lily Winters.

Associate Professor: Norito Fujioka.

Assistant Professors: Yau-woon Ma, Mildred Tahara.

General (EALit)

- 250 East Asian Folklore (3)
491 Senior Colloquium in East Asian Literature (3)

Chinese (ChLit)

- 261 Chinese Literature in Translation—Traditional (3)
262 Chinese Literature in Translation—Modern (3)
341-342 Readings in Modern Literature, 1919 to Present (3-3) Pre: Chnse 202.
345-346 Introduction to Traditional Chinese Literature (3-3) Pre: consent.
455 Topics in Traditional Chinese Lit (3) Pre: 346.
495 History of Chinese Literature (3) Pre: 346.
609-610 Chinese Poetry (3-3) Pre: consent.
611 Contemporary Chinese Literature (3) Pre: consent.
615 Traditional Chinese Fiction (3) Pre: consent.
619 Traditional Chinese Drama—Northern (3) Pre: consent.
620 Traditional Chinese Drama—Southern (3) Pre: consent.
621 History of Chinese Literary Criticism (3) Pre: consent.
693 Advanced Chinese Bibliography (3) Pre: 495.
750 Research Seminar in Chinese Lit (3) Pre: consent.
800 Thesis Research (v) Pre: consent.

Japanese (JaLit)

- 261 Japanese Literature in Translation—Traditional (3)
262 Japanese Literature in Translation—Modern (3)
341-342 Readings in Contemporary Japanese Literature (3-3) Pre: Jpnse 202.
441-442 Readings in Modern Japanese Literature (3-3) Pre: 342, & Jpnse 302 or 322.
451 Readings in Traditional Japanese Literature (3) Pre: 261 & Jpnse 302.
490 Reference Materials for Japanese Literary Studies (3) Pre: consent.
609-610 Japanese Poetry (3-3) Pre: consent.
611-612 Modern Japanese Literature (3-3)
614 Edo Literature (3) Pre: consent.
615 Medieval Japanese Literature (3) Pre: consent.
616 Classical Japanese Literature (3) Pre: consent.
621-622 History of Japanese Literary Criticism (3-3) Pre: consent.
623 Japanese Folklore (3) Pre: consent.
690 Advanced Japanese Bibliography (3) Pre: 490.
750 Research Seminar in Japanese Lit (3) Pre: consent.
800 Thesis Research (v) Pre: consent.

Korean (KoLit)

- 261 Korean Literature in Translation—Poetry (3)
262 Korean Literature in Translation—Prose (3)
461 Introduction to Modern Korean Literature (3) Pre: consent.
462 Introduction to Traditional Korean Lit (3) Pre: consent.
694 Reference Materials for Korean Studies (3) Pre: consent.
750 Research Seminar in Korean Literature (3) Pre: consent.

Economics (Econ)

Department Office: Spalding Hall 460

Professors: Burnham O. Campbell, Wytze Gorter, H. Robert Heller, Fred C. Hung, Robert M. Kamins, Walter Miklius, H. Laurence Miller, Seiji Naya, Harry T. Oshima, John H. Power.
Associate Professors: Salvatore Comitini, Moheb A. Ghali, Youngil Lim, Bertrand Renaud, Yeong-Her Yeh.
Assistant Professors: Dennis Chao, Richard B. Coffman, Robert Ebel, James Mak, James E.T. Moncur, Johannes Overbeek, Richard Pollock, Robert C. Rice, Louis Rose.

- 120 Introduction to Economics (3) For nonmajors.
150 Principles of Economics (3) Required of majors.
151 Principles of Economics (3) Required of majors.
220 Mathematics for Social Scientists (3)
300 Intermediate Economic Theory: Macroeconomic Analysis (3) Pre: 150.
301 Intermediate Economic Theory: Price Theory (3) Pre: 151.

- 310 From Poverty to Affluence: Economic Development for Nonmajors (3) Pre: 120 or 150.
 311 The Hawaiian Economy (3) Pre: 150, 151, or consent.
 321 Introduction to Statistics (3)
 340 Money and Banking (3) Pre: 150.
 360 International Economic Relations (3) Pre: 120.
 396 Contemporary Economic Issues for Nonmajors (3) Pre: 120 or consent.
 399 Directed Reading (v) Limited.
 404 History of Economic Thought (3) Pre: 300, 301.
 405 Comparative Economic Systems (3) Pre: 150, 151, or consent.
 410 Economic Development (3) Pre: 300, 301, or consent.
 411 Economic Development of Europe (3) Pre: 150, 151.
 412 Economic Development of U.S. (3) Pre: 150, 151.
 415 Asian Economic Development (3) Pre: 150, 151, or consent.
 420 Mathematical Economics (3) Pre: 300, 301, differential & integral calculus.
 424 Introduction to Theory of Statistics (3) Pre: differential & integral calculus.
 425 Econometrics I (3) Pre: 424.
 426 Econometrics II (3) Pre: 425.
 430 Economics of Human Resources (3) Pre: 301.
 440 Monetary Theory & Policy (3) Pre: 300, 340.
 450 Public Finance (3) Pre: 300, 301.
 452 State and Local Finance (3) Pre: 150, 151, or consent.
 458 Public Resource Allocation (3) Pre: 120 or consent.
 460 International Trade & Welfare (3) Pre: 301 or 360.
 461 International Monetary Economics (3) Pre: 300 or 360.
 470 Industrial Organization & Public Control of Business (3) Pre: 300, 301.
 480 Transportation & Public Utilities (3) Pre: 300, 301.
 490 Location Theory & Regional Analysis (3) Pre: 150, 151. (Cross-listed as Geog 420)
 492 Regional Economic Development (3) Pre: 300, 301, or consent.
 495 Urban Economics (3) Pre: 300, 301, or consent.
 496 Selected Topics in Contemporary Economic Problems (3) Pre: 301.
 600 Macroeconomic Theory (3) Pre: 300.
 601 Microeconomic Theory (3) Pre: 301 & 220.
 602 Economic Growth & Fluctuations (3) Pre: 600.
 603 Advanced Microeconomic Theory (3) Pre: 601.
 604 History of Economic Thought (3) Pre: 404 or consent.
 605 Mathematical Economics (3) Pre: 420 or consent.
 610 Economic Development I (3) Pre: consent.
 611 Economic Development II (3) Pre: 610.
 613 Advanced Economic Dev. of the U.S. (3) Pre: 610 or consent.
 614 Economic Development of Japan (3) Pre: 610 or consent.
 616 Economic Development of China & Korea (3) Pre: 610 or consent.
 618 Economic Development of Southeast Asia (3) Pre: 610 or consent.
 624 Advanced Econometrics I (3) Pre: 321, 426.
 626 Advanced Econometrics II (3) Pre: 624.
 627 Economic Programming (3) Pre: 420 or consent.
 640 Monetary Theory (3) Pre: 440 or consent.
 650 Theory of Public Finance-Expenditures (3) Pre: 450.
 651 Theory of Public Finance-Revenue (3) Pre: 450.
 660 International Trade & Welfare (3) Pre: 460 or consent.
 662 International Monetary Economics (3) Pre: 461 or consent.
 670 Human Resources & Manpower Economics (3) Pre: 430.
 672 The Economics of Population Growth (3) Pre: consent.
 690 Urban & Regional Economic Analysis (3) Pre: 492 & 495 or consent. (Cross-listed as Geog 620)
 694 Economics of Marine Resources (3) Pre: consent. (Cross-listed as OE 694)
 699 Directed Research (v) Pre: consent.
 700 Seminar: Macroeconomic Theory (3) Pre: 600.
 701 Seminar: Microeconomic Theory (3) Pre: 601, 603.
 710 Seminar in Economic Development (3) Pre: 610 or consent.
 730 Research Seminar (3) Pre: consent.
 760 Seminar in International Economics (3) Pre: 660, 662, or consent.
 780 Selected Topics in Economic Analysis (3) Pre: 600, 601, or consent.
 800 Thesis Research (v)

English (Eng)

Department Office: Kuykendall Hall 412

Professors: George L. Anderson, Joseph M. Backus, Charles S. Bouslog, Leon L. Edel, Richard J. Foster, Thomas H. Fujimura, Virginia Hollingshead, William E. Huntsberry, Basil F. Kirtley, Richard L. Larson, Amos P. Leib, Alfred J. Levy, Joseph Maltby, Robert L. Scott, Yao Shen, Daniel Stempel, Travis L. Summersgill, John E. Unterecker, Bonnie J. Wiley, Lee E. Winters.

Associate Professors: Eugene R. August, Jane B. Fellmeth, Anthony M. Friedson, Joseph L. C. Kau, Elizabeth N. McCutcheon, Barry Menikoff, Marjorie P. Sinclair, Margaret C. Solomon, Bruce M. Stillians, Phyllis H. Thompson, Helen A. Topham, David A. Ward.

Assistant Professors: Asa J. Baber, Walter G. Creed, Philip M. Damon, Arnold S. Edelstein, Kathleen C. Falvey, Reinhard Friederich, Serrell L. Hillman, Virginia N. Kennedy, Lenna G. Lichty, Ian T. MacMillan, Robert W. McHenry, Peter E. Nelson, Peter C. Nicholson, Robert L. Onopa, Tae-Yong Pak, Carl R. Sherman, Dorothy B. Shimer, George K. Simson, T. Foster Teevan, Roger D. Whitlock, Mark Wilson.

Instructors: Wayne D. Andrews, Nancy E. Brown, Peggy T. Cha, Carolyn D. Church, Renee C. Clark, Lillian M. Cunningham, Norma LaRene Despain, Robert O. Despain, Stephen C. Drinkard, Wendy W. Fairey, Marie M. Hara, Marilyn L. Harman, Thomas L. Hilgers, Terry A. Hunter, Suzanne E. Jacobs, Shirley R. Kamins, Charles C. Knipp, Kay A. Lanier, Joy A. Marsella, Karen D. Merz, Daniel J. Mollway, Susan N. Mollway, Loretta D. Petrie, Shirley K. Ricks, Ronald T. Singer, Dorothy B. Vella, John H. Weston, Susan B. Weston.

- 100 Expository Writing: Four Major Forms (3)
 110 Narrative & Descriptive Exposition (3)
 120 Exposition & Autobiography (3)
 130 Problem-Solving & Argument on Contemporary Issues (3)
 140 The Uses of Language (3)
 150 Exposition & the Study of the Past (3)
 160 Studies in a Major Writer of Exposition or Argument (3)
 170 Language & the Visual Media (3)
 250 Major Works of American Literature (3)
 251-252 Major Works of British Literature (3-3)
 253-254 World Literature (3-3)
 255-256 Types of Literature (3-3)
 257 Themes in Literature (3)

Two semesters of introductory literature (250, 251, 252, 253, 254, 255, 256, 257) are prerequisites for upper division courses beginning with 313.

- 309 Written Communication (3) Pre: soph lit.
 313 Introduction to Imaginative Writing (3)
 315 Advanced Expository Writing (3)
 320 Introduction to Language (3)
 331 Introduction to Poetry (3)
 335 Backgrounds of World Literature (3)
 336 Introduction to Literary Problems (3)
 351-352 English Literary History (3-3)
 360 Readings in Oriental Literature (3)
 393-394 Junior Honors Program in English (3-3) Limited.
 399 Directed Reading (v) Limited.
 401 Modern English Grammar (3) Pre: 320 or consent.
 402 History of the English Language (3)
 403 American English: Its History & Development (3) (Cross-listed as Am St 453)
 404 English Phonology (3) Pre: 320, 401, Ling 102, or Sp 211.
 410 Form & Theory of Poetry (3) Pre: 331 or consent.
 411 Poetry Writing (3) Pre: 410 & consent.
 412(312) Non-Fiction Writing (3) Pre: consent; rec: 313 or 315.
 413 Form & Theory of Fiction (3) Pre: consent.
 414 Narrative Writing (3) Pre: 413 & consent.
 421 English Drama to 1642 (3)
 431, 432 The English Novel (3, 3)
 433 20th C. British Novel (3)
 437 Masters of Literary Criticism (3)

- 442 Chaucer (3)
 445, 446 Shakespeare (3, 3)
 447 Milton (3)
 451 Medieval English Literature (3)
 453 16th C. English Literature (3)
 454 Early 17th C. English Literature (3)
 456 Restoration Literature (3)
 457, 458 18th C. English Literature (3, 3)
 461 The Romantic Movement in England (3)
 463, 464 Victorian Literature (3, 3)
 469 Studies in British Literature (3)
 471, 472, 473 American Literature (3, 3, 3)
 475, 476 The American Novel (3, 3)
 479 Studies in American Literature (3)
 480 Literature of the Pacific (3)
 482 The Narratives of Oral Tradition (3)
 483, 484 Modern Dramatic Literature (3, 3)
 487, 488 20th C. British & American Poetry (3, 3)
 489 Studies in Comparative Literature (3)
 491-492 Senior Honors Tutorial (3-3) Limited.

Of the graduate courses that follow 660, 675, 735, 745, 757, 775, 780, and 785 may be repeated for credit.

- 610 Rhetoric: Theories & Applications (3)
 630 Seminar in Research Methods (3)
 637, 638 History of Literary Criticism (3, 3)
 640 Old English (3) Pre: consent.
 660 Major Authors (3)
 675 Literary Genres & Problems (3)
 735 Seminar in Comparative Literature (3) Pre: consent.
 745 Seminar in English Language (3) Pre: consent.
 757 Seminar in Shakespeare (3) Pre: consent.
 775 Seminar in English Literature (3) Pre: consent.
 780 Seminar in American Literature (3) Pre: consent.
 785 Seminar in American Literature (3) Pre: consent.
 790 Teaching Composition (3) Pre: consent.
 791 Student Teaching of College Composition (3) Pre: 790.
 799 Directed Research (v) Pre: consent.
 800 Thesis Research (v) Pre: consent.

Journalism (Journ)

- 150 The Press and Society (3)
 205 News Writing (3) Pre: Eng 100.
 206 News Editing (3) Pre: 205.
 216 Typography (3)
 255 Public Affairs Reporting (3)
 260 Mass Media (3)
 305 Advanced Reporting (4) Pre: 255.
 306 Advanced Editing (4) Pre: 255.
 316 Editing and Publishing (3)
 325 Writing Non-Fiction (3) Pre: consent.
 350 Problems in Journalism (3) Pre: consent.
 385 Directed Work (3) Pre: consent.

English as a Second Language

Department Office: Moore Hall 570

Professors: Ruth H. Crymes, Roderick A. Jacobs, Mark P. Lester.
Associate Professors: Masanori Higa, Kenneth L. Jackson, Ted Plaister, Danny D. Steinberg.
Assistant Professors: Evangelos A. Afendras, Jason B. Alter, Charles H. Blatchford, Roy W. Collier, Nancy Arapoff-Cramer, Richard R. Day, Robert K. Krohn, Charles W. Mason, Miho T. Steinberg.
Instructor: Robert E. Gibson.

English Language Institute (ELI)

- 70 Listening Comprehension I (0) Equals 4 crs.
 72 Reading for Foreign Students (0) Equals 4 crs.
 73 Writing for Foreign Students (0) Equals 4 crs.

- 80 Listening Comprehension II (0) Equals 2 crs.
 83 Writing for Foreign Graduate Students (0) Equals 2 crs.
 ESL 100 Expository Writing: A Guided Approach (3)

English as a Second Language (ESL)

425-470 required for BEd in English language teaching.

- 360 The English Language in Hawaii (3) Pre: 1 course in English language or linguistics.
 410 Introduction to TESL (3)
 425 Linguistics & Reading (3) Pre: Eng 320.
 450 English Syntax (3)
 455 Materials for Teaching English Grammar (3)
 460 English Phonology (3)
 465 Materials for Teaching English Phonology (3)
 470 Psycholinguistics & Language Teaching (3)
 530 Internship in ESL (3) Pre: consent.
 600(Alpha) Topics in ESL (3)
 604 Materials Selection & Adaptation (3)
 610 Teaching English as a Second Language (3)
 611 Problems in TESL (3) Pre: field exp. & consent.
 650 Psycholinguistics (3) Pre: 450, Ling 320.
 651 Advanced English Syntax (3) Pre: 450.
 660 Language, Culture, Society & Language Education (3)
 699 Directed Reading (v) Pre: consent.
 720 Second Language Testing (3) Pre: 610 or consent.
 730 Seminar in ESL (3) Pre: 610 or 611 or consent.
 750 Seminar in Developmental Psycholinguistics (3) Pre: 650.
 799 Directed Research (v) Pre: consent.
 800 Thesis Research (v)

European Languages and Literature

Department Office: Moore Hall 470

Professors: Dorothy B. Aspinwall, Stefan Baci, Alfred Burns, Dorothea W. Dauer, Gordon H. Fairbanks, Roger L. Hadlich, James S. Holton, Ernest A. Jackson, Jr., Edgar C. Knowlton, Jr., Matias Montes, Henri Z. Niedzielski, Richard K. Seymour.
Associate Professors: Mira Baci, John E. Crean, Jr., Thaddeus Z. Gasinski, Larry G. Heien, Michael Klimenko, Yara Montes, Raymond A. Moody, Anneliese W. Moore, Jürgen G. Sang, William F. Scherer, Emily Zants.
Assistant Professors: Mustapha K. Bénouis, Robert J. Ball, Austin Dias, Lawrence J. Forno, Mary Ann Ignatius, Robert J. Littman, Cornelia N. Moore, David J. Quinn, David Sansone, Niklaus R. Schweizer.
Instructor: Jean M. Toyama.

General (EL)

LITERATURE COURSES IN ENGLISH

Note: These courses, given in English, do not require a knowledge of a foreign language. None of the courses counts toward requirements for any undergraduate major in this department, but may be taken as electives outside the major with the consent of the student's adviser. Many of the courses may be taken toward fulfilling the college foreign language culture requirement (consult the student services office). Also many of these courses, as well as literature courses in the languages, may count toward the University humanities requirement.

- 111 Latin and Greek In Current Use (2)
 112 Greek and Roman Mythology (3)
 121 Introduction to Modern Russian Culture (3)
 161-162 Humanities and the Forging of Western Civilization (3-3)
 225 Early Greek Thought (3) (Cross-listed as Phil 225)
 251-252 Hispanic Civilization (3-3)
 261-262 Civilization of German Peoples and Countries (3-3)
 303 Greek Literature (3)
 304 Roman Literature (3)
 305 Greek and Roman Drama (3)
 306 Ancient Epic (3)
 331 19th-Century Russian Novel (3)

- 332 20th-Century Russian Literature (3)
- 333 Ideology and Literature in the Soviet Society (3)
- 356 Latin American Literature (3)
- 360 The Rebel Hero in Spanish Literature (3)
- 371 The Europeans of The Pacific (3)
- 372 Franco-American Relations in the 18th Century (3)
- 373 European Poetry in the Middle Ages (3)
- 374 Literature and Thought of European Renaissance (3)
- 375 French Literature since 1800 (3)
- 380 The Classical German Poet (3)
- 381 The Modern German Poet (3)
- 382 German Expressionism (3)
- 397 French African Literature (3)
- 405 European Tragedy (3)
- 497 Dutch Colonial Literature (3)

LANGUAGE COURSES

- 199 Directed Language Study (v) Pre: consent.
- 399 Directed Reading (v) Pre: consent. Limited.
- 620 Seminar: Topics in Language or Literature (3) Pre: consent.
- 630 Seminar in Research Methods (v)
- 699 Directed Research (v) Pre: consent.

French (Fr)

Note: All courses are conducted in French.

- 101-102 Elementary French (4-4)
- 103 Intensive Elementary French (8)
- 201-202 Intermediate French (3-3) Pre: 102; 201 or 207.
- 207-208 Intermediate French: Culture and Conversation (3-3)
Pre: 102; 207 or 201.
- 210 Accelerated Intermediate French (6) Pre: 102.
- 301 Phonetics and Pronunciation Practice (3) Pre: 101 or consent.
- 306 Structure of French (3) Pre: 202 or 208.
- 307-308 Continuing French for Nonmajors (3-3) Pre: 202 or 208
or consent.
- 311 Advanced Conversation (3) Pre: 202.
- 312 Advanced Composition (3) Pre: 202.
- 331-332 Survey of French Literature (3-3) Pre: or concurrent:
311-312.
- 361 French Civilization (3) Pre: 202.
- 407 Introduction to Medieval Language and Civilization (3) Pre:
311-312 or 306.
- 408 Masterpieces of Medieval Literature (3) Pre: 407.
- 410 Masterpieces of 16th-Century Literature (3) Pre: 331 or 332.
- 411-412 Masterpieces of 17th-Century Literature (3-3) Pre: 331 or 332.
- 413 Masterpieces of 18th-Century Literature (3) Pre: 331 or 332.
- 415-416 Masterpieces of 19th-Century Literature (3-3) Pre: 331-332.
- 420 20th-Century French Novel (3) Pre: 331-332.
- 421 20th-Century French Theatre (3) Pre: 331-332.
- 422 20th-Century French Poetry (3) Pre: 331 or 332.
- 425 Current French Literature (3) Pre: 331 or 332.
- 491 Seminar in French Literature (3) Pre: consent.
- 601 Seminar in 20th-Century French Literature (3)
- 602 Seminar in French Poetry (3)
- 605 French Prose Literature of the Last 30 Years (3)
- 609 French Renaissance (3)
- 620 Masterpieces of the 17th Century (3)
- 651 Philosophic Currents in the 18th Century (3)
- 661 Stylistics (3)
- 666 Seminar in History of French Literary Criticism (2)
- 671 History of the Language (4)
- 672 Seminar in Medieval Literature (3)
- 677 Seminar in French Language (3)
- 681 Seminar: The Novel in France (3)
- 685 Seminar in Realism in French Literature (3)
- 690 The Theatre in France (3) Pre: 6 cr. 400-level.
- 699 Directed Research (v) Pre: consent.
- 735 Seminar in French Literature (3) Pre: consent of grad. chmn.
- 800 Thesis Research (v)

German (Ger)

Note: All courses are conducted in German.

- 101-102 Elementary German (4-4)
- 201-202 Intermediate German (3-3) Pre: 102; 201 or 207.
- 203 German Phonetics (3) Pre: 102.

- 207-208 Perspectives of Contemporary Germany (3-3) Pre:
102; 201 or 207.
- 211-212 Intermediate: Scientific German (3-3) Pre: 102; 211 for 212.
- 215 Intermediate: Readings in the Humanities (3) Pre: 102,
or S106.
- 305-306 Composition and Conversation (3-3) Pre: 202, 208; 305
or consent for 306.
- 307-308 Continuing German for Nonmajors (3-3) Pre: 202 or 208
or consent.
- 312 Introduction to German Literature (3) Pre: 305
or consent.
- 315 Structure of German Language (3) Pre: 202.
- 318 The 19th Century (3) Pre: 306.
- 409 Enlightenment—Sturm Und Drang (3) Pre: 312 or 318.
- 410 Classicism (3) Pre: 312 or 318.
- 411 Romanticism (3) Pre: 312 or 318.
- 413 German Literature from 1880 to 1918 (3) Pre: 312 or 318.
- 414 German Literature from 1918 to 1950 (3) Pre: 312 or 318.
- 415 Contemporary German Literary Activity (3) Pre: 312 or 318.
- 428 Survey of German Lyric Poetry (3) Pre: 312 or 318.
- 432 Stylistics (3) Pre: 306 & 315.
- 451 Intro to History of German Language (3) Pre: 315 or consent.
- 452 Intro to Middle High German (3) Pre: 315 or consent.
- 489 Literature from the Beginnings to 1700 (3) Pre: 312, 318,
or consent.
- 609 Middle High German (3)
- 610 Middle High German (3)
- 615 History of the German Language (3)
- 616 History of the German Language (3) Pre: 615 or consent.
- 632 German Stylistics (3)
- 650 Seminar: The German Essay (3)
- 651 Seminar: The German Novelle (3)
- 652 Seminar: German Drama (3)
- 653 Seminar: Lyric Poetry (3)
- 654 Seminar: The German Novel (3)
- 655 Faust I (3)
- 699 Directed Research (v) Pre: consent.
- 735 Seminar (3) Pre: consent.
- 800 Thesis Research (v)

Greek (Greek)

- 101-102 Elementary Greek (3-3)
- 201-202 Intermediate Greek (3-3) Pre: 102.
- 409 Greek Philosophers (3) Pre: 202 or consent.
- 410 Historians (3) Pre: 202.
- 421 Homer (3) Pre: 202 or consent.
- 431 Introduction to Drama (3) Pre: 202 or consent.
- 432 Drama (3) Pre: 431 or 421 or consent.
- 490 Seminar (3) Pre: consent.
- 651 Seminar in Greek Literature (3)
- 699 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

Latin (Latin)

- 101-102 Elementary Latin (3-3)
- 201-202 Intermediate Latin (3-3) Pre: 102.
- 301-302 Structure of Latin (3-3) Pre: 202 or consent.
- 401 Historians (3) Pre: 202 or consent.
- 409 Lyric Poets (3) Pre: 202 or consent.
- 420 Vergil (3) Pre: 202 or consent.
- 427 Satire (3) Pre: 202 or consent.
- 428 Drama (3) Pre: 202 or consent.
- 434 Lucretius (3) Pre: consent.
- 440 Cicero (3) Pre: consent.
- 490 Seminar (3) Pre: consent.
- 601 Advanced Latin Compositions (3)
- 610 Literature of the Republic (3)
- 611 Augustan Literature (3)
- 612 Literature of the Empire (3)
- 651 Seminar in Roman Literature (3)
- 699 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

Russian (Rus)

For information on Russian Area Studies Certificate see p. 21
Note: All courses conducted in Russian except 161-162.

- 101-102 Elementary Russian (4-4)
 161 Russian for Reading Proficiency (3) Pre: consent.
 162 Russian for Reading Proficiency (3)
 201-202 Intermediate Russian (3-3) Pre: 102.
 207-208 Intermediate Scientific Russian (3-3) Pre: 102.
 209 Russian Phonetics (3) Pre: 102.
 303-304 Advanced Oral Practice (3-3) Pre: 202.
 306 Structure and Composition (3) Pre: 202.
 311-312 Introduction to Russian Literature and Civilization (3-3)
 Pre: 202
 411-412 Literature of the 19th Century (3-3) Pre: 304 or consent.
 413-414 Literature of the 20th Century (3-3) Pre: 304 or consent.
 418 Advanced Composition and Stylistics (3) Pre: 304 or consent.
 419 Advanced Reading in the Russian Daily Press (3)
 495 Seminar (3) Pre: consent.
 615 Russian Poetry (3)
 617 Russian Drama (3)
 618 Comparative Grammar of Russian and English (3)
 619 Advanced Russian Syntax (3)
 621 Historical Grammar of the Russian Language (3)
 622 Reading in Old Russian Language (3) Pre: 621.
 641-642 Old Russian Literature, X-XVIII Centuries (3-3)
 650 History of the Russian Literary Language (3)
 699 Directed Reading (v) Pre: consent.
 735 Seminar (3) Pre: consent.
 800 Thesis (v)

Spanish (Span)

Note: All courses conducted in Spanish except 405.

- 101-102 Elementary Spanish (4-4)
 110 Accelerated Elementary Spanish (8)
 201-202 Intermediate Spanish (3-3) Pre: 102; 201 or 207.
 207-208 Conversation and Contemporary Hispanic Culture (3-3)
 Pre: 102; 201 or 207.
 210 Accelerated Intermediate Spanish (6) Pre: 102.
 220 Spanish Workshop I (2) Pre: 102.
 303-304 Grammar Practice and Composition (3-3) Pre: 202.
 330 Phonetics and Pronunciation Practice (3) Pre: 202.
 351-352 Spanish and Spanish-American Civilization (3-3) Pre: 202.
 365-366 Masterworks of Spanish and Spanish-American Literature
 (4-4) Pre: 202.
 403-404 Advanced Oral Practice (3-3) Pre: 304 or consent.
 405 Spanish-English Translation (3) Pre: 304 or consent.
 420 Spanish Workshop II (v) Pre: 304.
 441 History of the Spanish Language (3) Pre: 202; one sem.
 college Latin.
 444 Spanish Dialectology (3) Pre: 450 or consent.
 450 The Structure of Spanish (3) Pre: 304 and 330.
 465-466 Modern and Contemporary Spanish Literature (3-3)
 Pre: 365 or consent.
 470 Social & Political Ideas of 20th-Century Latin America (3)
 Pre: 351-352.
 481 Spanish-American Short Story and Theater (3) Pre: 366.
 482 Introduction to Spanish-American Novel (3) Pre: 481 or consent.
 484 Introduction to Spanish-American Poetry (3) Pre: 482 or
 consent.
 490 Hispano-Philippine Literature (2) Pre: 202.
 625 Stylistics and Advanced Composition (3)
 630 Topics in Spanish Linguistics (3) Pre: consent.
 658 Seminar in Spanish Linguistics (3) Pre: consent.
 665 Spanish Literature Prior to the Golden Age (3)
 670 Spanish Literature of the Golden Age (3)
 671 18th and 19th Century Spanish Literature (3)
 673 20th Century Spanish Literature (3)
 682 Spanish-American Novel 20th Century (3) Pre: consent.
 684 Spanish-American Lyric Poetry (3)
 686 16th-19th Century Spanish American Literature (3)
 695 Seminar in Hispanic Literature (3) Pre: consent.
 699 Directed Research (v) Pre: consent.
 800 Thesis Research (v)

Dutch (Du)

- 311-312 Reading, Comprehension, and Speaking Skills (3-3)

Italian (It)

- 311-312 Comprehension, Speaking and Reading Skills (3-3)
 Pre: Latin, Spanish, French or Portuguese at 102 level.
 361-362 Intermediate Italian (3-3) Pre: 312.

Polish (Polsh)

- 319-320 Introduction to Polish (3-3)
 419-420 Topics in Polish Literature and Culture (3-3) Pre: 1 year
 of Polish.

Portuguese (Port)

- 101-102 Elementary Portuguese (4-4)
 201-202 Intermediate Portuguese (3-3) Pre: 102.
 360-361 Introduction to Luso-Brazilian Literature (3-3) Pre:
 202 or Spanish 304.

Geography (Geog)

Department Office: Physical Science Bldg. 315

Professors: R. Warwick Armstrong, Jen-hu Chang, Sen-dou Chang,
 Donald W. Fryer, Roland J. Fuchs (Chairman), David H.
 Kornhauser, Peter N.D. Pirie, Forrest R. Pitts, John M. Street.
Associate Professors: Wilfrid O. Bach, Murray Chapman, Brian
 J. Murton.
Assistant Professors: Gary A. Fuller, Lawrence J. Masterson, Paul
 J. Schwind, Allan Sommarstrom, Lyndon L. Wester, Everett A.
 Wingert.
Instructor: George B. Immisch.
Lecturer: Abraham Piianaia.

*A 100 level course, or consent of the instructor,
 is prerequisite to all courses numbered over 299.*

INTRODUCTORY COURSES

- 101 Elements of Physical Geography (3)
 102 World Regional Geography (3) Pre: 101.
 151 Geography and Contemporary Society (3)
 201 Atmospheric Pollution (3)

SYSTEMATIC PHYSICAL GEOGRAPHY

- 300 Introduction to Climatology (3) Pre: 101.
 309 Plants, Man and the Ecosystem (3) Pre: 101 or consent.
 310 Modification of the Biosphere (3) Pre: 101.
 314 Geography of the Tropics (3)
 400 Advanced Climatology (3) Pre: 300.
 405 Water Resources Management (3) Pre: 101 or consent.
 406 Applied Climatology (3) Pre: 300 or GG 101-102 or consent.
 407 Air Pollution Meteorology-Climatology I (3) Pre: 300 or
 GG 101-102 or consent.
 408 Air Pollution Meteorology-Climatology II (3) Pre: 407 or
 consent.
 410 Quaternary Environments and Man (3) Pre: 101 or consent.
 415 Medical Geography (3) Pre: 380, Biol 120 or Zool 101, or
 consent.
 600 Seminar in Climatology (3) Pre: 300 or consent.

SYSTEMATIC HUMAN GEOGRAPHY

- 326 Conservation and Resource Management (3)
 328 Perspectives on Environment and Culture (3)
 330 Population Geography (3)
 335 Political Geography (3)
 351 Elements of Regional Science (3) Pre: 151 or Econ 120
 or consent.
 420 Location Theory and Regional Analysis (3) Pre: 151 or Econ
 300-301 or consent. (Cross-listed as Econ 490)
 421 Urban Geography (3) Pre: 151 or consent.
 423 Urbanization and Urban Problems in Asia (3)

- 425 Spatial Analysis of Social Behavior (3) Pre: consent.
- 426 Park and Outdoor Recreation Area Management (3)
- 612 Ecological Concepts and Planning (3) Pre: consent. (Cross-listed as PH 612)
- 620 Regional Economic Analysis (3) Pre: 420 or Econ 310, 492. (Cross-listed as Econ 690)
- 621 Urban Systems and Analysis (3) Pre: 380 or consent.
- 632 Field Study of Population (3) Pre: consent. (Cross-listed as Anth 632)

AREA COURSES

- 269 Geography of Honolulu (3)
- 340(440) Geography of the United States & Canada (3)
- 345(445) Geography of the Soviet Union (3)
- 350 Geography of Asia (3)
- 352(452) Geography of Japan (3)
- 353(453) Geography of China (3)
- 355(455) Geography of South Asia (3)
- 356(456) Geography of Southeast Asia (3)
- 361(461) Australia and New Zealand (3)
- 365(465) Geography of the Pacific (3)
- 368 Geography of Hawaii (3)
- 650 Seminar in Geography of Asia (3) Pre: consent.
- 665 Seminar in Geography of the Pacific (3) Pre: consent.

TECHNIQUES AND METHODOLOGY

- 375 Introduction to Cartography and Airphoto Methods (3)
- 380 Quantitative Methods in Geography (3)
- 470 Remote Sensing (3) Pre: 375 or consent.
- 475 Cartographic Production (3) Pre: 375 or consent.
- 476 Advanced Cartography (3) Pre: 375 or 475 or consent.
- 680 Advanced Quantitative Methods in Geography (3) Pre: 380 & math.
- 685 Computer Applications in Geography (3) Pre: 380 & computer lang.

READING, RESEARCH, GENERAL

- 390 Tutorial in Geography (3)
- 399 Directed Reading (v) (Limited)
- 490 Senior Thesis (3) Pre: 390.
- 691 History of Geographic Thought (3)
- 695 Pro-seminar I—Models in Geography (3)
- 696 Pro-seminar II—Research Design (2) Pre: consent.
- 700 Seminar in Geography (3)
- 750(Alpha) Research Seminar: Selected Problems (3)
- 791 Field Camp (1) Pre: 695 or consent.
- 799 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

Geology and Geophysics (GG)

Department Office: HIG Bldg. 253

Senior Professor: Gordon A. Macdonald.

Professors: Agatin T. Abbott, William M. Adams, Doak C. Cox, Augustine S. Furumoto, Simo H. Laurila, Ralph Moberly, John C. Rose, George H. Sutton, George P. Woollard.

Associate Professors: Pow-foong Fan, Mohammad A. Khan, Alexander Malahoff, Murli H. Manghnani, Kost A. Pankiwskyj, Frank L. Peterson, Johanna M. Resig.

- 101-102 General Geology & Geophysics (4-4) Pre: 101 for 102.
- 200 Geology of the Hawaiian Islands (3)
- 301 Mineralogy (3) Pre: 101 or consent; Chem 113-113L or 117-117L.
- 302 Petrology (3) Pre: 301.
- 303 Structural Geology (3) Pre: 102, Phys 170.
- 305 Geological Field Methods (3) Pre: 303 or consent.
- 306 Work of Water (4) Pre: 101-102.
- 316 Geomorphology (3) Pre: 303 or consent.
- 351 Seismology (3) Pre: Phys 170.
- 360 Principles of Geophysics (3) Pre: 101-102, Phys 272 or consent.

- 361 Introduction to Geophysical Exploration Methods (4) Pre: 360.
- 411 Paleontology (3) Pre: 102 or Zool 101 or consent.
- 412 Micropaleontology (3) Pre: consent.
- 415 Regional Geology (3) Pre: 303.
- 424 Advanced Mineralogy (5) Pre: 301 or consent.
- 425 Geochemistry (3) Pre: 301.
- 426 Advanced Petrology (3) Pre: 424.
- 430 Geology of Asia (2) Pre: 302 & 303 or consent.
- 440 Economic Geology (2) Pre: 302 & 303.
- 454 Engineering Geology (3) Pre: consent.
- 455 Ground-Water Geology (4) Pre: 306 or consent.
- 457 Introduction to Geodetic Science (3) Pre: Math 206.
- 465-466 Geophysical Exploration (4-4) Pre: Phys 272; Math 232 or consent.
- 471 The Magnetic Field of the Earth (3) Pre: 481.
- 481 Potential Theory (4) Pre: Math 232 or consent.
- 482 Elements of Space Science (3) Pre: Math 232 or consent.
- 601 Seminar in Volcanology (2) Pre: 302.
- 602 Seminar in Petrology (2) Pre: consent.
- 605 Seminar in Engineering & Ground-Water Geology (3) Pre: consent.
- 607 Seminar in Ore Deposits (2) Pre: 302 & 303.
- 609 Seminar in Geomorphology (2) Pre: 316.
- 614 Advanced Field Study (v)
- 619 Sedimentology (3) Pre: consent.
- 620 Stratigraphy (3) Pre: consent.
- 623 Marine Geology (3) Pre: consent.
- 625 Seminar in Current Research Topics (v)
- 653 Solid State Geophysics (3) Pre: consent.
- 655 Seismic Source Mechanisms (3) Pre: consent.
- 656 Seismic Propagation Phenomena (3) Pre: consent.
- 657 Analysis & Synthesis of Seismograms (3) Pre: consent.
- 658 Seismometry & Seismological Model Study (3) Pre: consent.
- 659 Physics of Earth's Interior (3) Pre: consent.
- 660 Seminar in Solid Earth Geophysics (v) Pre: consent.
- 661 Marine Geophysics (3) Pre: consent.
- 662 Principles of Theoretical Geophysics (3) Pre: Phys 310-311 or consent.
- 665 Numerical Methods in Geophysical Data Analysis (3) Pre: Math 301 or 403 or 431 or consent.
- 672 Seminar in Geotectonics I (3) (Cross-listed as Ocean 672)
- 673 Seminar in Geotectonics II (3) Pre: consent.
- 674 Rock Magnetism & Paleomagnetism (3) Pre: consent.
- 675 Seminar in Geomagnetism (v) Pre: consent.
- 680 Seminar in Geodesy (v) Pre: consent.
- 681 Physical Geodesy (4) Pre: 481 or consent.
- 683 Satellite Geodesy (3) Pre: 681 or consent.
- 685 Adjustment Computation (3) Pre: 457 & Math 206.
- 799 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

History (Hist)

Department Office: Crawford Hall 208-A

Professors: George Akita, Edward Beechert, Jr., Cedric Cowing, Gavan Daws, Donald Johnson, Walter Johnson, Daniel Kwok, Herbert Margulies, Walter Maurer, James McCutcheon, H. Brett Melendy, Idus Newby, G. Raymond Nunn, Richard Rapson, Robert Sakai, Minoru Shinoda, Michael Speidel, John Stalker, Burton Stein, Stephen Uhalley, Jr., Robert Van Niel, Walter Vella, Rex Wade, John White.

Associate Professors: James Connors, Welden Ernest, Hugh Kang, Truong Buu Lam, Harry Lamley, Brian McKnight, V. Dixon Morris, Allison Saville, Jagdish Sharma, John Stephan.

Assistant Professors: Yong-ho Choe, Ray Cubberly, Adrian Kuzminski, Doris Ladd, James Lind, Robert McGlone, Helen Nader, Tien-yi Tao, Betty Jo Winchester.

History 151-152 is prerequisite to all advanced History courses.

- 151-152 World Civilization (3-3)
- 161-162 World Cultures in Perspective (3-3) Pre: consent. Limited.

- 241-242 Civilizations of Asia (3-3) (Cross-listed as Asian 241-242)
 281-282 Introduction to American History (3-3)
 301-302 History of Warfare (3-3)
 341-342 East Asian Civilization (3-3)
 396 History Colloquium (3) Pre: consent.
 401-402 History of South Asia (3-3)
 403 Topics in South Asian History (3)
 404 Soviet Central Asia and the Caucasus (3)
 405-406 History of Southeast Asia (3-3)
 407 National & Regional History in Southeast Asia (3) Pre: 406.
 408 The Chinese Revolution (3)
 409-410 History of China (3-3)
 411-412 Local History of China (3-3)
 413-414 History of Japan (3-3)
 415-416 Imperial and Feudal Institutions of Traditional Japan (3-3) Pre: 413-414.
 417-418 History of Korea (3-3)
 419 European Expansion (3)
 421 Australia and New Zealand (3)
 422 History of Oceania (3)
 424 History of the Hawaiian Islands (3)
 425 The United States in the Pacific (3)
 426 The Ancient Near East (3)
 427 Ancient Greece (3)
 428-429 Roman Civilization (3-3)
 430 History of Science (3) Pre: 1 yr. natural sci. (Cross-listed as Sci 430)
 431-432 Medieval Europe, 300-1300 (3-3)
 433 History of Medieval Germany to 1546 (3)
 435 Renaissance and Reformation, 1300-1600 (3)
 437 Early Modern Europe, 1600-1800 (3)
 438 French Revolution, 1789-1815 (3)
 439 Europe in the 19th Century (3)
 440 Europe Since Versailles (3)
 441-442 East Central Europe (3-3)
 443-444 History of Modern Germany (3-3)
 445-446 History of France (3-3)
 447-448 History of England (3-3)
 449-450 History of Russia (3-3)
 451-452 Modern Russian & Soviet Foreign Policy (3-3)
 453-454 Russian Intellectual and Cultural History (3-3)
 455-456 European Intellectual History (3-3)
 457 The Russian Revolution (3)
 459 Constitutional History of England (3)
 461 Colonial America to 1790 (3)
 462 The Young Republic: U.S. History 1789-1841 (3)
 463 Crisis of the Union: U.S. History 1841-1877 (3)
 464 The Transformation of America: U.S. History 1877-1920 (3)
 465 Troubled Peace: U.S. History 1920-1941 (3)
 466 America & World Leadership: The U.S. Since 1941 (3)
 471-472 History of United States Foreign Policy (3-3)
 473-474 History of Spain and Portugal (3-3)
 475 Constitutional History of the United States (3)
 477-478 Economic History of the United States (3-3)
 479 American Labor History (3)
 480 History of Black Americans (3)
 481-482 American Thought and Culture (3-3)
 483 The West in American History (3)
 484 The South in American History (3)
 485 The City in American History (3)
 486 Representative Americans (3)
 487-488 History of Latin America (3-3)
 489 Sex Stereotypes in History: Definitions (3)
 490 Sex Stereotypes in History: Protest (3) Rec: 489.
 496 Senior Tutorial in History (4)
 499 Directed Reading (v)

*All courses 600-800, except 602, require consent of instructor.
 All courses over 602 may be repeated for credit.*

- 602 Seminar in Historiography (3)
 603 Colloquium in the Instruction of History (1)
 611 Seminar in European History (3)
 619 Seminar in Russian History (3)
 620 Seminar in Russian Foreign Policy (3)
 631 Advanced Problems & Reading in American History (3)

- 635 The Colonial Period in American History (3) Pre: 461.
 636 Seminar in 19th C. American History (3) Pre: 462.
 637 Seminar in the Progressive Movement (3) Pre: 464.
 638 Seminar in Recent American History (3) Pre: 465 or 466.
 640 Seminar in American Social and Intellectual History (3)
 641 Seminar in American Diplomatic History (3)
 654 Seminar in the History of Mainland Southeast Asia (3) Pre: 406.
 655 Seminar in the History of Island Southeast Asia (3) Pre: 406.
 661 Seminar in Chinese History (3)
 663 Seminar in Indian History (3)
 665 Seminar in Japanese History (3)
 667 Seminar in Korean History (3)
 675 Seminar in Pacific History (3) Pre: 422 or 424 or 425, consent.
 701 Research Materials and Methods in Asian History (3)
 709-710 Institutional History of Korea (3-3)
 711 Korean Historical Sources (3)
 713-714 Chinese Historical Literature (3-3)
 717-718 Chinese Intellectual History (3-3) Pre: 409-410, consent.
 721-722 China From Classical Antiquity to 750 (3-3) Pre: 409-410, consent.
 723-724 China from 750 to 1700 (3-3)
 725-726 Contemporary China Seminar (3-3) Pre: 408, or 409-410. (Cross-listed as Asian 601)
 727-728 Japanese Historical Materials and Sources (3-3) Pre: read Japanese.
 730 Japan: The Bakumatsu Period (1830-1837) (3)
 733-734 Japanese Intellectual History (3-3) Pre: 413-414 or consent.
 735-736 Seminar on Pre-Modern Japan c. 850-1800 (3-3) Pre: read Japanese.
 799 Directed Research (v)
 800 Thesis Research (v)

Indo-Pacific Languages

Department Office: Webster Hall 311

Professor: Walter H. Maurer.

Associate Professors: Rachel Baumer, Thomas Gething, Nguyen-Dang-Liem.

Assistant Professors: Jack Baumer, Soenjono Dardjowidjojo, Philip N. Jenner, Rubellite Johnson, Stephen O'Harrow, Teresita Ramos, D. Haigh Roop, Jack Ward.

Instructors: Alberta Anthony, Patricia Billups, Prescila Espiritu, Larry Kimura.

General (IP)

In addition to the courses listed here, other languages commanded by individual faculty members may be offered if demand and staff permit. These unlisted languages include Arabic (Classical), Armenian, Avestan, Balinese, Batak, Bisayan, Cham, Javanese, Madurese, Minangkabau, Mon, Muong, Persian (Old and Modern), Stieng, Sundanese and Tahitian. Those wishing to study an unlisted language should consult the chairman as early as possible.

- 101-102 Directed Elementary Language Study (3-3) Pre: consent.
 201-202 Directed Intermediate Language Study (3-3) Pre: consent.
 271 Survey of Asian Languages (3) Pre: consent.
 301-302 Directed Third-Level Language Study (3-3) Pre: consent.
 361-362 Southeast Asian Literatures in Translation (3-3)
 365-366 South Asian Literatures in Translation (3-3)
 401-402 Directed Fourth-Level Language Study (3-3) Pre: consent.
 497 Survey of Structures of Southeast Asian Languages (3) Pre: Ling 421, 422 & consent.
 499 Directed Studies (v) Pre: 3rd-level language & consent.
 699 Directed Research (v) Pre: consent.

Bengali (Beng)

- 101-102 Elementary Bengali (3-3)
 201-202 Intermediate Bengali (3-3) Pre: 102.
 301-302 Third-Level Bengali (3-3) Pre: 202.
 690 Directed Readings in Bengali Texts (v) Pre: consent.

Burmese (Burm)

- 101-102 Elementary Burmese (3-3)
 201-202 Intermediate Burmese (3-3) Pre: 102.

Cambodian (Cam)

- 101-102 Elementary Cambodian (3-3)
 201-202 Intermediate Cambodian (3-3) Pre: 102.
 281-282 Introductory Old Khmer (3-3) Pre: 202.
 690 Directed Reading (v) Pre: consent.
 699 Directed Research (v) Pre: consent.

Hawaiian (Haw)

- 101-102 Elementary Hawaiian (3-3)
 131-132 Hawaiian for Reading Proficiency (3-3)
 201-202 Intermediate Hawaiian (3-3) Pre: 102.
 261 Hawaiian Literature in English (3)
 301-302 Third-Level Hawaiian (3-3) Pre: 202.
 401-402 Fourth-Level Hawaiian (3-3) Pre: 302.
 435-436 Hawaiian Translation (3-3) Pre: 302.
 452 Structure of Hawaiian (3) Pre: 202 & Ling 102.

Hindi (Hindi)

- 101-102 Elementary Hindi (3-3)
 201-202 Intermediate Hindi (3-3) Pre: 102.
 301-302 Third-Level Hindi (3-3) Pre: 202.

Ilokano (Ilo)

- 101-102 Elementary Ilokano (3-3)
 201-202 Intermediate Ilokano (3-3) Pre: 102.

Indonesian (Ind)

- 103 Accelerated Elementary Indonesian (6)
 204 Accelerated Intermediate Indonesian (8) Pre: 102.
 301-302(303) Third-Level Indonesian (3-3) Pre: 204.
 401-402(404) Fourth-Level Indonesian (3-3) Pre: 302.
 452 Structure of Indonesian (3)

Lao (Lao)

- 101-102 Elementary Lao (3-3)
 201-202 Intermediate Lao (3-3) Pre: 102.

Marathi (Marat)

- 101-102 Elementary Marathi (3-3)

Pali (Pali)

- 381-382 Elementary Pali (3-3) Pre: Sansk 382.
 481-482 Intermediate Pali (3-3) Pre: 382.

Prakrit (Prak)

- 481-482 Introduction to Prakrit (3-3) Pre: Sansk 481-482 & Pali 381-382.

Sanskrit (Sansk)

- 381-382 Introduction to Sanskrit (3-3) Pre: consent.
 481-482 Intermediate Sanskrit (3-3) Pre: 382.
 681-682 Third-Level Sanskrit (3-3) Pre: 482.
 683-684 Fourth-Level Sanskrit (3-3) Pre: 682.
 685 Advanced Readings in Sanskrit (3)

Tagalog (Tag)

- 101-102 Elementary Tagalog/Pilipino (3-3)
 201-202 Intermediate Tagalog/Pilipino (4-4) Pre: 102.
 297 Introduction to Philippine Languages & Culture (3)
 301-302 Third-Level Tagalog (3-3) Pre: 202 & consent.
 361 Philippine Literature In English (3) Pre: 1 sem. Eng lit.
 401-402 Fourth-Level Tagalog (3-3) Pre: 302 & consent.
 451 Structure of Tagalog (3) Pre: 202.
 690 Directed Reading (v) Pre: consent.
 699 Directed Research (v) Pre: consent.

Tamil (Tamil)

- 101-102 Elementary Tamil (3-3)
 201-202 Intermediate Tamil (4-4) Pre: 102.

Thai (Thai)

- 101-102 Elementary Thai (3-3)
 201-202 Intermediate Thai (3-3) Pre: 102.
 303 Accelerated Third-Level Thai (6) Pre: 202.
 404 Accelerated Fourth-Level Thai (6) Pre: 303.
 451-452 Structure of Thai (3-3) Pre: Ling 320 & 1 SE Asian lang.

Vietnamese (Viet)

- 101-102 Elementary Vietnamese (3-3)
 201-202 Intermediate Vietnamese (4-4) Pre: 102.
 301-302 Third-Level Vietnamese (3-3) Pre: 202.
 401-402 Fourth-Level Vietnamese (3-3) Pre: 302.
 421-422 Advanced Vietnamese Conversation (3-3) Pre: 402 or consent.
 433-434 Selected Readings in Vietnamese (3-3) Pre: 402 or consent.
 451-452 Structure of Vietnamese (3-3) Pre: 202 & consent.
 461-462 Introduction to Vietnamese Literature (3-3) Pre: 402 or consent.
 641-642 Contrastive Analysis (3-3) Pre: 451-452 or Ling 421-422 or consent.
 690 Directed Reading (v) Pre: consent.
 699 Directed Research (v) Pre: consent.

Information and Computer Sciences (ICS)

Department Office: Keller Hall 319

Professors: Norman Abramson, N. Thomas Gaarder, Will Gersch, Richard H. Jones, Bharat Kinariwala, Franklin Kuo, W. Wayne Lichtenberger, Shu Lin, David Pager, W. Wesley Peterson, Forrest R. Pitts, David Slepian, Lawrence Wallen, Michael Watanabe, Edward J. Weldon.

Associate Professors: Mark Lester, Theodore Rodgers, Ralph Sprague.

Assistant Professor: Art Y. Lew.

- 301-302 Computers & Information Sciences (3-3) Pre: HS algebra.
 371 Elementary Probability Theory (3) Pre: 1 yr. college math, 1 sem. calculus. (Cross-listed as Math 371)
 410 Computer Project (3) Pre: 466 or 467 & consent.
 443 Statistical Data Analysis (3) Pre: 371, Math 206.
 445 Introduction to Random Processes (3) Pre: 371, Math 206. (Cross-listed as EE 441)
 446 Information Theory & Coding (3) Pre: 371, Math 134, jr. status or consent. (Cross-listed as EE 446)
 466 Computer Organization & Programming Techniques (3) Pre: program lang. (Cross-listed as EE 466)
 467 Algorithmic Languages (4) Pre: program lang. (Cross-listed as EE 467)
 468 Introduction to Computer Systems (3) Pre: 466 or 467. (Cross-listed as EE 468)
 491 Special Topics in Information Sciences (v) Pre: consent.

- 620 Software System Theory (3) Pre: 371, 466, 467, & Phil 445, or consent.
 621 Formal Linguistics (3) Pre: consent.
 622 Theory & Construction of Compilers (3) Pre: 466, 467.
 627 Information Structures (3) Pre: 466, 467.
 630 Information Processing in the Nervous System (3) Pre: Math 206.
 641 Discrete State Stochastic Processes (3) Pre: 371, Math 206.
 644 Pattern Recognition (3) Pre: 371 or knowl. of probability.
 646 Parametric Methods in Time Series Analysis (3) Pre: 445.
 648 Theory of Inference (3) Pre: elem. probability, consent.
 650 Time Series Analysis (3) Pre: 443.
 655 Applied Regression Analysis (3) Pre: 443.
 661 The Theory of Automata (3) Pre: consent. (Cross-listed as EE 661)
 663 The Theory of Computability (3)
 665 Systems Programming (3) Pre: 466, 467.
 670 Multivariate Analysis (3) Pre: 443, 445 or 655.
 671 Artificial Intelligence (3) Pre: 1 program course.
 680 Statistical Decision Analysis (3) Pre: 371, Math 206.
 690 Seminar in Information Sciences (1)
 693 Special Topics in Information Sciences (v) Pre: consent.
 699 Directed Reading (v) Pre: grad status, consent.
 710 Seminar in Software Systems (1) Pre: grad status, consent.
 720 Seminar in Automata & Computability Theory (1) Pre: grad status, consent.
 730 Seminar in Times Series Analysis & Applications (1)
 800 Thesis Research (v)

Linguistics (Ling)

Department Office: Moore Hall 569

Professors Emeriti: Samuel H. Elbert, Fang-Kuei Li.

Professors: Byron W. Bender, Gordon H. Fairbanks, George W. Grace, Roderick A. Jacobs, Howard P. McKaughan, Albert J. Schlütz, Laurence C. Thompson, Donald M. Topping.

Associate Professors: Derek Bickerton, Michael L. Forman, Irwin Howard, Anatole V. Lyovin, Andrew K. Pawley, Lawrence A. Reid, Stanley Starosta, Stanley M. Tsuzaki.

Assistant Professors: Iovanna D. Condax, Robert W. Hsu, Lewis S. Josephs, P. Gregory Lee, Ann M. Peters, Jack H. Ward.

- 102 Introduction to the Study of Language (3)
 200 Languages of the World (3) Pre: 102.
 320 General Linguistics (3)
 410 Articulatory Phonetics (3)
 414 Introduction to Linguistic Anthropology (3) Pre: consent. (Cross-listed as Anth 414)
 421 Introduction to Phonological Analysis (3) Pre: 410.
 422 Introduction to Grammatical Analysis (3) Pre: 421.
 440 Introduction to Linguistic Semantics (3)
 470 Introduction to the Study of Children's Speech (3) Pre: 102 or 320.
 499 Directed Research (v) Pre: 102 or 320, & consent.
 611 Acoustic Phonetics (3) Pre: 410.
 615 The Nature of Language (3)
 621 Phonology (3) Pre: 421.
 622 Grammar (3) Pre: 422.
 625 Mathematical Properties of Natural Languages (3) Pre: 621 or formal logic.
 630 Field Methods (3) Pre: 421, 422.
 635 Language Variation (3) Pre: 622.
 640 Topics in Linguistics (3) Pre: consent.
 645-646(645) Introduction to Comparative Method (3-3) Pre: 421, 422 or consent.
 650-651 Advanced Linguistic Analysis (3-3) Pre: 621, 622 & consent.
 660 Historical Linguistics (3) Pre: 645.
 699 Directed Research (v) Pre: grad status; consent.
 750 Seminar (3) Pre: consent.
 760 Problems in Comparison and Prehistory (3) Pre: 645.
 770 Areal Linguistics (3) Pre: 622.
 800 Thesis Research (v) Max. credit: 12.

Mathematics (Math)

Department Office: Keller Hall 401-A

Professors: Herbert Bear, Christopher Gregory, William Hanf, Edwin Mookini, Nobuo Nobusawa, Richard Pierce, Tom Pitcher, Lawrence Wallen.

Associate Professors: Ronald Brown, Robert Colby, George Csordas, Hugh Hilden, James Johnson, Adolf Mader, Kenneth Rogers, Benjamin Wells, Jack Williamson, Ruth Wong, Rui-Zong Yeh.

Assistant Professors: Christopher Allday, Edward Bertram, David Bleecker, Thomas Craven, Robert Crosby, Carl Davis, Ralph Freese, Thomas Hoover, Dorothy Koehler, Stanley Kranzler, William Lampe, Wang Lee, Robert Little, Terrence McDermott, Dale Myers, Roy Olson, James Siu, Ellen Spielvogel, Thomas Thickstun, Thomas Wenska.

- 097 Intermediate Algebra (0) Pre: 2 yrs. HS algebra.
 100 Survey of Mathematics (3)
 111 Introduction to Mathematics (3) (Limited to potential Elem Ed majors)
 134 Pre-Calculus Mathematics (4) Pre: 2 yrs. alg, 1 yr. plane geom & good score on test in 1st meeting.
 150 Introductory Calculus for the Non-Specialist (3) Pre: 2 yrs. algebra & 1 yr. plane geom. NOT a pre for 205.
 201 Finite Mathematics (3) Pre: 134.
 205 Calculus I (3) Pre: C in 134.
 206 Calculus II (3) Pre: C in 205.
 231 Calculus III (3) Pre: C in 206.
 232 Calculus IV (3) Pre: 231 or consent.
 251 Informal Geometry (3) Pre: 111. (Elem. Ed. majors)
 311 Introduction to Linear Algebra (3) Pre: 231.
 321 Elementary Topology (3) Pre: 311 or consent.
 351 Foundations of Euclidean Geometry (3) Pre: 231 or consent.
 352 Non-Euclidean Geometries (3) Pre: 351 or consent.
 371 Elementary Probability Theory (3) Pre: 1 sem. calculus or consent. (Cross-listed as ICS 371)
 373 Elementary Statistics (3) Pre: 371.
 375 Combinatorial Mathematics (3) Pre: 2 sem. calculus.
 402 Partial Differential Equations (3) Pre: 232.
 403-404 Methods of Applied Mathematics (3-3) Pre: 232.
 407 Introduction to Numerical Analysis (3) Pre: 232 & 311.
 408 Numerical Solution of Differential Equations (3) Pre: 402 & 407.
 412-413 Introduction to Abstract Algebra (3-3) Pre: 311.
 420 Introduction to the Theory of Numbers (3) Pre: 311 or consent.
 431-432 Advanced Calculus (3-3) Pre: 3 from 311, 321, 412-413, 420, 455, 456, 471 or consent.
 442 Vector Analysis (3) Pre: 231.
 444 Theory of Functions of a Complex Variable (3) Pre: 431.
 449 Topics in Undergraduate Mathematics (3) Pre: consent.
 451 Projective Geometry (3) Pre: 311 or consent.
 455 Mathematical Logic I (3) Pre: 412 or consent.
 456 Mathematical Logic II (3) Pre: 455 or Phil 611 or consent.
 471 Probability (3) Pre: 231.
 472 Statistical Inference (3) Pre: 471.
 499 Directed Reading (v)
 611-612 Modern Algebra (3-3) Pre: consent.
 613 Group Theory (3) Pre: consent.
 615 Ring Theory (3) Pre: consent.
 617 Linear Algebra (3) Pre: consent.
 621-622 Topology (3-3) Pre: consent.
 631-632 Theory of Functions of a Real Variable (3-3) Pre: consent.
 633-634 Functional Analysis (3-3) Pre: consent.
 644-645 Analytic Function Theory (3-3) Pre: consent.
 649 Topics in Mathematics (3) Pre: consent.
 655 Set Theory (3) Pre: consent.
 671 Advanced Probability (3) Pre: 631 or consent.
 672 Stochastic Processes (3) Pre: 671 or consent.
 750 Seminar (v) Pre: consent.
 799 Directed Reading and Research (v) Pre: grad status and consent.
 800 Thesis Research (v)

Meteorology (Met)

Department Office: HIG 331

Professors: Wan-Cheng Chiu, Takio Murakami, Colin S. Ramage.
Associate Professors: Carl W. Adams, Charles M. Fullerton, James C. Sadler, Tsutomu Takahashi.
Assistant Professor: P. Anders Daniels.

- 100 Weather and Climate of Hawaii (3)
- 101 Climate, Weather and the Atmosphere (4)
- 342 Meteorological Instruments & Observations (3)
Pre: Math 205.
- 352 Theoretical Meteorology I (3) Pre: Phys 275, or consent.
- 352L(350) Theoretical Meteorology Lab I (1) Pre: 352 or concurrent.
- 353 Theoretical Meteorology II (3) Pre: 352.
- 353L(354) Theoretical Meteorology Lab II (1) Pre: 353 or concurrent.
- 444 Meteorological Satellites (3) Pre: Math 205.
- 445 Tropical Meteorology (3) Pre: 352.
- 450 Meteorological Analysis Lab (3) Pre: 353.
- 452 Tropical Analysis Lab (3) Pre: 353.
- 639 Meteorology of the Tropical Oceans (2) Pre: 445 or consent.
- 640 Advanced Tropical Meteorology Lab (3) Pre: 639 or consent.
- 641 Monsoon Meteorology (3) Pre: 639 or consent.
- 643 Cloud Physics (3)
- 644 Physical Meteorology (3) Pre: 352.
- 645 Adv. Air Pollution Meteorology (3) Pre: Geog 407, 408 or consent.
- 646 Statistical Meteorology (3) Pre: Math 231.
- 650 Advanced Theoretical Meteorology I (3) Pre: 353.
- 651 Advanced Theoretical Meteorology II (3) Pre: 650.
- 742 Atmospheric Turbulence (3) Pre: 650 or consent.
- 745 Dynamic Meteorology in Extratropics (5) Pre: 353.
- 746 Dynamic Meteorology in Tropics (5) Pre: 353.
- 752 Special Topics in Meteorology (3) Pre: 651 or consent.
- 765 Seminar in Meteorology (1)
- 799 Directed Research (v) Pre: consent.
- 800 Thesis Research (v)

Music (Mus)

Department Office: Music Bldg. I

Professors: Robert Hines, Neil McKay, Lewis Rowell, Armand Russell, Barbara Smith, Malcolm Tait, Allen Trubitt, Raymond Vaught.
Associate Professors: Charlene Chadwick-Cullen, Peter Coraggio, E. LaVar Krantz, Richard Lum, Ricardo Trimillos, Floyd Uchima, Nicholas Zumbro.
Assistant Professors: A. Peter Brown, Dorothy Gillett, Edward Shipwright, Hardja Susilo, Byron Yasui.
Instructor: Judy Van Zile.
Lecturers: Teruo Arai, Zosima Batoon, Neil Birnbaum, Thomas Boyd, Ho'oulu Cambra, Wayne DeMello, Kirkland Ferris, Robert Fleming, Beatrice Freitas, George Gilmore, Wendell Gray, Nyle Hallman, Jean Harling, Alan Ing, Adrienne Kaeppler, Gayathri Kassebaum, Chung-Won Kim, Beverly LeBeck, William Lightfoot, Kay Mikami, Harry Nakasone, Yoshino Nakasone, Ruth Pfeiffer, Richard Roblee, Annette Rowell, Lois Russell, Mark Steinruck, Aaron Thain, Whitney Thrall, Herbert Ward, Russell White, Ka'upena Wong, Chie Yamada.

- 102 University Chorus (1)
- 115-116 First-Level Secondary Piano (1-1)
- 123-124 Elementary Voice Class (1-1) Pre: consent.
- 125-126 Elementary Piano Class (1-1)
- 127-128(Alpha) Asian Music Performance Class (1-1)
- 129 Elementary Classical Guitar Class (1) Pre: consent.
- 140 Recreational Music (2)
- 151-152 String Methods (2-2)
- 153 Woodwind Methods (2)
- 154 Brass Methods (2)
- 155 Percussion Methods (2)

- 160 Introduction to Music Literature (3)
- 170 Music in World Culture (3)
- 180 Fundamentals of Western Music (3)
- 181-182 Elementary Music Theory (2-2) Pre: consent.
- 183-184 Aural Training (1-1) Pre: sight sing diatonic.
- 190 Dance in World Cultures (3)
- 191 Introduction to Dance (3) (Cross-listed as Drama 180)
- 197-198 Keyboard Studies (2-2) Pre: 133, 135 & 182
- 215-216 Second-Level Secondary Piano (1-1) Pre: 116 or consent.
- 265 History of Western Music to 1750 (3) Pre: 182 or consent.
- 266 History of Western Music after 1750 (3) Pre: 182 or consent.
- 271-272 Sound Organization in World Cultures (2-2) Pre: 183-184.
- 273-274 Aural Training in Ethnic Musics (1-1) Pre: 183-184.
- 281-282 Intermediate Music Theory (2-2) Pre: 182.
- 283-284 Advanced Aural Training (1-1) Pre: 184.
- 298 Music Theory for Dancers (3) Pre: 180.
- 301(Alpha) Introductory Ensembles (1) Pre: audition or consent.
- 325-326 Conducting (1-2) Pre: 182.
- 351-352 Music in the Elementary School (2-2) Pre: 180 or 181.
- 353 Survey of Music in the Elementary School (3) Pre: EdCI 312, (Cross-listed as EdCI 353)
- 354 Music Education: Elementary (3) Pre: 180, EdCI 312 or concurrent; not open to those with credit in 353.
- 357 Organ Pedagogy (2) Pre: 236 or consent.
- 358-359 Piano Methods (2-2) Pre: 182 or consent.
- 370 Music in Modern America (3) (Cross-listed as AmSt 454)
- 381-382 Advanced Theory (3-3) Pre: 282, 265, 266.
- 383-384 Orchestration (2-2) Pre: 182 or consent.
- 385 Electronic Music (2) Pre: 282-284.
- 391-392 Movement Notation (3-3) Pre: 180 or consent.
- 397 Theory and Practice of Jazz Improvisation (2) Pre: 284 or consent.
- 398 Music, the Arts and Ideas (3) Pre: 160, 170, 180 or consent.
- 399 Directed Study (v) Pre: consent.
- 401(Alpha) Ensembles (1) Pre: consent.
- 402(Alpha) Ethnic Music Ensembles (1) Pre: audition or consent.
- 403(Alpha) Ethnic Dance Ensembles (1) Pre: audition or consent.
- 404 University Concert Choir (1) Pre: experience or consent.
- 405 Opera Workshop (3) Pre: 236(alpha) or consent.
- 406 University Symphony Orchestra (1) Pre: audition or consent.
- 407(Alpha) University Javanese Gamelan (1) Pre: either 170, 470, 477 or consent.
- 408 Collegium Musicum (1) Pre: consent.
- 409 Concert Band (1) Pre: audition or consent.
- 410 Topics in Music (1) Pre: 271, or 281, or 391.
- 420 Music Literature Laboratory (2) Pre: 236 or consent.
- 421 Service Playing (2) Pre: 236 or consent.
- 452(Alpha) Advanced Woodwind Methods (2) Pre: 153.
- 455(Alpha) Advanced Percussion Methods (2) Pre: 155.
- 457 Asian and Pacific Music in Education (2) Pre: 352 or 353, teaching experience or consent.
- 458 Voice Methods (2) Pre: 182 or consent.
- 461 Symphonic Music (2) Pre: 265-266 or consent.
- 462 Choral Music (2) Pre: 265-266 or consent.
- 463 Opera (2) Pre: 265-266 or consent.
- 464 Twentieth-Century Music (2) Pre: 265-266 or consent.
- 465 Chamber Music (2) Pre: 265-266 or consent.
- 466 Music of the United States (2) Pre: 265-266 or consent.
- 467 Solo Song (2) Pre: 265-266 or consent.
- 468 The Concerto (2) Pre: 265-266 or consent.
- 469 Keyboard Music (2) Pre: 265-266 or consent.
- 470 Art Music of Asia (2) Pre: 160, 170, 180, 181 or consent.
- 471 Music of Non-Literate Peoples (3) Pre: either 160, 170, 180, 181 or consent.
- 477(Alpha) Musical Cultures (2) Pre: 160, 170, 180, 181 or consent.
- 479 Undergraduate Topics in Ethnomusicology (2) Pre: consent.
- 487-488 Composition (2-2) Pre: 282 or consent.
- 489-490 Advanced Composition (2-2) Pre: 488.
- 519 Music for Elementary Teachers (3) Pre: 180 or consent.
- 580 Theory Review (3) Pre: consent.
- 600(Alpha) Seminar (3) Pre: consent.
- 601 Advanced Ensemble (1) Pre: 436.
- 625-626 Advanced Conducting (2-2) Pre: 326.
- 651 Foundations of Music Education (2)
- 653 Music Curriculum Theory and Design (2)
- 660(Alpha) Studies in Music Literature (3) Pre: 265-266 or consent.

- 661 Bibliography and Research Methods in Music (3)
 670(Alpha) Regional Music (3) Pre: consent.
 678(Alpha) Advanced Problems in Ethnomusicology (v) Pre: consent.
 680(Alpha) Studies in Music Theory (3) Pre: 282.
 690(Alpha) Regional Dances (3) Pre: consent.
 699 Directed Work (v) Pre: consent.
 800 Thesis Research (v)

APPLIED MUSIC

For information on sections, requirements and costs consult department.

- 130(Alpha) Introduction to Applied Music, Ethnic (1) Pre: audition or consent.
 131(Alpha) Introduction to Applied Music, Western (1) Pre: audition or consent.
 132-133(Alpha) First-Level Applied Music (1) Pre: audition.
 134-135(Alpha) First-Level Applied Music (2) Pre: audition.
 141(Alpha) Introduction to Applied Music, Western (2) Pre: audition or consent.
 230(Alpha) Intermediate Applied Music, Ethnic (1) Pre: 130 or consent.
 231(Alpha) Intermediate Applied Music, Western (1) Pre: 131.
 240(Alpha) Intermediate Applied Music, Ethnic (2) Pre: 130 or consent.
 241(Alpha) Intermediate Applied Music, Western (2) Pre: 130 or consent.
 232-233(Alpha) Second-Level Applied Music (1) Pre: 133, 135 or consent.
 234-235(Alpha) Second-Level Applied Music (2) Pre: 133, 135 or consent.
 332-333(Alpha) Third-Level Applied Music (1) Pre: 233, 235 or consent.
 334-335(Alpha) Third-Level Applied Music (2) Pre: 233, 235 or consent.
 336-337(Alpha) Third-Level Applied Music (3) Pre: 233, 235 or consent.
 430(Alpha) Advanced Applied Music, Ethnic (1) Pre: 230 or audition.
 431(Alpha) Advanced Applied Music, Western (1) Pre: 231 or audition.
 434-435(Alpha) Fourth-Level Applied Music (2-2) Pre: consent.
 436-437(Alpha) Fourth-Level Applied Music (3-3) Pre: 333, 335, 337 or consent.
 438-439(Alpha) Fourth-Level Applied Music (4-4) Pre: 333, 335, 337 or consent.
 440(Alpha) Advanced Applied Music, Ethnic (2) Pre: 230.
 441(Alpha) Advanced Applied Music, Western (2) Pre: 231.
 635(Alpha) Graduate-Level Applied Music (3) Pre: consent.
 636(Alpha) Graduate Recital (3) Pre: consent.

Oceanography (Ocean)

Department Office: HIG Bldg. 342

Professors: John Caperon, Keith E. Chave, Gordon W. Groves, Wilton A. Hardy, Alexander Malahoff, Garth I. Murphy, Klaus Wyrski.

Associate Professors: James E. Andrews, Robert W. Buddemeier, Thomas A. Clarke, Brent S. Gallagher, Stanley V. Margolis, Edward D. Stroup, Richard E. Young.

Assistant Professors: Peter M. Kroopnick, John M. Miller, Robert J. Tait.

- 201 Science of the Sea (3)
 298 Global Pollution and Natural Processes (3) Pre: 1 yr. college chemistry or consent.
 620 Physical Oceanography (3) Pre: Math 206.
 621 Biological Oceanography (3) Pre: 620 or consent.
 622 Geological Oceanography (3) Pre: strong geol. cf. GG 623.
 623 Chemical Oceanography (3) Pre: consent.
 630 Physical Oceanography Lab (1) Pre: Math 232 & consent.
 632 Littoral Geological Processes (3) Pre: 620, 622 & consent.

- 633 Chemical Oceanography Lab Methods (1) Pre: consent.
 634 Techniques in Geological Oceanography (2) Pre: consent.
 635 Radioactivity in the Marine Environment (3) Pre: Math 205, Chem 113-114L, Phys 151-152L. (Cross-listed as Chem 655)
 635L Marine Radioactivity Lab (1) Pre: 635 & consent. (Cross-listed as Chem 655L)
 640 Advanced Physical Oceanography (3) Pre: 620, Math 402.
 642 Sedimentology II (3) Pre: consent.
 643 Marine Geochemistry (3) Pre: 622, 623.
 644 Marine Geophysics (3) Pre: consent.
 646 Zooplankton Ecology (3) Pre: 621 or consent.
 650 Mathematical Techniques for Biologists (3) Pre: Math 206.
 653 Geochemical Evolution of Sediments (3) Pre: Chem 352.
 660 Ocean Waves (3) Pre: Math 432 or consent.
 661 Tides (3) Pre: 640 or Math 432 or consent.
 662 Marine Hydrodynamics (3) Pre: Math 403-404.
 663 Measurements and Instrumentation (2)
 664 Principles of Underwater Acoustics (3) Pre: consent & Math 404.
 666 Nearshore Physical Oceanography (3) Pre: 660 or consent.
 672 Seminar in Geotectonics I (3) Pre: consent. (Cross-listed as GG 672)
 673 Continental Shelves (3) Pre: consent.
 699 Directed Research (v) Pre: consent.
 702 Deep Sea Biology (3)
 705 Ecology and Management of Marine Resources (2) Pre: Math 206 & consent.
 735 Seminar in Oceanography (2)
 750 Topics in Biological Oceanography (2) Pre: consent.
 760 Topics in Physical Oceanography (2) Pre: consent.
 770 Seminar in Chemical Oceanography (1)
 799 Seminar (1)
 800 Thesis Research (v)

Pacific Islands Program (PIP)

Program Office: George Hall Annex 7-5

Professors: C.J. Daeufer, G. Daws, S. Goto, E.A. Kay, N. Meller, D.L. Oliver, P.N.D. Pirie, R.J. Wolff.

Curators: R. Heyum, D. Kittelson.

A cross-disciplinary program offered by the Pacific Islands Committee.

- 390(Alpha) Change in the Pacific (3)
 690 Graduate Seminar: Change in the Pacific (3) Pre: consent.
 699 Directed Reading & Research (v)
 800 Thesis Research (v)

Pacific Urban Studies and Planning Program (Plan)

Program Office: Maile Way 4

Director: Tom Dinell.

Associate Professor: Luciano Minerbi.

Assistant Professors: John Holmstrom, Lawrence Nitz, Paul Schwind.

Visiting Assistant Professor: Dean Runyan.

Acting Assistant Professor: Gordon Kemmery Lowry, Jr.

Associate Specialist: Ned Wiederholt.

Participating units include the departments of architecture, economics, geography, political science and sociology, the College of Engineering and the Schools of Public Health and Social Work.

- 310 Planning Perspectives (3) Pre: consent.
 600 Contemporary Planning Theory (3) Pre: consent.
 601 Intro to Planning Systems (3) Pre: 600.
 602 Methods of Planning Analysis (3) Pre: 600 or consent.
 685(645) Urban Planning in Developing Countries (3) Pre: consent. (Cross-listed as Arch 685)
 686(646) Regional Planning in Developing Countries (3) Pre: consent. (Cross-listed as Arch 686)
 695 Planning Practicum I (3) Pre: 600 or 601 or consent.
 696 Planning Practicum II (3) Pre: 695.

- 710 Land Use Guidance (3) Pre: Plan 600, Arch 372, RE 350, or consent.
 780 Selected Topics in Planning (3) Pre: 600 & 601 or consent.
 799 Directed Reading and Research (v) Pre: consent.
 800 Thesis Research (v)

The following courses offered by the participating units are part of the Planning Studies Program: Arch 442; CE 463, 464, 664, 665; Econ 458, 492, 495; Geog 421, 425, 612, 621; PH 614; PolSci 651, 670, 750, 770, 780.

Philosophy (Phil)

Department Office: George Hall 120

Professors: Chung-yuan Chang, Irving M. Copi, Eliot Deutsch, Harold E. McCarthy, Winfield E. Nagley, K.N. Upadhyaya.
Associate Professors: Chung-ying Cheng, David J. Kalupahana, Beatrice T. Yamasaki.

Assistant Professors: Robin N. Assali, Frederic L. Bender, Lenn E. Goodman, Edward D. Harter, Ronald M. Moore, Donald L. Stewart.

One of the following is generally a prerequisite to each advanced course: 100, 200, 201, 210 or equivalent.

WESTERN

- 100 Introduction to Philosophy (3)
 200 History of Philosophy I (3)
 201 History of Philosophy II (3) Rec: 200.
 210 Introduction to Logic (3)
 225 Early Greek Thought (3) (Cross-listed as EL 225)
 300 Greek Philosophy (3)
 301 Philosophy of Late Antiquity (3) Rec: 300.
 302 Medieval Philosophy (3)
 304 British Empiricism (3)
 306 Continental Rationalism (3)
 308 19th-Century Philosophy (3)
 310 20th-Century Philosophy (3)
 315 Ethical Theory (3)
 340 Survey of Islamic Philosophy (3)
 400 Political Philosophy (3)
 401 Social Philosophy (3)
 402 Philosophy of Law (3)
 403 Marxist Philosophy (3)
 405 American Philosophy (3)
 410 Philosophy of the Physical Sciences (3) Pre: 210.
 415 Philosophy of the Social Sciences (3)
 417 Theory of Knowledge (3)
 418 Metaphysics (3)
 420 Philosophy of Art (3)
 422 Philosophy and Psychoanalysis (3)
 425 Philosophy in Literature (3)
 427 Kafka (3)
 428 Samuel Beckett (3)
 430 Existential Philosophy (3)
 435 Philosophy of Religion (3) (Cross-listed as Rel 435)
 440 Introduction to Phenomenology (3) Pre: 304 & 306.
 441 Introduction to Contemporary Analytical Philosophy (3)
 444 Classical & Early Modern Logic (3)
 445 Symbolic Logic I (3) Rec: 210.
 448(Alpha) Comprehensive Philosophical Systems (3)
 Pre: 100 or 200 or 201.
 449(Alpha) Philosophical Topics (3) Pre: consent.
 600(Alpha) Problems of Philosophy (3) Pre: grad status, consent.
 605 Philosophy of Language (3)
 611 Symbolic Logic II (3) Pre: 445.
 700(Alpha) Individual Western Philosophers (3) Pre: grad status, consent.
 715 Philosophy of Mathematics (3) Pre: 611 or 12 cr. in math, consent.
 720 Seminar in Ancient-Medieval Philosophy (3) Pre: grad status, consent.

- 725(Alpha) Seminar in Modern Classical Philosophy (3) Pre: grad status, consent.
 730(Alpha) Seminar in Contemporary Philosophy (3) Pre: grad status, consent.
 795 Philosophical Texts (3)
 799 Directed Research (v) Pre: consent.
 800 Thesis Research (v)

ASIAN AND COMPARATIVE

- 450 Indian Philosophy (3)
 460 Buddhist Philosophy (3)
 470 Chinese Philosophy (3)
 485 Modern Japanese Philosophy (3)
 650(Alpha) Individual Asian Philosophers (3)
 Pre: 450, 460 or 470; consent.
 655 Vedanta (3) Pre: 450 & consent.
 660 Theravada Buddhist Philosophy (3) Pre: 460 & consent.
 661 Mahayana Buddhist Philosophy (3) Pre: 460 & consent.
 662 Zen (Ch'an) Philosophy (3) Pre: 460 & consent.
 670 Confucianism (3) Pre: 470 & consent.
 671 Neo-Confucianism (3) Pre: 470 & consent.
 672 Taoism (3) Pre: 670 & consent.
 750(Alpha) Seminar in Indian Philosophy (3) Pre: grad status, consent.
 760(Alpha) Seminar in Buddhist Philosophy (3) Pre: 460, grad status, consent.
 770(Alpha) Seminar in Chinese Philosophy (3) Pre: 470, grad status, consent.
 780 Seminar in Comparative Philosophy (3) Pre: consent.
 795(Alpha) Philosophical Texts (3)
 799 Directed Research (v) Pre: consent.
 800 Thesis Research (v)

Physics (Phys) and Astronomy (Astr)

Department Office: Watanabe Hall 416

Professors: Walter K. Bonsack, Robert J. Cence, Burton L. Henke, John R. Holmes, Howard C. McAllister, Frank Q. Orrall, Vincent Z. Peterson, William Pong, William Sinton, Walter R. Steiger, Victor J. Stenger, San Fu Tuan, Michael S. Watanabe, Ramon Wolstencroft, David E. Yount, Jack B. Zirker.
Associate Professors: Ann M. Boesgaard, Peter N. Dobson, Charles F. Hayes, Katashi Nose, Sandip Pakvasa, Michael W. Peters.
Assistant Professor: Peter P. Crooker.

Math 231 and Phys 151-152L or 170-272L are prerequisites to all courses numbered 300 or above. Only one of the introductory series 151-152, 163-164, or 171-272 may be taken for credit.

- 100 Survey of Physics (3) Limited.
 100L(101) Survey of Physics Laboratory (1) Pre: 100 or 102.
 102 Elementary Modern Physics (3)
 110 Astronomy (3) Pre: high school trig.
 111 Astronomy (3) Pre: high school trig.
 151-152 College Physics (3-3) Pre: Math 134; 151 for 152.
 151L(153) College Physics Laboratory I (1) Pre: 151. Cr/NC only.
 152L(154) College Physics Laboratory II (1) Pre: 152. Cr/NC only.
 163-164 Principles of Physics (3-3) Pre: Math 205; 163 for 164.
 Intended for biology and pre-medical students.
 163L Principles of Physics Laboratory (1) Pre: 163. Cr/NC only.
 164L Principles of Physics Laboratory (1) Pre: 164. Cr/NC only.
 170 General Physics I (4) Pre: Math 206.
 170L(171) Experimental Analysis in Mechanics and Thermodynamics (1) Pre: 170.
 272 General Physics II (3) Pre: 170, 170L.
 272L(273) Experimental Analysis in Electricity and Magnetism and Optics (1) Pre: 272.
 274 General Physics III (3) Pre: 272, 272L, or 151-152L or 163-164L; Math 231.
 274L(275) Experimental Analysis in Modern Physics (1) Pre: 274.

- 310 Theoretical Mechanics I (3) Pre: Math 232.
 311 Theoretical Mechanics II (3) Pre: 310.
 350 Electricity and Magnetism (3) Pre: Math 232.
 390 Contemporary Physics (2) Pre: 274 or consent. Cr NC only.
 399 Individual Work in Advanced Physics (v) Limited.
 400 Applications of Math to Physical Sciences (3) Pre: Math 232.
 Rec.: UD Math.
 421 Astrophysics I (3) Pre: 274 or Math 232.
 430 Thermodynamics and Statistical Mechanics (3) Pre: Math 232.
 440 Solid-State Physics (3) Pre: 274, 350.
 450 Electromagnetic Waves (3) Pre: 350.
 460 Physical Optics (3) Pre: 274.
 480 Atomic and Nuclear Physics I (3) Pre: 274 or Math 232.
 481 Atomic and Nuclear Physics II (3) Pre: 480.
 480L, 481L(405-406) Advanced Physics Lab (2-2) Pre: 274L.
 480 or consent.
 490 Quantum Electronics (3)
 502 Electronics for In-service Teachers (2) Pre: NSF Inst.
 600 Methods of Theoretical Physics I (3) Pre: 400 or consent.
 610 Analytical Mechanics I (3) Pre: Math 402, 400 or 600.
 621 Stellar Atmospheres I (3) Pre: 480, Math 402 or 400 or 600.
 623 Stellar Interiors & Evolution (3) Pre: Math 402 or 400 or 600.
 629 Astrophysical Techniques (3) Pre: consent.
 650 Electrodynamics I (3) Pre: 450, Math 402 or 400 or 600.
 651 Electrodynamics II (3) Pre: 650.
 660 Advanced Optics (3) Pre: 460.
 690 Seminar (0) Pre: grad status or consent.
 695 Seminar on Atomic & Solid-State Physics (1) Pre: grad status or consent.
 700 Seminar on Elementary Particle Physics (1) Pre: consent.
 711 Advanced Topics in Theoretical Physics (3) Pre: consent.
 725 Planetary Physics (3) Pre: consent.
 730 Statistical Mechanics (3) Pre: 430, 610, 770.
 732 Astrophysical Spectra (3) Pre: 480.
 733 Special Topics in Astronomy (3) Pre: consent.
 770 Quantum Mechanics (3) Pre: 481, Math 403-404 or Phys 600.
 772 Relativistic Quantum Mechanics (3) Pre: 771.
 777 Nuclear Physics (3) Pre: 481, 770.
 778 Elementary Particle Physics (3) Pre: 777 or consent.
 785 Solid-State Theory (3) Pre: 440, 770.
 799 Directed Research (v) Pre: consent.
 800 Thesis Research (v)

Political Science (PolSc)

Department Office: Social Science Bldg. 641

Professors: Theodore L. Becker, Robert S. Cahill, James A. Dator, Harry J. Friedman, Michael Haas, Philip E. Jacob, Henry S. Kariel, Yasumasa Kuroda, Werner Levi, Norman Meller, Glenn D. Paige, Fred W. Riggs, Rudolph J. Rummel, Glendon Schubert, Robert B. Stauffer, Dae-Sook Suh.
Associate Professors: Douglas Bwy, Richard W. Chadwick, Manfred Henningsen, George Kent, Oliver Lee, Neal A. Milner, Deane E. Neubauer, Michael J. Shapiro.
Assistant Professors: Benedict J. Kerkvliet, Michael L. Mezey, Lawrence H. Nitz, Richard Pratt, Ira S. Rohrer, John F. Wilson.

UNDERGRADUATE COURSES

- 110 Introduction to Political Science (3)
 300-301 Political Thought (3-3)
 305 Topics in Political Thought (3)
 320-321 International Relations (3-3)
 325 Topics in International Relations (3)
 330-331 Policy Formation (3-3)
 333 American Government (3)
 335 Topics in Policy Formation (3)
 340-341 Comparative Government and Politics (3-3)
 345 Topics in Comparative Government and Politics (3)
 350-351 Public Administration (3-3)
 355 Topics in Public Administration (3)

- 360-361 Public Law and Politics (3-3) (360 pre for 361.)
 365 Topics in Legal Process and Behavior (3)
 390, 391 Colloquium in Political Science (3, 3) Pre: consent.
 399 Directed Reading (v) Pre: consent.

GRADUATE COURSES

- 600 Scope and Methods of Political Science (3)
 601 Research Methods (3)
 602 Analytic Methods (3)
 610 Political Thought (3)
 710 Seminar: Political Thought (3) Pre: consent.
 630 International Relations (3)
 730 Seminar: International Relations (3) Pre: consent.
 640 Comparative Government and Politics (3)
 650 Public Administration Theory (3)
 740 Seminar: Comparative Government and Politics (3) Pre: consent.
 750 Seminar: Public Administration (3) Pre: consent.
 651 Functional Aspects of Public Administration (3)
 660 Public Law and Judicial Systems (3)
 670 Politics (3)
 720 Seminar: American Government (3) Pre: consent.
 760 Seminar: Judicial Systems (3) Pre: consent.
 770 Seminar: Politics (3) Pre: consent.
 680 Asian Politics (3)
 780 Politics of Regions (3) Pre: consent.
 699 Directed Reading and Research (v) Pre: consent.
 800 Thesis (v) Pre: consent.

Population Studies (Pop)

Program Office: Lincoln Hall 233

Professors: Lee-Jay Cho, Alan Howard, Peter Pirie.
Associate Professors: Murray Chapman, James A. Palmore, Jr.
Assistant Professors: Dennis N.W. Chao, Griffith Feeney, Gary A. Fuller, Robert D. Retherford, Florangel Rosario.

- 650 Introduction to Demography (3)
 691 Methods of Demographic Analysis (3)
 692 Techniques of Estimation from Limited Data (3) Pre: 691.
 699 Directed Reading and Research (v) Pre: consent.
 750 Interdisciplinary Seminar in Population Studies (3)

Psychology (Psy)

Department Office: Gartley Hall 110

Professors: Abe Arkoff, Harold M. Bitner, M.E. Bitterman, Robert J. Blanchard, David H. Crowell, John M. Digman, Louis M. Herman, Leon A. Jakobovits, Ronald C. Johnson, Arthur W. Staats, Roland G. Tharp, Leonard P. Ullmann, David L. Watson, Herbert B. Weaver.
Associate Professors: John G. Carlson, Robert E. Cole, James T. Fawcett, W. Scott MacDonald, Helge Hilding Mansson, Karl A. Minke, Samuel I. Shapiro.
Assistant Professors: Thomas J. Ciborowski, Ian Evans, Anthony J. Marsella, Clifford R. O'Donnell.

- 100 Survey of Psychology (3)
 110 Psychology of Adjustment (3)
 112 Introductory Lab in Psychology (3) Pre: 100.
 113 Statistical Techniques (3) Pre: 2 yrs. HS algebra.
 215 Sensory Processes (3) Pre: 100, 112.
 216 Individual Differences & Measurement (3) Pre: 113.
 230 Social Behaviorism (3) Pre: 100.
 317 Physiological Psychology (3)
 318 Animal Psychology (3) Pre: 100, 112.
 319 Experimental Psychology (3) Pre: 100, 112, 113.
 320 Developmental Psychology (3) Pre: 100.
 321 Psychology of Personality (3) Pre: 100.
 322 Social Psychology (3) Pre: 100.

- 323 Cross-Cultural Psychology (3) Pre: 100 or soc. sci. equiv.
 330 Learning & Motivation (3) Pre: 230 or 112.
 401 Experimental Analysis of Behavior (3) Pre: 100, 112.
 423 History of Psychology (3) Pre: 100.
 424 Abnormal Psychology (3) Pre: 100.
 426 Industrial Psychology (3) Pre: 100.
 427 The Exceptional Child (3) Pre: 320.
 428 Social Development of Children (3) Pre: 320.
 429 Advanced Undergraduate Seminar (3) Pre: consent.
 430 Complex Human Learning (3) Pre: 230 or 330.
 432 Psychological Aspects of War & Peace (3) Pre: 100.
 434 Seminar on the Psychology of Knowledge (3) Pre: consent.
 471 Environmental Psychology (3) (Cross-listed as Arch 471)
 485 Seminar on Transpersonal Psychology (3) Pre: consent.
 490 Seminar on Psychology Today (3) Pre: consent.
 491 Teaching Psychology (v)
 493 Practicum in Psychology (v) Pre: consent.
 499 Directed Reading or Research (v) Pre: consent.
 601 Introduction to Quantitative Methods (3)
 602 Statistical Analysis (3) Pre: 601.
 603 Design & Analysis of Psychological Experiments (3) Pre: 602.
 605 Problems of Measurement & Evaluation (3) Pre: 425, 601, 602.
 (Cross-listed as EdEP 709)
 606 Multivariate Methods (3) Pre: 602.
 633 Comparative Psychology (3)
 634 Physiological Psychology (3)
 635 Sensory Processes & Psychophysics (3)
 636-637 Learning & Motivation (3-3)
 639 Selected Topics in Comparative Psychology (3) Pre: 633.
 640 Verbal Learning (3)
 642 Behavior Processes of the Marine Mammal (3)
 643 Cognitive Processes (3) Pre: consent.
 645 Current Issues in Learning & Motivation (3) Pre: 636 or 637.
 649 Instrumentation (3)
 653 Infant Development & Behavior (3)
 654 Cognitive Development (3)
 655 Learning, Language, & Intellectual Functioning (3) Pre: 430.
 (Cross-listed as EdEP 655)
 656 Children's Social Development (3)
 660 Personality: Theory & Research (3) Pre: 321.
 661 Personality & Social Interaction (3) Pre: 321.
 662 Social Psychology (3) Pre: 322.
 663 Behavior in Groups (3) Pre: 322.
 664 Attitude Development & Change (3) Pre: 322.
 665 Cross-Cultural Psychology (3)
 666 Psychology & Social Issues (3)
 670 Applied Social Psychology (3)
 671 Advanced Environmental Psychology (3) Pre: 471.
 (Cross-listed as Arch 671)
 675-676 Behavior Assessment (2-2) Pre: consent.
 675L-676L(677-678) Behavior Assessment Lab (1-1)
 Pre: 675-676 concurrent.
 681 Childhood Behavior Disorders & Intervention (3) Pre: 675, 676.
 682 Adult Behavior Disorders & Intervention (3) Pre: 675, 676.
 683 Social Behavior Disorders & Intervention (3) Pre: 675, 676.
 684 Cognitive Approaches to Behavior Change (3) Pre: 682.
 687 Practicum in Behavior Change: Community Issues (3)
 Pre: consent.
 688 Practicum in Behavior Change in Children (3) Pre: consent.
 689 Practicum in Behavior Change in Adults (3) Pre: consent.
 690 Practicum in Clinical Psychology (v) Pre: consent.
 699 Directed Reading or Research (v) Pre: consent.
 700 Seminar (3)
 710 Seminar in Teaching Psychology (1) Pre: consent.
 714 Survey Research Methods (3) Pre: 322. (Cross-listed as Soc 714)
 730 Research in Experimental Psychology (3) Pre: 2nd-yr. grad.
 750 Research in Developmental Psychology (3) Pre: 2nd-yr. grad.
 760 Research in Personality (3) Pre: 2nd-yr. grad.
 762 Research in Social Psychology (3) Pre: 2nd-yr. grad.
 790 Research in Clinical Psychology (3) Pre: consent.
 795 Internship in Clinical Psychology (0) Pre: consent.
 800 Thesis or Dissertation Research (v)

Religion (Rel)

Department Office: George Hall 344

Professors: Mitsuo Aoki, Alfred Bloom, Friedrich Seifert.

Visiting Professor: Taitetsu Unno.

Associate Professors: Robert Bobilin, S. Cromwell Crawford,
Michael Klimenko, Robert Olson, Michael Saso.

Assistant Professor: John Charlot.

Acting Assistant Professor: David Chappell.

- 150 Introduction to the World's Major Religions (3)
 151 Religion and the Meaning of Existence (3)
 200 Understanding the Old Testament (3)
 201 Understanding the New Testament (3)
 202 Understanding Indian Religions (3)
 203 Understanding Chinese Religions (3)
 204 Understanding Japanese Religions (3) Pre: 150.
 300 The Study of Religion (3)
 301(398) Charisma of the Cults (3) Pre: 150 or 151.
 322 Survey of Social Organization and Change (3)
 (Cross-listed as Soc 322)
 351 Religion & Images of Reality (3) Pre: 151.
 365 Religion and Social Change (3)
 409 Seminar on the Life and Teachings of Jesus (3) Pre: 201;
 upper division status.
 422 Comparative Religion (3) Pre: Anth 200.
 (Cross-listed as Anth 422)
 435 Philosophy of Religion (3) (Cross-listed as Phil 435)
 451 Christian Ethics & Social Programs (3) Pre: UD upper
 division status or consent.
 452 Analysis in Social Institutions (3) Pre: Soc 200 or consent.
 (Cross-listed as Soc 452)
 453 Theology of Peace (3) Pre: 365. UD status or consent.
 454 Religion & Social Thought of Mohandas Gandhi (3) Pre: 202.
 455 Ethics in Asian Religions (3) Pre: 150 or consent.
 465 Religion & Social Change in Asia (3) Pre: 365; UD status or
 consent.
 471 History of Indian Buddhism (3) Pre: 202 or consent.
 475 History of Chinese Buddhism (3) Pre: 203 or consent.
 480-481 History of Religions in Russia (3-3)
 Pre: UD status or consent.
 483 History of Judaism & Christianity (3) Pre: 200.
 490-491 Buddhism in Japan (3-3) Pre: 150 or consent.
 495 Seminar in Religion (3) Pre: 300 or consent.
 498 Role of Women in World Religions (3) Pre: 150 or consent.
 499 Directed Reading or Research (3) Pre: consent.
 600 History & Theory of the Study of Religion (3)
 651 Selected Problems of Theology (3) Pre: grad status; consent.
 665 Seminar in Religion & Social Change (3) Pre: 365 or 465
 or consent.
 682 Topics in Indian Religions (3) Pre: 202 or consent.
 685 Topics in Japanese Religions (3) Pre: 490, 491 or consent.
 686 Topics in Chinese Religions (3) Pre: 203 or consent.
 695 Research Seminar in Religion (3) Pre: 630 or consent.

45

Science, General (Sci)

Department Office: Dean Hall 2

Professor: E. Alison Kay.

Associate Professor: W. Jan Newhouse.

Assistant Professors: Stephen Amesbury, Gordon Bigelow, Wilmer
O. Crain, Arnold Feldman, David Fellows, Donna Haraway.

Instructors: Jeremy Jones, Barbara Shank, John Southworth, Janice
Uchida, Roger Vaughan.

- 121 Introduction to Science: Biological Science (4)
 (Not open to students who have had 123)
 122 Introduction to Science: Physical Sciences (4)
 123 Introduction to Science: Hawaiian Perspectives (4)
 (Not open to students who have had 121)
 124 Technology, Ecology, and Man (4)
 298 Biology and Man (3)
 320 The Atoll (3) Pre: 1 yr. introductory science.

- 330 Man & Science in the Pacific (3) Pre: 1 yr. intro. sci.
 350(398) Sex Differences in the Life Cycle (3) Pre: 1 yr. intro. sci.
 420 Case Histories in Science (3) Pre: 2 sem. biological science,
 2 sem. physical science.
 430 History of Science (3) Pre: 1 yr. natural science. (Cross-listed
 as Hist 430)
 620 Natural Science as a Human Activity (3)

Sociology (Soc)

Department Office: Crawford 327

Professors: Harry Ball, Herbert Barringer, Milton Bloombaum,
 Lee-Jay Cho, Gene Kassebaum, Edmund Volkart, George Won,
 Douglas Yamamura, Stephen Yeh.

Associate Professors: Earl Babbie, David Chandler, Minako
 Maykovich, James Palmore, Raymond Sakumoto, Patricia
 Steinhoff, David Swift, George Yamamoto.

Assistant Professors: Calvin Endo, Joseph Seldin, Michael
 Weinstein.

- 100 Survey of General Sociology (3)
 200 Introduction to Principles of Sociology (4)
 312 Survey of Demography and Ecology (3)
 322 Survey of Social Organization and Change (3)
 (Cross-listed as Rel 322)
 332 Survey of Social Control (3)
 342 Survey of Social Psychology (3)
 352 Survey of Social Institutions (3)
 362 Survey of Applied Sociology (3)
 412 Analysis in Demography & Ecology (3) Pre: 200 or consent.
 422 Analysis in Social Organization & Change (3) Pre: 200 or
 consent.
 432 Analysis in Social Control (3) Pre: 200 or consent.
 442 Analysis in Social Psychology (3) Pre: 200 or consent.
 452 Analysis in Social Institutions (3) Pre: 200 or consent.
 462 Analysis in Applied Sociology (3) Pre: 200 or consent.
 472 Analysis in Sociology: Theory, Methods, Statistics (3)
 Pre: 200 or consent.
 495 Topics in Sociology: Faculty Projects Normally Limited to
 10 Students (v) Pre: 200 or consent.
 496 Topics in Sociology: Student Projects (v)
 499 Directed Reading or Research (v)
 620 Proseminar I: The Sociological Profession (3) Pre: consent.
 Concurrent with Proseminar II.
 621 Proseminar II: The Field of Sociology (3) Pre: consent.
 Concurrent with Proseminar I.
 714 Seminar in Methods of Research (3) Pre: consent.
 715 Seminar in Social Statistics (3) Pre: consent.
 716 Seminar in Theory Construction (3) Pre: consent.
 720 Seminar in Social Organization (3) Pre: consent.
 721 Seminar in Social Institutions (3) Pre: consent.
 722 Seminar in Group Relations (3) Pre: consent.
 730 Seminar in Social Disorganization (3) Pre: consent.
 731 Seminar in Social Change (3) Pre: consent.
 732 Seminar in Comparative Sociology (3) Pre: consent.
 740 Seminar in Social Psychology (3) Pre: consent.
 750 Seminar in Demography & Human Ecology (3) Pre: consent.
 751 Seminar in Urban & Rural Sociology (3) Pre: consent.
 799 Directed Research (v) Pre: grad status, consent.
 800 Thesis Research (v)

Speech (Sp)

Program Office: Geogre Hall 321

Professors: Eleanor J. Bilsborrow, Lucille N. Breneman, Donald
 W. Klopff.

Associate Professors: Loretta Krause, Wayne H. Oxford, Helene
 H. Wong.

Assistant Professors: Lauren E. Ekroth, Robert C. Johnson,
 Valentine K. Larson, Kazuo Nishiyama, Joel C. Passey,
 K.S. Sitaram.

Instructor: Janice K. Kido.

- 151 Introduction to Speech (3)
 211 General Phonology (3)
 231 Interpretative Reading (3)
 232 Group Interpretation (3) Pre: 231.
 251 Principles of Effective Public Speaking (3) Pre: 151.
 252 Voice and Diction (3)
 253 Argumentation and Debate (3) Pre: 151 or 251.
 254 Persuasion (3) Pre: 151.
 255 Presentational Speaking in Business & Industry (3)
 321 Speech for the Classroom Teacher (3) Pre: 151 or 251.
 333 Storytelling (3) Pre: 151.
 350 Personal Speech Communication (3) Pre: 151 or consent.
 352 Group Discussion (3) Pre: 151 or consent.
 385 Culture and Communication (3)
 386 Culture and Communication: Japan and the U.S. (3)
 403 Research Methods in Speech (3) Pre: stats, or consent.
 431 Advanced Interpretative Reading (3) Pre: 231 & soph lit.
 432 Readers Theatre (3) Pre: 231 or 232.
 491 Semantics (3)
 492 Nonverbal Communication (3) Pre: upper-division status.
 499 Special Problems (v) Pre: consent.

Speech-Communication (SpCom)

(This program is in process of replacement. Consult the program
 in communication and the program in speech for details.)

- 601 History of Theory & Trends in Speech-Communication
 Research (3) Pre: Comun 406 or consent.
 602 Methods of Scientific Research in Speech-Communication
 Systems (3) Pre: 601; 671 or 672 or 681 or 682.
 631 Seminar in Interpretation (3) Pre: consent.
 651 Seminar in Rhetoric & Public Address (3) Pre: consent.
 671 Speech-Communication in Control of Cognition (3)
 Pre: Comun 305, 406.
 672 Speech-Communication in the Control of Behavior (3) Pre: 671.
 681 Speech-Communication Process Analysis (3) Pre: consent.
 682 Speech-Communication: Theories of Source-Receiver Behavior
 (3) Pre: consent.
 696 General Seminar (3) Pre: consent.
 784 Seminar in Intercultural Speech-Communication (3)
 Pre: Comun 384 or Sp 385 or Anth 200 or consent.
 785 Seminar in Speech-Communication in Innovation (3)
 Pre: consent.
 799 Research (v)
 800 Thesis (v)

COLLEGE OF BUSINESS ADMINISTRATION

The College of Business Administration prepares students for business leadership in Hawaii and the Pacific area. Students receive a solid foundation, both theoretical and practical, in the structures, functions and objectives of business enterprise. The four-year program leads to the bachelor of business administration (B.B.A.) degree. The college is accredited by the American Association of Collegiate Schools of Business.

Curricular specializations are available in accounting, finance, business economics and statistics, foreign trade, management, marketing, personnel and industrial relations, and real estate. The School of Travel Industry Management operates as a part of the college.

Admission and Degree Requirements. Qualified students may enter the college as freshmen or may transfer from another college in the University or from another institution. Two years of algebra and one year of plane geometry or their equivalents are required. Trigonometry is strongly recommended.

To qualify for a degree, students must meet all preadmission requirements of the college, complete one of the nine curricula of the college, complete the University curricular requirements (see p. 17), earn an aggregate of at least 124 semester hours of credit, and earn a minimum 2.0 grade-point average for (a) all registered credits, (b) all required upper division CBA courses including the major field and (c) the major field.

In addition, students in the college must fulfill certain curricular requirements at both the lower division and upper division levels.

Lower division requirements total 42-45 credits in general education and 9 credits in business courses. The general education requirements include 6 credits in communications, 3 credits in quantitative reasoning (BAS 121, 125 or Math 134), 6 credits in world civilizations, 9 credits in humanities (including one course in literature), 9-12 credits in natural sciences, and 9 credits in social sciences (BEc 201 or Econ 120 or 150 is required). Lower division business courses must include BEc 201, Acc 201-202, and one of the following: BAS 122, BAS 125, or Math 205. Lower division students in travel industry management must also take TIM 101, FSA 181, and TIM 100, 200.

Upper division students must complete BAS 351 and the listed courses in the following curricular groups:

- | | |
|-----------|---|
| Group I | Economics (6 credit hours): BEc 341, 343. |
| Group II | Business Core (21-24 credit hours): BAS 301-302, or 305; Fin 300; BLaw 300; Mgt 301-302, 345; Mkt 300. |
| Group III | A major of 15 credit hours (18 for Accounting). TIM has special requirements. See p. 49. |
| Group IV | Mgt 209 or Eng 309, and 15 credit hours of upper division courses, at least 9 of which must be outside of the College of Business Administration. |

It is suggested that students take BAS 301-302 or BAS 305, Eng 309 or Mgt 209, and BEc 341 early in their program.

Majors

Accounting. *Required:* Acc 305, 307. *Electives:* four of Acc 321, 323, 325, 331, 335, 341, 361, 365, 437, 445; BAS 321. Students desiring to concentrate in management accounting should select from Acc 341, 361, 365, 445, and BAS 321. Those desiring to concentrate in financial accounting should select from Acc 321, 323, 325, 331, 335, 437. Candidates for the CPA examination should prepare in both areas.

Finance. *Required:* Fin 305. *Electives:* three of Fin 307, 311, 315, 321, 390, and any upper-division business administration course with special consideration given to Acc 307, 341, BEc 361, 362, RE 321.

Business Economics and Quantitative Methods. *Required:* BAS 321, BEc 349 (old BEc 342). *Electives:* three of BAS 311, 313, 322, 352, 396, 451, 455, BEc 352, 345, 361, 362, 375.

Foreign Trade. *Required:* BEc 361, 362; Mkt 315, 381. *Elective:* one upper-division business administration course.

Management. *Required:* Mgt 321, 322, 341. *Electives:* two of Acc 361, BAS 321, BEc 375, Mgt 344, Mkt 321, PIR 351, 361.

Marketing. *Required:* Mkt 315, 321, 391. *Electives:* two of Mkt 331, 341, 361, 371, 381, Trans 351, 352.

Personnel and Industrial Relations. *Required:* PIR 351, 361. *Electives:* three of PIR 353, 363, 365, 367, Mgt 341.

Real Estate. *Required:* RE 300, 310, 330, 360. *Elective:* one of Acc 307, RE 321, 350, 441.

BUSINESS ADMINISTRATION FACULTY

Professors: Jacob Adler, Joseph Bailey, Robert Baird, Edward Barnet, Robert Buchele, Donald Corbin, Jack Crampon, Edmund Faison, John Ferguson, Chuck Gee, Thomas Gilson, Henry Grayson, Ralph Hook, Thomas Ige, Laurence Jacobs, Lyle Jacobsen, Samuel Lee, Howard Lowe, Joseph Miccio, James Ompps, Edwin Pendleton, Eugene Richman, K. K. Seo, Charles Spencer, Russell Taussig, Arthur Whitehill.

Associate Professors: Donald Bell, David Bess, Daniel Bonbright, Paul Chung, Charles Congdon, Morton Cotlar, Edward Currie, Dean Ellis, Nabil El-Ramly, Lewis Freitas, Mary Hopkins, James Jonish, Robert Kessner, Shinkyung Kim, Hugh Kramer, Edward Laitila, Kwan Lie, Richard Peterson, Clayton Reeser, Ralph Sprague, Herbert Stellmacher, Raburn Williams, Reginald Worthley.

Assistant Professors: Frederick Choi, Gail Chu, John Cox, Steven Dawson, Alfred Edge, Michael Geurts, Bruce Hass, Ibrahim Ibrahim, Lane Kelley, Thomas Kimball, Arthur Kirkpatrick, James Marsh, Charles Metelka, Stephen Moscove, Toshiyuki Otsuki, Mark Simkin, Peter Vlachos.

Instructors: Wallace Amioka, Dexter Choy, Frank Covey, Robert Gee, Larry Gordon, Larry Lee, Louise Lo.

Lecturers: Robert Hamilton, Larry Helber, Thomas Kelso, Norman Lefton, JoAnna Leong, William Long, Michael Marks, Michael McMurtry, William Mett, Stephen Reid, Rudy Savio, Connie Solarana, Marcia Wood.

DEPARTMENT OF ACCOUNTING AND FINANCE

Department Office: BusAd Bldg. A-415

Accounting (Acc)

- 201 Elementary Accounting I (3) Pre: soph status.
- 202 Elementary Accounting II (3) Pre: 201.
- 305 Cost Accounting (3) Pre: 202.
- 307 Income Tax Problems (3) Pre: 202.
- 321 Financial Accounting I (3) Pre: 202.
- 323 Financial Accounting II (3) Pre: 321.
- 325 Financial Accounting III (3) Pre: 323.
- 331 Auditing (3) Pre: 305 and 323 or 365.
- 335 Governmental Accounting (3) Pre: 202.
- 341 Accounting Systems & Procedures Analysis (3) Pre: 202.
- 361 Accounting for Managerial Planning (3) Pre: 305.
- 365 Enterprise Analysis & Reporting (3) Pre: 202.
- 399 Directed Research (v) Pre: consent.
- 437 Advanced Tax Problems (3) Pre: 307.
- 445 Advanced Cost Accounting (3) Pre: 305.
- 703 Advanced Auditing (3) Pre: 331.
- 704 Computers and Accounting in Business Systems (3)
- 705 Advanced Accounting Problems (3) Pre: undergraduate Accounting major.
- 706 Accounting History and Theory (3) Pre: consent.
- 707 Accounting for Management Planning & Control (3) Pre: Bus 601.
- 708 Seminar in Advanced Accounting (3) Pre: consent.

Business Law (BLaw)

- 300 Legal Environment of Business I (3)
- 311 Legal Environment of Business II (3) Pre: 300.
- 313 Law for the Accountant (3) Pre: 300.
- 786 Legal Environment of Business (3)

Finance (Fin)

- 300 Business Finance (3) Pre: Acc 202.
- 305 Problems of Business Finance (3) Pre: 300.
- 307 Quantitative Financial Decision Making (3) Pre: 300 & BAS 302 or consent.
- 311 Investments (3) Pre: 300.
- 315 Security Analysis and Portfolio Management (3) Pre: 300 & 311 or consent.
- 321 International Business Finance (3) Pre: 300
- 390 Seminar in Finance (3) Pre: consent.
- 399 Directed Research (v) Pre: consent.
- 733 Problems in Business Finance (3) Pre: Bus 631.
- 734 Investment Analysis and Management (3) Pre: Bus 631.
- 735 The Financial System (3) Pre: Bus 631.

Insurance (Ins)

- 300 Principles of Insurance (3)
- 311 Property and Casualty Insurance (3) Pre: 300.
- 331 Life Insurance (3)

Real Estate (RE)

- 300 Principles of Real Estate & Urban Land Economics (3)
- 310 Real Estate Law (3) Pre: 300.
- 321 Real Estate Finance & Investment (3) Pre: 300, Fin 300.
- 330 Property Valuation (3) Pre: 300.
- 350 Land Development and Planning (3) Pre: 300.
- 351 Resort Area Development (3) (Cross-listed as TIM 341)
- 360 Real Estate Administration (3) Pre: 300, 310, 330, senior.
- 399 Directed Research (v) Pre: consent.
- 441 Urban Land Economics (3) Pre: 300 or BEc 341.
- 773 Real Estate (3) Pre: comp. of Grp I req.
- 774 Land Resource Development (3) Pre: 773 or consent.

DEPARTMENT OF BUSINESS ECONOMICS AND QUANTITATIVE METHODS

Department Office: BusAd Bldg. C-306

Business Analysis and Statistics (BAS)

- 121 Mathematics for Decision Making I (3)
- 122 Mathematics for Decision Making II (3) Pre: 121.
- 125 Accelerated Mathematics for Decision Making (3) Pre: high school math. B: consent.
- 301-302 Business Statistics (3-3) Pre: 122 or 125, BEc 201.
May not earn credit for BAS 301 and Econ 321 or Math 371.
- 305 Accelerated Business Statistics (3) Pre: 122 or 125, B; BEc 201.
- 311 Sampling Methods (3) Pre: 302 or 305.
- 313 Experimental Business Statistics (3) Pre: 302 or 305.
- 321 Introduction to Quantitative Analysis (3) Pre: 302, 305, or concurrent.
- 322 Decision Theory (3) Pre: 321.
- 351 Introduction to Computers & Data Processing (3) Pre: 122 or 125.
- 352 Computer Systems & Applications in Organizations (3) Pre: 351.
- 396 Methods of Scientific Research Applied to Business & Economic Problems (3) Pre: 302, 305 or concurrent.
- 399 Directed Reading and Research (v) Limited.
- 451 Nonparametric Methods for Business Application (3) Pre: 302 or 305 or concurrent.
- 455 Applied Regression Analysis (3) Pre: 302 or 305.
- 713 Statistical Decision Theory (3) Pre: Bus 611.
- 714 Operations Research (3) Pre: Bus 611.
- 715 Quantitative Methods of Business and Economic Forecasting (3) Pre: Bus 611.
- 783 Computer Data Processing (3) Pre: 351.
- 784 Management Information Systems (3) Pre: 783.
- 785 Systems Analysis (3) Pre: 783, Bus 611.
- 786 Computer Simulation in Business and Economics (3) Pre: Bus 611 & 784 or 785.

Business Economics (BEc)

- 201 Economic Environment of Business (3)
- 301 Environmental Analysis for Multinational Business (3) Pre: Econ 150; Mgt 301.
- 341 Economic Analysis for Decision Making (3) Pre: 201, BAS 122.
- 343 Business Conditions Analysis (3) Pre: 201, BAS 122.
- 345 Money, Credit and the Capital Market (3) Pre: 201, BAS 122.
- 349 Managerial Economics (3) Pre: 341.
- 361 Foreign Trade and American Industry (3) Pre: 341, 343 or concurrent.
- 362 Foreign Trade Policy and Finance (3) Pre: 361.
- 375 Business Enterprise and Public Policies (3) Pre: 341.
- 399 Directed Reading and Research (v) Limited.
- 721 The Multinational Business in the World Economy (3) Pre: Bus 621.
- 723 Operations Economics (3) Pre: Bus 611 & 621.
- 724 Current Economic Problems (3) Pre: Bus 611 & 621.
- 725 Capital Markets & International Finance (3) Pre: Bus 611 & 621.

DEPARTMENT OF MANAGEMENT, MARKETING & INDUSTRIAL RELATIONS

Department Office: BusAd Bldg. C-304

Management (Mgt)

- 209 Organizational Communication (3)
- 301 Management and Organizational Behavior (3)
- 302 Operations Management I (3) Pre: BAS 302.
- 321 Facilities and Productivity Management (3) Pre: 302.
- 322 Operations Management Control (3) Pre: 302.
- 341 Human Relations in the Organization (3) Pre: 301.

- 344 Seminar in Management (3) Pre: 321, or 322, or 341 or consent.
- 345 Business Policy (3) Pre: core & senior.
- 743 Selected Topics in Organization Theory & Practice (3)
- 744 Comparative Management (3)
- 746 Production and Operations Management (3)

Marketing (Mkt)

- 300 Principles of Marketing (3)
- 315 Marketing Management (3) Pre: BEc 341, Mkt 300.
- 321 Marketing Information Analysis (3) Pre: 300, BAS 302 or consent.
- 331 Advertising Management (3) Pre: 300.
- 341 Retailing Management (3) Pre: 300.
- 371 Consumer Behavior (3) Pre: 300.
- 381 Multi-National Marketing (3) Pre: 300.
- 391 Marketing Strategies (3) Pre: 300, 315, 321 & consent.
- 753 International Marketing Management (3)
- 754 Marketing Communication & Promotional Strategy (3)
- 755 Marketing Research Methodology (3)

Personnel and Industrial Relations (PIR)

- 200 Career Placement (1)
- 351 Personnel Administration (3)
- 353 Personnel Compensation (3) Pre: 351.
- 355 The Staffing Process (3) Pre: 351.
- 361 Labor Problems and Trade Unionism (3)
- 363 Collective Bargaining and Dispute Settlement (3) Pre: 361.
- 365 Labor and Social Legislation (3) Pre: 361.
- 367 Labor Management Relations in the Public Service (3) Pre: 361 or consent.
- 763 Personnel Administration (3)
- 764 Advanced Personnel Administration (3)
- 765 Labor Relations (3)
- 766 Problems of Collective Bargaining (3)

SCHOOL OF TRAVEL INDUSTRY MANAGEMENT

School Office: BusAd Bldg. B-203

The School of Travel Industry Management offers a unique program of study for persons seeking a career in the travel field. Requirements for a degree are (1) internship—direct paid-work experience each year for four years (200 hours each, or 800 total hours) to bring increased relevance to the more theoretical classroom studies; (2) the general University requirements plus lower-division business requirements; (3) College of Business Administration core requirements in Groups I and II; (4) Group III TIM courses (Students may elect Emphasis A, Tourism Management; Emphasis B, Hotel & Restaurant Management; or Emphasis C, Transportation Management as a field of concentration); (5) three upper division courses in Group IV (Mgt 209 or Eng 309 plus nine hours of courses which must be outside the College of Business Administration).

Emphasis A Requirements. 23 credits, including 12 credits from four courses in the area of emphasis (TIM 320, 321, 322, 323, 324), 9 credits from three courses in TIM or Trans outside of Emphasis A (TIM 341, 361, 399, others); and 2 credits in TIM 300, 400.

Emphasis B Requirements. 23 credits, including 12 credits from four courses in area of emphasis (TIM 301, 304, 314, 331, 334, 351), 9 credits from three courses in TIM or Trans outside of Emphasis B (TIM 341, 361, 399, others); and 2 credits in TIM 300, 400.

Emphasis C Requirements. 23 credits, including 12 credits from Trans 351, 352, 353, Econ 480, 9 credits from three courses in TIM outside of Emphasis C (TIM 341, 361, 399, others); 2 credits in TIM 300, 400.

Transportation (Trans)

- 351 Transportation & Physical Distribution Systems (3) Pre: BEc 341.
- 352 Passenger Transportation Systems (3) Pre: BEc 341.
- 543 Air Travel Management (3) Pre: 352.

Travel Industry Management (TIM)

- 101 Introduction to Travel Industry Management (3)
- 100, 200, 300, 400 Internship (0-0-1-1) (v)
- 301 Hotel Management (3) Pre: Mgt 301, senior or consent.
- 304 Hotel Sales and Promotion (3) Pre: Mkt 300.
- 314 Institutional Purchasing (3) Pre: FNS 181.
- 320 Economic Factors in Tourism (3) Pre: BEc 201.
- 321 Social Factors in Tourism (3) Pre: 101.
- 322 Travel Information and Evaluation (3) Pre: BAS 305 or consent.
- 323 Travel Marketing (3) Pre: 101 & Mkt 300.
- 324 Area Studies Seminar (3) Pre: junior or consent.
- 331 Hotel Design, Engineering & Maintenance (3) Pre: FNS 181.
- 334 Restaurant and Club Management (3) Pre: FNS 181 & Mgt 301.
- 341 Tourist Destination Development (3) Pre: 101 (Cross-listed as RE 351)
- 351 Studies in Hotel Management Controls (3) Pre: Acc 202.
- 361 Law and Regulation for the Travel Industry (3) Pre: BLaw 300.
- 399 Directed Research (v) Pre: Departmental consent.
- 771 Lodging Industry Administration (3)
- 774 Land Resource Development (3) (Cross-listed as RE 774)
- 775 International Travel and Transportation (3)
- 776 Socio-Political Factors in Tourism (3)

GRADUATE COURSES IN BUSINESS ADMINISTRATION

The CBA has two programs leading to the master of business administration (M.B.A.) degree—one a thesis and one a nonthesis program. Students in either program without an undergraduate business degree or equivalent must take the Group I courses. The MBA Plan A (thesis) requires the students to take all of the Group II and Group IV courses and to substitute 6 hours of thesis credits for electives from Group III. The MBA Plan B (nonthesis) requires all courses in Groups II and IV and three electives from Group III. An MBA Program brochure which describes the program in detail may be obtained at no charge from MBA Program, College of Business Administration, 2404 Maile Way, Honolulu, HI 96822.

Group I—Foundation Courses for students lacking full undergraduate preparation in business. 15 credit hours*

- Business (Bus)**
- 501 Accounting (3)
- 502 Economic Analysis (3)
- 503 Introduction to Quantitative Analysis (3)
- 504 The Management Process (3)
- 505 Marketing & Operations Management (3)

*Students will receive 3 credit hours for passing each of these courses, but these credits will not be included in the 33-hour requirement for the graduate degree.

MBA Courses**Group II—Advanced Disciplines and Functions (Graduate Core)****Business (Bus)**

- 601 Managerial Accounting (3) Pre: 501†
 611 Statistical Methods of Business Analysis (3) Pre: 503.
 621 Managerial Economics (3) Pre: 502.
 631 Finance (3) Pre: 501.
 641 Management: A Systems Approach (3) Pre: 504.
 642 Behavioral Science for Business (3) Pre: 504.
 651 Marketing (3) Pre: 505.
 IS 600 Theory of Administration (3) Pre: consent. sub for 641.

†Undergraduate accounting majors will not be allowed to take this course.

Group III—See individual departmental listings for other offerings. (All courses numbered 700 or above)

Entrepreneurship (Ent)

- 610 Nature of Entrepreneurship (3)
 630 Economics of Entrepreneurship (3)
 640 Public Policy & Management Problems of New Enterprises (3)
 Pre: consent.

Group IV—Integrative**Business (Bus)**

- 796 Business Policy (3)
 799 Business Research (3)
 800 Thesis (v)

COLLEGE OF EDUCATION

The College of Education is an upper-division college and graduate professional school. Its major role is the preservice preparation of teachers. Upon completion of two years of study as pre-education majors in the College of Arts and Sciences, qualified candidates are admitted as early childhood education, elementary education, secondary education, or special education majors to pursue a minimum of two more years of planned coursework and student teaching to meet the requirements of the bachelor of education (B.Ed.) and a minimum of one more year to meet the requirements of the professional diploma (P.D.). The B.Ed. is conferred at the end of four years of work and the state department of education (DOE) grants the Basic Teacher's Certificate (Class II). Upon the completion of the professional diploma or master of education degree programs, the DOE grants the Professional Teacher's Certificate (Class III). This post-baccalaureate work may be pursued in full-time study or part-time in conjunction with teaching.

Undergraduate work leading to a bachelor of science (B.S.) degree in recreation is also offered in the college, and substantive service courses are provided in the areas of health, physical education, and industrial arts.

The college currently offers master of education (M.Ed.) degrees in educational administration, educational communications, educational foundations, elementary education, secondary education, and the M.Ed. and Ph.D. in educational psychology. The Ed.D. is offered in curriculum and instruction and educational foundations. Information concerning these programs can be obtained from the Graduate Division of the University and from the departments offering the various programs.

Preservice Teacher Education Program

The current program for all preservice teacher candidates approved by the college and the University Council on Teacher Education includes a strong liberal arts core, professional education courses, an academic major and student teaching. Requirements are listed in the sections following.

GENERAL EDUCATION

The general education core requirements of the College of Arts and Sciences constitute most of the nonmajor courses in the liberal arts and sciences for prospective early childhood, elementary, secondary and special education teachers. However, requirements for certain teaching majors such as science and mathematics commence in the freshman year, so pre-education freshmen and sophomores should check with the college's division of student services to obtain listings of specific curricula in all teaching fields.

**PROGRAM OF STUDIES FOR
EARLY CHILDHOOD EDUCATION MAJORS**

Early childhood education majors have two program options. Program option "A" is designed for candidates intending to teach children, ages 5-8. Program option "B" is designed for candidates intending to teach children, ages 3-4. These options are described in the following sections.

Early Childhood Education Option "A" Program

I. B.Ed. requirements: minimum of 126 credits

- a. General Education Core: follow requirements for pre-education majors in the College of Arts and Sciences: 55 credits in liberal arts and science courses.

- b. Professional Education Core: 21 credits including work in social and psychological foundations, foundations in curriculum and instruction, and special methods.
 - c. Student Teaching: 10 credits, full-time for one semester, and a 2-credit seminar for student teachers.
 - d. Human Development Sequence: 15 credits in courses dealing with human development and family relations.
 - e. Academic or Distributive Major: 18-20 credits taken either in one field or distributed among several fields.*
 - f. Electives: 4-6 credits.
2. Professional Diploma requirements: minimum of 156 credits, including work completed for the B.Ed. and the following.
- a. Professional Education Core: 6 additional credits in education course numbered at the 600 level or above.
 - b. Human Development Sequence: 9 additional credits in courses in human development.
 - c. Academic or Distributive Major: 6-7 additional credits completing balance of courses required for the academic or distributive major.*
 - d. Electives: 7-8 credits.

Early Childhood Education Option "B" Program

- 1. B.Ed. requirements: minimum of 126 credits
 - a. General Education Core, Professional Education Core, and Student Teaching requirements are identical to those in Option "A".
 - b. Human Development Major: 27 credits in courses in human development and family relationships.
 - c. Distributive Major: 12 credits in courses distributed among several fields.
 - d. Electives: 2 credits.
- 2. Professional Diploma requirements: a minimum of 156 credits, including work for the B.Ed. and the following:
 - a. Professional Education Core: 6 additional credits in education courses numbered at the 600 level or above.
 - b. Human Development Major: 12 additional credits to complete requirements of the major in human development.
 - c. Distributive Major: 12 additional credits to complete requirements of the distributive major begun at the B.Ed. level.

PROGRAM OF STUDIES FOR ELEMENTARY EDUCATION MAJORS

Elementary Generalist Program

- 1. B.Ed. requirements: minimum of 126 credits
 - a. General Education Core: follow requirements for pre-education majors in the College of Arts and Sciences: 55 credits in liberal arts and science courses.
 - b. Professional Education Core: 9 credits in social, psychological, and curriculum foundations, and 12 credits in methods courses in the principal subject areas taught in the elementary school.
 - c. Student Teaching: 10 credits, full time for one semester; 2 credits, seminar for student teachers.
 - d. Academic Major: a minimum of $\frac{3}{4}$ of the credits for the major as specified.*
 - e. Distributive Major: a minimum of 15 of the credits in the courses specifically related to the elementary school curriculum.*
- 2. Professional Diploma requirements: minimum of 156 credits, including work completed for the B.Ed. and the following:

- a. Professional Education: 6 additional credits in education courses numbered at the 600 level or above.
- b. Academic Major: the balance of credits required for the major as specified.*
- c. Distributive Major: 15 credits, the balance of credits required in the distributive major as specified.*

PROGRAM OF STUDIES FOR SPECIAL EDUCATION MAJORS

Special Education majors are prepared to be teachers of the mentally retarded trainables, the mentally retarded educables, or the children with learning and behavior disorders. Requirements are listed below.

- 1. B.Ed. requirements: minimum of 126 credits
 - a. General Education Core: follow requirements for pre-education majors in the College of Arts and Sciences: 55 credits in liberal arts and science courses.
 - b. Professional Education Core: 6 credits in social and psychological foundations; 18 credits in special education courses.
 - c. Student Teaching: 10 credits, full time for one semester; 2 credits, seminar for student teachers.
 - d. Academic Major: a minimum of 18 credits in courses for an academic major.*
 - e. Distributive Major: a minimum of 15 credits in courses dealing with the curriculum of the public schools as specified.*
 - f. Electives: variable number.
- 2. Professional Diploma requirements: minimum of 156 credits, including work completed for the B.Ed. and the following:
 - a. Professional Education: 9 additional credits in education courses numbered at the 600 level or above.
 - b. Academic Major: the balance of credits required for the major as specified.*
 - c. Distributive Major: 15 credits, the balance of credits required in the distributive major as specified.*
 - d. Electives: variable number.

PROGRAM OF STUDIES FOR SECONDARY EDUCATION MAJORS

- 1. B.Ed. requirements: a minimum of 126 credits
 - a. General Education Core: follow requirements for pre-education majors in the College of Arts and Sciences: 55 credits in liberal arts courses.
 - b. Professional Education Core: 9 credits in social, psychological, and curriculum foundations; 3-7 credits in appropriate methods course to the major.
 - c. Teaching Field Major: credits in the teaching field major and other courses as specified.*
 - d. Student Teaching: 10 credits, full time for one semester; 2 credits, seminar for student teachers.
- 2. Professional Diploma requirements: a minimum of 156 credits, including work for the B.Ed. and the following:
 - a. Professional Education: 6 additional credits in education courses numbered at the 600 level or above.

*Specific requirements are available in the College of Education, Division of Student Services.

- b. Teaching Field Major: additional credits in the major and/or other courses as specified.*

Vocational Agriculture Education Majors Program

Prospective vocational agriculture education majors have the options of enrolling in the College of Arts and Sciences for the freshman and sophomore years, followed by transfer to the College of Education for the junior, senior, and fifth years, or in the College of Tropical Agriculture for the bachelor's degree, followed by transfer to the College of Education for the fifth year. To be admitted for work in the College of Education, vocational education majors must meet the general entrance requirements of the college.

Business Education & Distributive Education Majors Program

Prospective business education and distributive education majors may enroll in the University of Hawaii community college system's transfer programs for their pre-education (liberal arts and science core) and selected office and business education skill courses such as typewriting, shorthand, business machines, as partial fulfillment for the Bachelor of Education requirements. Candidates transfer to the College of Education at the end of the sophomore year to complete professional education and teaching field major work during the junior, senior, and fifth years. Students planning to transfer to the College of Education should consult with the pre-education adviser and/or the business education adviser in the division of student services.

Vocational Home Economics Education Majors Program

Prospective vocational home economics education majors generally enroll in the College of Tropical Agriculture's division of human resources development, department of home economics, for their general education during the freshman and sophomore years. They transfer to the College of Education at the end of the sophomore year to complete their program of studies for the bachelor of education degree and professional diploma. Their major teaching field work is completed through courses taken in the division of human resources development in the departments of human development, fashion design, textiles and merchandising, food and nutritional sciences, and home economics. See page 74 for course listings.

Industrial Arts, Technical and Industrial Vocational Education Majors Program

To prepare competent teachers for expanding industrial arts education and technical-industrial vocational education positions in the junior-senior high schools and community colleges, a coordinated program of preparation has been established between the College of Education and the Honolulu Community College. Prospective teachers enroll in the Honolulu Community College for their first and second years of the program, taking courses in technology and general education. Candidates transfer to the College of Education at the end of their sophomore year to complete professional education and teaching field major work during the junior, senior, and fifth years.

PROGRAM FOR COMMUNITY COLLEGE TEACHING

The College of Education in cooperation with the University of Hawaii community college system is currently operating a program for the preparation of community college faculty. Fellowship support is available for graduate students in this area. Those who are interested should confer with the chairman of the department of curriculum and instruction.

PROGRAM FOR RECREATION LEADERSHIP MAJORS

The department of health and physical education offers a program of study leading to a B.S. degree in Recreation Leadership. This four-year program is centered in training leaders in community recreation and related fields of recreation. Interested persons should contact the chairman of the department.

Admission Policies

The College of Education considers students for admission to the bachelor of education (B.Ed.) or professional diploma (P.D.) programs on the following basis:

1. Students must have completed application procedures to the College of Education. These are:

- a. All undergraduate students from UHM must submit a completed application form along with official transcripts of all previous college work to: Division of Student Services, College of Education, University of Hawaii at Manoa. Professional diploma and undergraduate applicants from other campuses must submit their completed application materials to: Office of Admissions and Records, University of Hawaii at Manoa.

- b. All applicants must arrange for a personal interview with staff members of the division of student services after admission materials have been filed. Outer island or mainland students may file a letter of recommendation in lieu of the interview. Applicants who wish to enroll in the physical education program must make an appointment for interview with the chairman of the department of health and physical education and present evidence of experience in physical activities.

- c. In addition, applicants who wish to enroll in the music education program are required to ensure that official transcripts of all university studies are on file in the music department office on the date of application; make an appointment for interview with the music education faculty at the time of application; and present evidence of musical and vocational aptitude in support of application.

These procedures should be completed by the following deadlines: May 1 for fall semester and November 1 for spring semester.

2. Students applying for admission to the Bachelor of Education program must have achieved upper-division status by completing a minimum of 55 semester hours in any accredited college. Students applying for the Professional Diploma program must have a bachelor's degree from an accredited college/university.

3. Students must meet the following admission criteria:

- a. Applicants must have at least a grade-point average of 2.0 on a 4.0 scale in order to be considered for admission. However, only exceptional cases will be admitted with a cumulative grade-point average of less than 2.5.

b. Field service experience is required for admission to the college. Applicants will be assessed on both the quality and quantity of their experience with children in the age group they wish to teach. Applicants for special education must have leadership experience with "exceptional" children (experience with groups of children preferred).

c. Applicants will be assessed on their knowledge and understanding of the teaching profession. It will be to the student's advantage to keep up with what is current in the teaching profession (e.g., collective bargaining for teachers).

d. Applicants will be assessed on their ability to communicate effectively. Ratings will be based on such speech characteristics as clarity and fluency of expression, continuity of thought. In addition, acceptable written work must be presented. Students may be required to take further work in speech or composition if they are judged deficient in either area.

e. Applicants will be assessed on their psychological fitness to pursue the teaching profession. If necessary, applicants may be asked to furnish the division of student services with a written report from a qualified professional regarding their suitability to pursue teaching as a career.

f. Applicants must show no evidence of restricting physical problems. (Communicable diseases such as tuberculosis are of particular concern.)

The College of Education considers students for admission to the bachelor of science in recreation leadership (B.S.) program on the following basis:

1. Students must have completed application procedures to the College of Education in the same manner as required of students applying for admission to the bachelor of education degree in those steps prescribed under 1-a, 1-b, 2 and 3.
2. In addition, students must arrange for a personal interview with the chairman of the department of health and physical education; ensure that official transcripts of all university studies are on file in the department of health and physical education office prior to the interview; and present evidence of experience and personal commitment to the field of recreation.
3. In order that students who anticipate admission be considered for preregistration in the department of health and physical education for the ensuing semester, students must complete the admission procedure by the following deadlines: May 1 for fall semester and November 1 for spring semester.

Graduation Requirements and Procedures

The B.Ed. Degree. The college awards a bachelor of education degree. To be eligible for the B.Ed. degree, the student must:

1. fulfill all University requirements;
2. complete the College of Education undergraduate curriculum in early childhood, elementary, secondary or special education;
3. acquire a minimum aggregate of no less than 126 credits;
4. have a cumulative GPA not less than that required for admission to the college;
5. file for graduation and pay \$5 fee at least one semester prior to intended graduation date.

The Professional Diploma. In recognition of successful completion of a post-baccalaureate teacher education program for teaching at the elementary or secondary school level, the college awards the professional diploma. To be eligible for the professional diploma, the student must:

1. meet all admission requirements of the College of Education;
2. have been awarded a bachelor's degree from an accredited institution;
3. complete all course requirements for the professional diploma;
4. have successfully completed student teaching;
5. acquire a minimum of no less than 156 semester hours;
6. have a final cumulative GPA not less than that required for admission to the college;
7. have filed for graduation and paid a \$2.50 fee not later than the semester prior to intended graduation date.

The B.S. in Recreation Degree. The College of Education awards a bachelor of science degree upon completion of four years of work at the University. To be eligible for the B.S. degree, the student must:

1. fulfill all University requirements;
2. complete the College of Education undergraduate curriculum in recreation leadership;
3. acquire a minimum aggregate of 126 semester hours of credit;
4. have a cumulative GPA not less than that required for admission to the College of Education;
5. file for graduation and pay \$5 fee at least one semester prior to intended graduation date.

Student Teaching

The division of field services of the College of Education plans for, arranges, and coordinates the student teaching experiences in the elementary and secondary public and non-public schools of Hawaii. Student teaching is a full-time experience under agreement with the state DOE, and students should not plan to register for other courses during this semester. In spite of the hundreds of requests for student teaching during the year, selection of assignments will consider as many personal preferences as possible. Semester preferences will be considered to the extent they allow a balance of teachers in the field during the fall and spring.

Prior to registering for student teaching and seminar, a student is required:

1. to be enrolled in the College of Education as a classified student;
2. to complete the required foundations and methods courses;
3. to have a cumulative GPA not less than that required for admission to the college, and a GPA in the teaching field (secondary level only) not less than 2.5;
4. to request student teaching of the division of field services no later than October 15 or March 15 for teaching during the subsequent semester (there is no student teaching during the summer session);
5. to be cleared for student teaching by the division of field services;
6. to be accepted for student teaching by the division of field services upon the recommendation of the instructor(s) of the appropriate methods course(s).

Certification Programs

Administrative Intern Program. The administrative intern program is sponsored by the college and the state DOE. To be admitted to the program, the candidate must have two years of teaching experience, hold the professional certificate and successfully pass the annual examinations administered by the DOE. Interested candidates should confer with the chairman of the department of educational administration. Successful completion of the administrative intern program is a requirement for the Professional School Administrator's Certificate.

Certification in School Psychology. There are two levels in the school psychology program—the certificate level and the doctoral level. The certificate program is a 48-60 semester credit program of professional and academic courses. The M.Ed. degree in educational psychology is included as part of the certification requirement. Students who complete the certificate program will be recommended for school psychology credentials in Hawaii and other states. The doctoral level

program is designed to prepare supervisors, college instructors and researchers in the field. Program advisements are available for qualified graduate students in the department of educational psychology.

School Counseling Certificate Program. The counseling and guidance program is designed for students who wish to develop competency in counseling and guidance in the schools, and to meet certification requirements in Hawaii or other states. The M.Ed. degree may be completed as part of the requirements for the professional level certificate. Individuals who complete the counseling and guidance program satisfactorily are recommended for the counselor certification. Those interested should confer with the counselor-educator in the department of educational psychology.

Media Specialist Certificate Program. The college offers a 30-semester hour graduate program which qualifies candidates to meet the DOE's Professional Media Specialist Certificate. For further information, contact the chairman of the department of educational communications.

EDUCATION COURSES

54 Curriculum and Instruction (Ed CI)

Department Office: Wist Hall Annex 2-226

Professors: Richard S. Alm, Mary C. Austin, Frederick G. Braun, Albert B. Carr, Jr., Eloise D. Hayes, Teruo Ihara, Andrew W. S. In, Agnes M. S. Inn, Esther C. Jenkins, Melvin Lang, Robert M. Martin, James D. Morris, Torlef Nelson, Daniel S. Noda, Morris S. Y. Pang, Alexander L. Pickens, Marvin F. Poyzer, Mary E. Reddin.

Associate Professors: Frank B. Brown, Robert L. Campbell, Shirley Y. Fujita, Jane N. Fultz, Dorothy O. Hazama, Doris M. G. McGinty, Anthony J. Picard, Esther M. T. Sato, Donnis H. Thompson, Betty K. Uehara, Nancy C. Whitman, Lawrence F. H. Zane.

Assistant Professors: John H. Baker, August Becker, Virgie O. Chattopadhyay, Stephanie S. Feeney, Ruth S. Kiehm, Kelvin K. K. Young.

Acting Assistant Professor: Philip A. Whitesell.

Instructors: Doris M. Ching, Joyce H. N. Chun, Yoshika T. Uehara.

Courses numbered from 312 through 399 have as prerequisite enrollment in the College of Education as a classified student.

c.r. = concurrent registration

- 312(Alpha) Foundations in CI (3)
- 319 Children's Literature (3) Pre: 312 or c.r.
- 320 Language Arts, Elementary (3) Pre: 312 or c.r.
- 321 Reading, Elementary (3) Pre: 312 or c.r.
- 322 Social Studies, Elementary (3) Pre: 312 or c.r.
- 323 Science, Elementary (3) Pre: 312 or c.r.
- 324 Mathematics, Elementary (3) Pre: 312 or c.r.; Math 111.
- 326 Creative Art, Elementary (3) Pre: 312 or c.r.
- 329 Creative Expression in Elementary Education (3) Pre: 312 or c.r. or consent.
- 330 Language Arts, Secondary (3) Pre: 312 or c.r.
- 331 Tchg. of Reading in Inter. & High School (2) Pre: 312 or c.r.
- 332 Social Studies, Secondary (3) Pre: 312 or c.r.
- 333 Science, Secondary (3) Pre: 312 or c.r., basic courses in physics, chemistry, biology.
- 334 Mathematics, Secondary (3) Pre: 312 or c.r.; Math 311, 351.
- 335(Alpha) Foreign Lang. Secondary (3) Pre: 312 or c.r.
- 336 Art, Secondary (3) Pre: 312 or c.r.; consent.

- 337 School Music, Secondary (3) Pre: 312 or c.r.
- 339 Speech-Communication, Secondary (3) Pre: 312 or c.r.
- 343 Physical Education, Secondary (3) Pre: 312 or c.r.
- 345 Literature for Adolescents (2) Pre: 312 or c.r.
- 346 Methods of Instruction, Industrial Education (3) Pre: 312 or c.r.
- 347 Organization & Management of Industrial Education (2) Pre: 312 or c.r.
- 348 Methods of Teaching Shorthand & Bookkeeping (2) Pre: 312 or c.r.; Acc 201-202; shorthand; office machines.
- 349 Methods of Teaching Typewriting & General Business (2) Pre: 312 or c.r.; typewriting.
- 350 Basic Industrial Education, Elementary School (3) (Cross-listed as IE 350)
- 353 Survey of Music in Elementary School (3) Pre: 312. (Cross-listed as Mus 353)
- 371 Home Economics Education (3)
- 397-398 Curriculum in Early Childhood Education (6-6) Pre: 312B, Ed EF 310, Ed EP 311, HD 231-232.
- 399 Directed Reading (v) Limited. Pre: consent.
- 433 Seminar in Interdisciplinary Science Curriculum (3) Pre: introductory courses in sciences. (Cross-listed as IS 433)
- 437 Curriculum Development, Industrial Education (2) Pre: IE major.
- 438 Foundations of Vocational Education (2)
- 439 Office Education (3) Pre: tchg. exp. or consent.
- 460 Distributive Education (3)
- 471 Special Problems in Home Economics Education (2)
- 488 Creative Process in Development & Learning (3) Pre: tchg. exp. or consent.
- 497 Cooperative Vocational Experiences (v) (Cross-listed as IE 497)
- 520 Supervision of Student Teaching (3) Pre: tchg. exp., consent.
- 540 Practicum in Curriculum Development (v)
- 590 Internship (10) Pre: consent.
- 591 Seminar for Interns (2) Pre: consent, c.r. w/590.
- 598 Research Utilizing Problem Solving (2) Pre: tchg. exp. (Cross-listed as Ed EP 598)
- 619 Children's Literature in the Elementary Curriculum (3) Pre: 319, tchg. exp.
- 620 Teaching Reading in the Elementary School (3) Pre: 321, tchg. exp.
- 621 Modern Language Arts Program, Elementary (3) Pre: 320, tchg. exp.
- 622 Elementary School Curriculum (3) Pre: 312, tchg. exp.

- 623 Elementary Science Curriculum (3) Pre: 323, tchg. exp.
- 624 Elementary Mathematics Curriculum (3) Pre: 324, tchg. exp.
- 625 Elementary Social Studies Curriculum (3) Pre: 322, tchg. exp.
- 626 Art in Elementary Education (3) Pre: 326, tchg. exp.
- 629 Curriculum Development in Creative Expression (3) Pre: 329 or consent; tchg. exp.
- 635 Middle School Curriculum (3) Pre: tchg. exp.
- 636 Secondary School Curriculum (3) Pre: tchg. exp.
- 637 Art in Secondary Education (3) Pre: 336, consent, tchg. exp.
- 639 Business Education Curriculum (3) Pre: tchg. exp. or consent; 349 or 460.
- 640(Alpha) Seminar (3) Pre: 348, 349; tchg. exp.; consent.
- 643 Public School Curriculum for Physical Education (3) Pre: 343, 636, HPE 203, or consent; tchg. exp. (Cross-listed as HPE 643)
- 646 Reading Difficulties (3) Pre: course in tchg of reading, tchg. exp.
- 647 Clinical Procedures in Reading (3) Pre: 646, consent, tchg. exp.
- 649 Theory & Practices in Cooperative Business Education (3) Pre: tchg. exp. or consent; 639.
- 657 Community College (3) Pre: consent. (Cross-listed as Ed EF 657)
- 667 Curriculum Trends in Early Childhood Educ (3) Pre: 312; tchg. exp.
- 677 Curriculum Design in Early Childhood Educ (3)
- 688 Issues & Trends in Curriculum (3) Pre: M.Ed.; tchg. exp.
- 699 Directed Reading and/or Research (v) Pre: consent.
- 722 Seminar in Elementary Curriculum Foundations (3) Pre: 622, tchg. exp., consent.
- 733 Seminar in Curriculum, Secondary (3) Pre: 636, tchg. exp., consent.
- 737 Foundations in Art Education (3) Pre: 336, tchg. exp., consent.
- 800 Thesis Research (v)

Industrial Education (IE)

- 300 Industrial Crafts—Jewelry and Lapidary Processes (2)
- 301 Industrial Crafts—Leather (2)
- 302 Industrial Crafts—Plastics and Wood Sculpture (3)
- 309 Graphic Arts (3)
- 350 Basic Industrial Education, Elementary School (3) (Cross-listed as Ed CI 350)
- 401 Problems in Industrial Education (3)
- 402 Improvement of Instruction, Industrial Education (3)
- 497 Cooperative Vocational Experiences (v) Pre: consent. (Cross-listed as Ed CI 497)
- 764 Seminar in Industrial Education (2)

Educational Administration (Ed EA)

Department Office: Wist Hall Annex 2-227

Professors: Robert R. Dunwell, Hubert V. Everly, Chester R. Ingils.
Associate Professors: Charles T. Araki, John A. Thompson, Sheldon S. Varney.

- 480 Organization and Administration of Schools (3)
- 600 Theory of Administration (3) Pre: consent. (Cross-listed as IS 600)
- 601 Introduction to Educational Administration (3)
- 602 Research in Educational Administration (3)
- 605 Collective Negotiation in Education (3)
- 606 Student Personnel Services in Higher Education (3) (Cross-listed as Ed EP 606)
- 610 School-Community Relations (3)
- 620 School Finance (3)
- 623 Administrative Problems in Physical Education (3) Pre: HPE 423; consent. (Cross-listed as HPE 623)
- 630 School Law (3)
- 640 Systems Approach—Program Planning (3)
- 645 Principles of School Management (3)
- 646 American College Student (3) (Cross-listed as Ed EP 646)
- 650 Human Factors in Organization (3)
- 670 School Supervision (3)
- 699 Directed Reading and/or Research (v) Pre: consent.

- 720 Administrative Internship (6) Pre: approval.
- 775 Seminar on the Principalship (3)
- 780(Alpha) Seminar (3)
- 800 Thesis Research (v)

Educational Communications and Technology (Ed CT)

Department Office: Wist Hall 105

Professors: Geoffrey Z. Kucera, Walter A. Wittich.
Associate Professors: Lucius A. Butler, Jr., Lillian A. Lum.

400 or equivalent is a prerequisite for majors in Educational Communications.

- 314 Audio-Visual Techniques (3)
- 399 Directed Reading (v) Limited. Pre: consent.
- 400 Media Technology (3)
- 404 Survey of Educational Communications Media (3)
- 420 Visual Communication (3)
- 450 Media Utilization and Organization (3) Pre: 314.
- 470-471 Instructional Development System & Practicum (3-3)
- 495(Alpha) Media Practicum (1)
- 605 Services in Media Research Foundations (3) Pre: consent.
- 620 Production of Instructional Materials (3)
- 623 Survey & Production of Asian & Pacific Study Materials (3) Pre: 620 or consent.
- 625 Educational Still Photography (3) Pre: 400.
- 626 Educational Motion Pictures (3) Pre: 625 or consent.
- 630 Television in Education (3) Pre: 400.
- 635 ETV Systems and Programs (3) Pre: 630 or consent.
- 639 Mass Communication and Education (3) Pre: consent.
- 640 Programmed Learning (3) Pre: Ed EP 672 or consent. (Cross-listed as Ed EP 640)
- 650 Media Service Administration (3) Pre: 314 or 404.
- 670 Educational Communications Systems (3) Pre: 620.
- 690 Seminar and Internship in Media Leadership (3) Pre: consent.
- 699 Directed Reading and/or Research (v) Pre: consent.
- 750 Seminar in Administration & Management of Media Programs (3) Pre: 650.
- 800 Thesis Research (v)

Educational Foundations (Ed EF)

Department Office: Wist Hall Annex 2-222

Professors: Shiro Amioka, William H. Boyer, Melvin Ezer, Solomon P. Jaekel, Ann M. Keppel, Victor N. Kobayashi, Robert E. Potter, Ralph K. Stueber.

Associate Professors: Gordon E. Frazier, Royal T. Fruehling.

Assistant Professor: Edward R. Beauchamp.

Students enrolled in colleges other than the College of Education are asked to confer with the department chairman before enrolling in 310.

- 310 Foundations in American Education (3)
- 399 Directed Reading (v) Limited. Pre: consent.
- 408 Community Education (3) Pre: 310, Ed EP 311, Ed CI 312 or consent.
- 409 Ethnicity, Poverty, and Education (3) (Cross-listed as Sp Ed 409)
- 445 Educational Sociology (3) Pre: 310 or 3 hrs. sociology.
- 453 History of Education of American Women (3) Pre: junior or consent.
- 480 Anthropological Applications (3) (Cross-listed as Anth 480)
- 497 Analysis of Educational Concepts (3) Pre: 310 or consent.
- 498 Teacher in Film (3)
- 597 America and the Future of Man (3) Pre: junior.
- 598 Communities in Educational Transition (3) Pre: consent.
- 650 Historical Foundations of Western Education (3)
- 651 History of American Education (3)
- 652 History of Education in Hawaii (3) Pre: 310.
- 657 Community College (3) Pre: consent. (Cross-listed as Ed CI 657)
- 660 Philosophy of Education (3) Pre: student teaching.

- 664 Seminar in Problems in Education (2)
 665 Comparative Ideologies and Education (3)
 669 Foundations of Comparative Education (3)
 670 Comparative Education: Europe and America (3)
 671 Comparative Education: Asia (3)
 683 Social Foundations of Education (3)
 684 Education and World Order (3) Pre: 310 or 683 or consent.
 686 Environmental Education (3)
 699 Directed Reading and or Research (v) Pre: consent.
 725 Education and Social Change (3)
 751 Recent History of American Education (3) Pre: 651 or consent.
 757 Educational Utopias (2) Pre: 650; consent.
 761 History of American Higher Education (3) Pre: 651 or 6 hrs. history; consent.
 763(Alpha) Seminar in Educational Theory (2) Pre: 660 or consent.
 767 Seminar in Special Problems in Educational Foundations (2) Pre: admission to candidacy.
 770(Alpha) Seminar in Comparative Education (2) Pre: 671 or consent.
 800 Thesis Research (v)

Educational Psychology (Ed EP)

Department Office: Wist Hall Annex 2-221

Professors: DWane R. Collins, Daniel W. Fullmer, Donald A. Leton, Ian E. Reid, Arthur W. Staats, John Michel (Spec)
Associate Professors: Harold I. Ayabe, Thomas M.C. Chang, Peter Dunn-Rankin, Timothy C. Gust, Jerrold L. Shapiro, David M. Sherrill, David N. E. Whittaker.
Assistant Professors: Frederick T. Bail, Daniel D. Blaine, Nan Priggie.
Acting Assistant Professor: John L. Kite.

311 and 416 or their equivalents are prerequisites for all graduate courses in Educational Psychology.

- 303 Experiential Introduction to Humanistic Education (3)
 311 Psychological Foundations (3) Pre: Psy 100.
 399 Directed Reading (v) Limited. Pre: consent.
 401 Guidance in Classroom (3) Pre: consent.
 404 Career Guidance & Life Style Development (3) Pre: 311.
 405 Classroom Management (3) Pre: consent.
 408 Fundamentals of Research in Education (3)
 416 Tests and Measurements (3)
 429 Introductory Statistics (3) Pre: 416.
 470 Hawaiian Ethnic Groups and Education (3) Pre: 311.
 486 Community and Rehabilitation Process (3)
 487 Adjustment to Disability (3) Pre: 486.
 508 School Project Design and Evaluation (3)
 597 Interpersonal Relations in the School (2) Pre: tchg. exp.
 598 Research Utilizing Problem Solving (2) Pre: tchg. exp. (Cross-listed as Ed C1 598)
 601 Guidance in the School (3)
 602 Elementary School Guidance (3)
 603 Introduction to Practicum (3) Pre: consent.
 604 Career Development & Vocational Counseling (3)
 605 Occupational Information in Guidance (3) Pre: 601.
 606 Student Personnel Services in Higher Education (3) (Cross-listed as Ed EA 606)
 608 Introduction to Educational Research (3) Pre: consent.
 609 Tests and Inventories in Guidance (3) Pre: 601.
 610 Counseling: Theory & Practice (3) Pre: 601 or consent.
 614 Theory & Assessment of Intelligence (3) Pre: Psy 425 or consent.
 615(Alpha) Clinical Assessment of Exceptional Children (3) Pre: Sp Ed 411-412 or consent, c.r. with 619(Alpha). (Cross-listed as Sp Ed 615(Alpha))
 616(Alpha) Seminar in Education of Exceptional Children (3) Pre: consent. (Cross-listed as Sp Ed 616(Alpha))
 619(Alpha) Theory & Practice of Clinical Teaching (3) Pre: Sp Ed 411-412 or consent, c.r. with 615(Alpha). (Cross-listed as Sp Ed 619(Alpha))
 629 Educational Statistics (3) Pre: 429.
 640 Programmed Learning (3) Pre: 672 or consent. (Cross-listed as Ed EC 640)

- 646 American College Student (3) (Cross-listed as Ed EA 646)
 655 Learning. Language and Intellectual Function (3) Pre: Psy 430. (Cross-listed as Psy 655)
 672 Advanced Educational Psychology: Learning (3) Pre: consent.
 673 Advanced Educational Psychology: Psycho-Social Development (3) Pre: consent.
 685 Child Learning Lab (3) Pre: consent. (Cross-listed as Psy 685)
 686 Principles of Rehabilitation Counseling (3) Pre: consent.
 687 Psychology & Physiology of Rehabilitation (3) Pre: consent.
 699 Directed Reading and/or Research (v) Pre: consent.

c.r. = concurrent registration

- 701(Alpha) Seminar in Guidance (3) Pre: consent.
 702 Group Guidance (3) Pre: 601.
 703(Alpha) Guidance Practicum (3) Pre: consent and/or pre-practicum.
 708 Educational Research Methods (3) Pre: 429; consent.
 709 Advanced Problems of Educational Measurement & Evaluation (3) Pre: 429. (Cross-listed as Psy 605)
 710 Counseling: Group Theory & Practice (3) Pre: 610 or consent.
 729 Scaling Qualitative Data (3) Pre: 429.
 733 Guidance & Counseling Internship (v) Pre: 703; consent.
 768(Alpha) Seminar in Educational Psychology (3) Pre: consent.
 800 Thesis Research (v)

Field Services (Ed FS)

Department Office: Wist Hall Annex 2-225

Professors: Torlef Nelson, Morris S. Y. Pang.
Associate Professors: Mitsuo Adachi, Donald G. Aten, Carl J. Daeufer, Shirley Y. Fujita, Dorothy O. Hazama, Beatrix B. MacGregor, Esther M. T. Sato, Pearl N. Yamashita.
Assistant Professors: Edward R. Beauchamp, Ruth S. Kiehm, James R. Smith, Jr.
Instructors: Doris M. Ching, Joyce H. N. Chun, Shinye Gima, Yoshika Uyehara.

c.r. = concurrent registration

- 390(Alpha) Student Teaching (10) Pre: CE classified, req. under student tchg. c.r. w 391(Alpha).
 391(Alpha) Seminar for Student Teachers (2) Pre: CE classified, req. under student tchg. c.r. w/390(Alpha) or 392(Alpha).
 392(Alpha) Student Teaching Modified (6) Pre: CE classified, extensive tchg. exp., req. under student tchg. c.r. w 391(Alpha).

Health and Physical Education (HPE)

Department Office: Varsity Bldg.

Professors: Edward F. Chui, Alvin C. Saake.
Associate Professors: James R. Little, Ethel M. O'Brien, Jack L. Rocker, Donnis H. Thompson, Henry K. Tominaga, Robert A. Tracy, Henry B. Vasconcellos.
Assistant Professors: James K. Asato, Lorraine M. Kaina, Stephen L. Martin, G. Wesley Mock, George M. Seichi.
Instructors: Sue K. Hanson, Lloyd I. Hisaka.
Lecturers: Takeshi Harada, Donald J. Heafner, Earl I. Nagasawa, Earl T. Onishi, Harry T. Tagomori.

Medical Clearance Requirement: To register for the following courses, a student is requested to present a medical clearance issued by Student Health Service: 101-173, 233-236, 332-338, 433, 434, 454, 474, 476. Students without medical clearance will be allowed to register in these courses but will not be allowed to participate or perform in class until the clearance is obtained.

- 101 Physical Fitness (1)
 103 Swimming: Beginning (1)
 104 Swimming: Intermediate (1)
 105 Swimming: Advanced (1)
 107 Tennis: Beginning (1)

- 108 Tennis: Advanced (1)
- 110 Golf: Beginning (1)
- 111 Golf: Advanced (1)
- 115 Bowling (1)
- 120 Badminton (1)
- 123 Folk and National Dances (1)
- 124 Dances of Hawaii (1)
- 126 Rhythmic Activities (1)
- 135 Volleyball (1)
- 137 Basketball (1)
- 151 Adapted & Prescribed Exercises (1) Pre: consent.
- 152 Weight Training (1)
- 154 Tumbling & Rebound Tumbling (1)
- 156 Heavy Apparatus (1)
- 160 Judo (1)
- 161 Aikido (1)
- 162 Karate (1)
- 163 Tai Chi Ch'uan (1)
- 167 Wrestling: Beginning (1)
- 173 Water Polo (1) Pre: 104 or consent.
- 195 Modern Health: Personal & Community (2)

Courses numbered 201 and above are not open to lower division students (except for pre-education and pre-recreation majors with the consent of department chairman).

- 201 School Health Problems: Elementary (2)
- 202 School Health Problems: Secondary (2)
- 203 Introduction to Physical Education (2)
- 204 Introduction to Coaching Athletics (2)
- 208 Introduction to Recreation (2)
- 231 Methods & Materials in Health Education (2) Pre: 201 or 202.
- 232 Safety Procedures & Accident Prevention (2)
- 233 Physical Education: Elementary (3)
- 235 Team Sports for Secondary Girls (2)
- 236 Team Sports for Secondary Boys (2)
- 238 Outdoor Recreation (2)
- 241 Health Education Curriculum (2) Pre: 201 or 202.
- 249 Social Recreation (2) Pre: 208.
- 271 Evaluation in Health Education (2) Pre: 201 or 202.
- 301 Health of the School Child (2) Pre: consent.
- 302 School's Role in Community Health (2) Pre: consent.
- 310 Coaching of Football (2) Pre: 204 or consent.
- 311 Coaching of Basketball (2) Pre: 204 or consent.
- 312 Coaching of Baseball (2) Pre: 204 or consent.
- 313 Coaching of Volleyball (2) Pre: 204 or consent.
- 328 Community Recreation (2) Pre: 208 desirable.
- 329 Organization & Supervision of Recreation (2) Pre: 208 & 328 desirable.
- 332 Emergency Care & First Aid Instructor Training (2) Pre: consent.
- 335 Coaching of Track & Field (2) Pre: 204.
- 336 Coaching of Swimming (2) Pre: 204.
- 337 Coaching of Individual & Dual Sports (2) Pre: 204.
- 338 Field Work in Recreation: Basic (5) Pre: consent.
- 348 Programs in Recreation (2) Pre: 208 desirable.
- 397 Colloquium in Recreation (1) Pre: recreation major or consent.
- 399 Directed Reading (v) Limited. Pre: consent.
- 401 Current Trends in Health (3) Pre: 201 or 202; consent.
- 413 History of Physical Education (3) Pre: 203 or consent.
- 423 Organization & Supervision of Physical Education (3) Pre: 203 & 233 desirable.
- 433 Music & Rhythms in Physical Education (2) Pre: consent.
- 434 Techniques of Officiating in Athletics (2)
- 436 Methods & Materials of Aquatics & Life Saving (2) Pre: 104 or consent.
- 453 Anatomy in Physical Education (3) Pre: 1 yr of biology.
- 454 Physiology in Physical Education (3) Pre: 1 yr of human biology.
- 463 Kinesiology (3) Pre: 453.

- 474 Assessment of Physical Fitness (3) Pre: 454, 463 or consent.
- 476 Motor Learning & Performance (3) Pre: 463, Ed EP 311, or consent.
- 477 Physical Education & Child Development (3) Pre: 203 & 233, Psy 320 or consent.
- 531 Practicum in Family Life & Sex Education (3) Pre: tchg. exp., consent.
- 603 Scientific Foundations of Physical Education (3) Pre: 203, 453, 454, 463 or consent.
- 623 Administrative Problems in Physical Education (3) Pre: 423; consent. (Cross-listed as Ed EA 623)
- 634 Adapted Physical Education (3) Pre: 453, 454 & 463, or consent.
- 643 Public School Curriculum for Physical Education (3) (Cross-listed as Ed C1 643)
- 663 Mechanical Analysis of Sports Activities (3) Pre: background in math, physics; consent.
- 673 Evaluation & Measurements in Physical Education (3) Pre: 203 or Ed EP 416, or consent.
- 699 Directed Reading and/or Research (v) Pre: consent.

Special Education (Sp Ed)

Department Office: University Ave. Bldg. 1, 1A

Professor: Lloyd M. Dunn.

Associate Professor: George A. Fargo.

Assistant Professors: James A. Apffel, Sumie Takeguchi-Feldman.

- 390(Alpha) Student Teaching (10) Pre: CE classified, req. under student tchg, c.r. w/391(Alpha).
- 391(Alpha) Seminar for Student Teachers (2) Pre: CE classified, req. under student tchg, c.r. w/390(Alpha).
- 399 Directed Reading (v) Limited. Pre: consent.
- 404 Introduction to Special Education (3)
- 405 Curriculum and Instruction in Special Education (3)
- 408 Methods & Materials in Tchg the Trainable Mentally Retarded (3) Pre: 405; consent.
- 409 Ethnicity, Poverty, & Education (3) (Cross-listed as Ed EF 409)
- 410 Methods & Materials in Tchg the Child with Learning & Behavior Disorders (3) Pre: 405 or consent.
- 411-412 Identification & Remediation of Learning Difficulties (3-3) Pre: 412; consent.
- 414 Education of Gifted Children (3)
- 418 Methods & Materials in Tchg the Educable Mentally Retarded (3) Pre: 405 or consent.
- 485 Behavior Modification of Handicapped Children (3)
- 597 Contemporary Developments in Special Education (3) Pre: consent.
- 606 Psychology & Physiology of Mental Retardation (3) Pre: consent.
- 607 Psychoeducation of Learning Disabilities (3) Pre: consent.
- 611 Advanced Curriculum & Instruction in Special Education (3) Pre: student teaching or consent.

c.r. = concurrent registration

- 615(Alpha) Clinical Assessment of Exceptional Children (3) Pre: consent, c.r. w/619(Alpha). (Cross-listed as Ed EP 615(Alpha))
- 616(Alpha) Seminar in Education of Exceptional Children (3) Pre: consent. (Cross-listed as Ed EP 616(Alpha))
- 619(Alpha) Theory & Practice of Clinical Tchg (3) Pre: consent, c.r. w/615(Alpha). (Cross-listed as Ed EP 619(Alpha))
- 627 Advanced Practicum (3) Pre: 611, 615, 619.
- 630 Advanced Behavior Modification in Special Education (3) Pre: 485 or consent.
- 699 Directed Reading and/or Research (v) Pre: consent.

COLLEGE OF ENGINEERING

Programs of study in the College of Engineering include both general and theoretical course work to equip the student with the ability and motivation to meet the challenges of a technology-oriented society. Problems related to preservation and enhancement of the environment receive particular emphasis.

Curricula in civil, electrical and mechanical engineering are fully accredited by the national accrediting agency, the Engineer's Council for Professional Development.

Admission and Degree Requirements. University admission requirements are listed on p. 12. College requirements for prospective engineering students include plane geometry, two years of algebra, and trigonometry. Mechanical drawing, physics and solid geometry are recommended. The college makes an additional screening of aptitude tests and high school records in its acceptance procedure.

Undergraduate curricula are set up for completion in eight semesters, but some engineering students take an additional semester or enroll in summer school to complete degree requirements. Community college and Hilo College students completing two years of pre-engineering course work on their initial campus can transfer into the college at full junior status. In some cases students must take additional work to make up for any introductory engineering subjects not taken during the first two years.

To receive the bachelor of science degree in engineering a student must (1) complete the course work for one of the engineering curricula, which also satisfies all University requirements, (2) have a 2.0 grade-point ratio for all registered credits and (3) have a 2.0 grade-point ratio for all upper division courses in the major department.

Common Curriculum. The first two years provide a flexible core of courses common to the three engineering departments and the general engineering program. Requirements of this core are:

General education requirements totalling 50-53 credits, distributed as follows: 9 credits in communications and required humanities (one English course from 100-170 series, one literature course from 251-256 series, Speech 151), 12 credits in quantitative reasoning (Math 205, 206, 231, 232, Math 134 may be required if math preparation is inadequate), 6 credits in world civilizations (Hist 151, 152), 17-20 credits in natural sciences (Chem 117, 118, or 113, 113L, 114, 114L, Phys 170, 170L, 272, 272L, 274), and 6 credits in humanities and social science electives.

Pre-engineering requirements totalling 13-14 credits: a year of high school mechanical drawing or 1 credit in CE 61, 1 credit in CE 101, 3 credits in ME 113, 3 credits in EE 251 or 253 (must be 253 for mechanical majors) and 6 credits in CE 270 & 271 (electrical majors may substitute an additional mathematics course and Phys 310).

Additional departmental requirements: 3 credits for civil engineering (CE 211), 5 credits for electrical engineering (EE 311, 313), or 0 to 3 credits for the general engineering program (CE 370 for Ocean Option only).

Engineering Curricula. Upon application to the college, students select the field of study in which they wish to receive their degree and pursue one of the following curricula. Course work in each program satisfies the general education requirements of the University.

Civil Engineering is concerned with the activities of man and his environment. The civil engineer conceives, plans, designs, constructs, operates and maintains the physical works necessary to the environmental needs of people—a pure water supply, disposal and recycling of waste, environmental health, transportation, water power developments and structures of all types.

Majors must complete a minimum total of 128 credits, including 65 in the common curriculum. In the third and fourth years, students must earn 3 credits in economics (Econ 120/150), 6 credits in humanities and social sciences electives, 18 credits in departmental requirements (CE 320, 330, 350, 361, 370, 381), and the following Group requirements: 18 credits in a minimum of six courses from Group 1, Civil Engineering (CE 212, 372, 401, 403, 405, 412, 413, 421, 422, 424, 426, 431, 432, 450, 462, 463, 464, 468, 469, 482, 485, 486, 487, 491, 492); 2 to 4 credits in Group 2, Engineering and Applied Sciences (EE 311, 315, 411; Geog 375; GG 101, 102, 200, 454, 457; ME 311, 331, 402; Ocean 201; OE 401, 411, 412; Arch 311); 3 or 4 credits in Group 3, Technology-Society-Environment (Arch 375, GE 203, Sci 124, Geog 326); 2 to 4 credits in Group 4, Biological Sciences (Bot 101, Micro 130, Sci 121, Zool 101, 230); 6 credits in Group 5, Mathematics, with 3 credits from CE 411, 413, 414, 477 and the other 3 from any mathematics course numbered 301 and above; 3 or 4 credits from one course selected from Group 1, 2, 3, or 5, and 2 to 4 credits in open elective. Other alternatives differing from this suggested curriculum are possible with consent of the student's adviser and the department chairman.

Mechanical Engineering prepares the graduate to contribute effectively in such diverse professional areas as design and development of mechanical components, instruments, machines and systems; generation of power and conversion of energy; research and consultation in such fields as fluid mechanics, heat transfer, materials processing, acoustics and environmental control.

Majors must complete 131 credits, including 63 in the common curriculum. In the third and fourth years, requirements are 3 credits in economics (Econ 120 or 150), 6 credits in humanities and social science electives; and a total of 59 credits in departmental requirements as follows: 12 in thermoscience (ME 311, 312, 322, 422), 12 in mechanics and design (ME 371, 375, 467, 419 or 468), 6 in materials science (ME 331, 341), 4 in measurement and experimentation (ME 300, 400), 4 in electrical engineering (EE 311), 6 in mathematics (ME 402, and one of the following: ME 403, 404; CE 411, 414; EE 315, 411; any math course 300 or above), 15 in technical electives approved by adviser. Technical electives are math, physics or engineering courses numbered 300 and above; 6 of these credits must be ME courses, including at least 3 credits from ME 417, 418, 455, or 457.

Electrical Engineering offers B.S., M.S., and Ph.D. degrees. The areas of study available include electronics, computers, systems, energy and biomedical engineering.

Undergraduate majors must complete a minimum total of 127 credits, which includes 59 credits of general educational requirements, 18 credits of engineering requirements, and 50 credits of departmental requirements.

Detailed requirements for the undergraduate majors as well as graduate majors are available in the department office.

The college also offers a bachelor of science degree in a *flexible engineering program* for students who want to pursue a scientific or technology-oriented course of studies analogous to the Liberal Studies B.A. program.

Students study a particular problem or theme (e.g., technology assessment, pollution control, energy utilization), or work with an academic adviser to create an undergraduate major which does not yet exist at the University, such as ocean engineering, management engineering or aquacultural engineering. They may choose from (1) three already developed special engineering options in agricultural engineering, information sciences, or ocean engineering or (2) a truly flexible program tailored to such individual interests as prelaw, premed, management engineering, chemical engineering, or technology assessment.

Students must satisfy all University degree requirements, complete the common engineering curriculum, and acquire a minimum of 124 hours of credit. More information is available from the program director.

Ocean Engineering encompasses application of physical principles and engineering techniques to the analysis and design of structures and systems in the ocean environment. The

University is one of the first in the country to offer graduate degrees in this field.

The program is interdisciplinary at both the master of science and doctor of philosophy levels. Some of the courses are in the departments of oceanography, civil, electrical and mechanical engineering.

To enter the graduate program students must have received a B.S. in engineering or in a related science with engineering prerequisites.

The department also offers undergraduate courses in ocean engineering.

The James K.K. Look Laboratory of Oceanographic Engineering permits experimental type research activity that has direct bearing on many ocean-related problems occurring throughout the state of Hawaii. A partial list of current and planned research with this facility includes the following: tsunami wave action on harbor installations; floating and undersea structures; harbor pollution studies; beach erosion; smallcraft harbor design.

Center for Engineering Research. The center promotes and coordinates research activity within the College of Engineering. Research interests include structural engineering, water resources, geothermal and solar energy, coastal engineering, waste-water treatment and disposal, theoretical mechanics, heat transfer, information theory, microwaves, atmosphere ionization, and various multidisciplinary projects.

59

ENGINEERING COURSES

Civil Engineering (CE)

Department Office: Holmes Hall 383

Professors: Nathan C. Burbank, Jr., Arthur N. L. Chiu, John R. Evans, Mateo L. P. Go, L. Stephen Lau, Tetsuichi Mitsuda, N. Norby Nielsen, Rudolph Szilard, William Tinniswood, John A. Williams, Jack Yuen.

Associate Professors: Edmond Cheng, Gordon L. Dugan, Yu-si Fok, Robert A. Grace, Harold S. Hamada, Ralph B. Hubbard, Paul L. Hummel, George Taoka, Reginald H. F. Young, Samuel Zundeleovich.

Assistant Professors: David Boyd, Peter H. P. Ho, Fareed W. Nader, Costakis Papacostas, Patrick K. Takahashi.

- 61 (GE 61) Graphical Communications (1)
- 101 (GE 101) Engineering Orientation (1)
- 201 Technology for Nontechnologists (3) (For A&S students)
- 203 (GE 203) Technology & Society (3) (Cross-listed as IS 203)
- 211 Surveying I (3) Pre: trigonometry, ME 113.
- 212 Surveying II (3) Pre: Math 205, CE 211.
- 270 Applied Mechanics I (3) Pre: Phys 170.
- 271 Applied Mechanics II (3) Pre: 270, Math 206.
- 320 Fluid Mechanics Fundamentals (3) Pre: 271, or Phys 310.
- 330 Environmental Engineering (3) Pre: engineering junior or consent.
- 350 Soil Mechanics (3) Pre: 370.

- 361 Transportation Engineering I (3) Pre: engineering junior.
- 370 Mechanics of Materials I (3) Pre: 270.
- 372 Mechanics of Materials II (3) Pre: 370.
- 381 Structural Analysis (3) Pre: 370.
- 401 Experiments & Instrumentation (3) Pre: 320, 370.
- 403 Systems Design (3) Pre: seniors.
- 405 Engineering Management (3) Pre: engineering seniors.
- 411 Applied Probability & Statistics (3) Pre: consent.
- 412 Dynamic Probabilistic Analysis (3) Pre: 411 & consent.
- 413 Operations Research in Civil Engineering (3) Pre: Math 311.
- 414 Matrix Engineering Analysis (3) Pre: Math 232.
- 421 Hydraulics (3) Pre: 320.
- 422 Theoretical Fluid Mechanics (3) Pre: 320, Math 232.
- 424 Applied Hydrology (3) Pre: 320.
- 426 Hydraulic Design (4) Pre: 421, regis. in 424.
- 431 Water & Wastewater Engineering (3) Pre: 320, 330.
- 432 Water & Wastewater Treatment Design (3) Pre: 431.
- 450 Soils & Foundation Engineering (4) Pre: 350.
- 462 Transportation Engineering II (3) Pre: 361 & consent.
- 463 Urban Engineering & Planning (3) Pre: consent.
- 464 Urban & Regional Transportation Planning (3) Pre: consent.
- 468 Engineering Soils Mapping & Evaluation (3) Pre: consent.
- 469 Airphoto Interpretation & Remote Sensing (3) Pre: consent.
- 477 Computer Methods in Civil Engineering Systems (3) Pre: EE 253.
- 482 Advanced Structural Analysis (3) Pre: 381.

- 485 Structural Design I (4) Pre: 370.
 486 Structural Design II (4) Pre: 485, regis. in 482.
 487 Prestressed Concrete (3) Pre: 485, consent.
 491-492 Special Topics in Civil Engineering (3-3) Pre: consent.
 499 Special Problems (v) Pre: consent. Limited.
 623 Hydraulic Transients (3) Pre: 421 or consent.
 624 Flow in Porous Media (3) Pre: consent.
 626 Surface-Water Hydrology (3) Pre: consent.
 627 Ground-Water Hydrology (3) Pre: consent.
 628 Water Resources Planning & Management (3) Pre: consent.
 629 Water Resources System Analysis (3) Pre: 628 or consent.
 631 Water Quality Management (3) Pre: consent. (Cross-listed as PH 774)
 632 Advanced Water Treatment Technology (3) Pre: consent. (Cross-listed as PH 775)
 634 Water Treatment Plant Design (3)
 635 Environmental Engineering Chemistry (3) Pre: consent. (Cross-listed as PH 777)
 636 Environmental Engineering Microbiology (3) Pre: consent. (Cross-listed as PH 778)
 637 Environmental & Sanitary Engineering Lab (3) Pre: consent.
 638 Environmental & Sanitary Engineering Public Health (3) Pre: consent.
 639 Biology of Environmental Engineering Systems (3) Pre: consent.
 640 Industrial Waste Treatment (3) Pre: consent.
 641 Marine Disposal of Wastes (3) Pre: consent.
 642-643 Solid Waste Management & Control (3-3) Pre: consent. (Cross-listed as PH 685-686)
 645-646 Development Planning (3-3) Pre: consent.
 648 Design of Solid Waste Disposal Facilities (4) Pre: 685 & consent. (Cross-listed as PH 688)
 664 Analysis & Design of Urban Transportation Systems (3) Pre: 464.
 665 Simulation & Modeling of Urban Systems (3) Pre: 413, 464.
 671 Theory of Elasticity I (3) Pre: consent.
 673 Theory of Plasticity (3) Pre: 671.
 675 Theory of Vibrations (3) Pre: consent.
 676 Structural Dynamics (3) Pre: 675.
 677 Energy Methods in Applied Mechanics (3) Pre: 671.
 678 Theory of Plates (3) Pre: consent.
 679 Theory of Thin Shells (3) Pre: consent.
 681 Advanced Indeterminate Structures (3) Pre: consent.
 682 Numerical Methods of Structural Analysis (3) Pre: 681.
 683 Advanced Reinforced Concrete Design I (3) Pre: consent.
 686 Numerical Methods in Continuum Mechanics (3) Pre: Math 402, consent.
 687 Design of Structural Systems (3) Pre: grad & consent.
 691-692 Seminar in Civil Engineering (1-1) Pre: consent.
 696 Selected Topics in Civil Engineering (3) Pre: consent.
 699 Directed Reading or Research (v) Pre: consent.
 800 Thesis Research (v)

Electrical Engineering (EE)

Department Office: Holmes Hall 483

Professors: Norman Abramson, N. Thomas Gaarder, Donald J. Grace, Hu Hsien Hwang, Bharat Kinariwala, Franklin F. Kuo, W. Wayne Lichtenberger, Shu Lin, Thomas H. Roelofs, David Slepian, Paul F. Weaver, Edward J. Weldon, Jr., Paul C. Yuen.
Associate Professors: Rahul Chattopadhyay, Gautier T. N. Fang, Bertil S. M. Granborg, Frank T. Koide, Kazutoshi Najita, David R. Stoutemyer.

Assistant Professor: John R. Bower.

- 205 Introduction to Scientific Computation (3) Pre: 251 or 253, Math 206.
 251 Introductory Computer Methods in PL/I (3)
 253 Introductory Computer Methods in FORTRAN (3) Pre: Math 205.
 255 Introductory Computer Methods in COBOL (3)
 260 Introduction to Digital Computers (3) Pre: 251 or 253 or 255.
 305 Scientific Computation (3) Pre: 205.
 311 Basic Circuit Analysis (4) Pre: Math 231, 251 or 253.
 313 Circuits Laboratory (1) Pre: reg. in 311.
 315 Signal and System Analysis (3) Pre: 311, Math 232.
 323 Basic Electronics (3) Pre: 311.
 323L (324) Basic Electronics Lab (1) Pre: 313, reg. in 323.
 326 Linear Electronics (3) Pre: 323.
 326L (327) Linear Electronics Lab (1) Pre: 324, reg. in 326.
 331 Energy Conversion (3) Pre: 311.
 331L (333) Energy Conversion Lab (1) Pre: 313, reg. in 331.
 360 Logic Design (3)
 371 Fields and Waves I (3) Pre: 311, reg. in Math 232.
 372 Fields and Waves II (3) Pre: 371.
 405 Advanced Scientific Computation (3) Pre: 205.
 411 State Space Analysis (3) Pre: 315.
 415 Digital Filter Design (3) Pre: 315.
 422 Electronic Instrumentation (3) Pre: 315, 323.
 422L (423) Instrumentation Lab (1) Pre: 313, reg. in 422.
 424 Integrated Circuit Fabrication Techniques (3) Pre: consent.
 425 Integrated Circuits (3) Pre: 326.
 427 Physical Electronics (3) Pre: 323.
 428 Nonlinear and Digital Electronics (3) Pre: 323.
 428L (429) Nonlinear & Digital Electronics Lab (1) Pre: 323L, reg. in 428.
 435 Power System Analysis (3) Pre: 331.
 436 Direct Energy Conversion (3) Pre: consent.
 441 Communication Systems (3) Pre: 315, Math 371.
 446 Information Theory & Coding (3) Pre: Math 371.
 451 Feedback Control Systems (3) Pre: 315.
 451L (452) Feedback Control Systems Lab (1) Pre: 313, reg. in 451.
 453 Modern Control Theory (3) Pre: 451.
 460 Switching Circuit Theory (3) Pre: 360.
 461 Digital Systems & Computer Design (3) Pre: 260, 360.
 461L (462) Digital Techniques Lab (1) Pre: reg. in 461.
 463 Analog Computers (3)
 466 Computer Organization & Programming Techniques (3) Pre: 260.
 467 Algorithmic Languages (4) Pre: 251 or 253 or 255.
 468 Introduction to Computer Systems (3) Pre: 466, 467.
 473 Microwave Communications (3) Pre: 372.
 474 Antennas (3) Pre: 372.
 475 Radio-Wave Propagation (3) Pre: 372.
 477 Fundamentals of Radar, Sonar & Navigations Systems (3) Pre: 371.
 481 Bioelectricity (3) Pre: 311, Math 232.
 483 Biomedical Engineering (3)
 486 Biomedical Electronics (3) Pre: 323.
 486L (487) Biomedical Electronics Lab (1)
 491-492 Special Topics in Electrical Engineering (3) Pre: consent.
 499 Project (v) Pre: senior.
 601 Graph Theory & Its Applications (3) Pre: Math 311 or consent.
 603 Computer-Aided Analysis (3) Pre: 411, 251 or 253.
 604 Computing Algorithms (3) Pre: 305, 405.
 613 Linear System Analysis (3) Pre: 411.
 614 Analysis of Nonlinear Systems (3) Pre: 323, 451, Math 232.
 617 Computer-Aided Circuit Design (3) Pre: 315, 251 or 253.
 618 System Optimization (3) Pre: Math 311, 251 or 253.
 621 Advanced Physical Electronics (3) Pre: 427.
 623 Advanced Electronic Instrumentation (3) Pre: 422.
 625 Solid State Devices (3) Pre: 427.
 627 Advanced Topics in Physical Electronics (3) Pre: 427.
 628 Analysis & Design of Integrated Circuits (3) Pre: 323.
 646 Principles of Communications I (3) Pre: 441.
 647 Principles of Communications II (3) Pre: 646.
 648 Error-Correcting Codes (3) Pre: consent.
 649 Advanced Information Theory (3) Pre: consent.
 651 Nonlinear Control Systems (3) Pre: 451.
 652 Optimal Control (3) Pre: 651.
 653 Stochastic Control (3) Pre: consent.
 655 Sampled-Data Control Systems (3) Pre: 451.
 657 Hybrid Automatic Control Systems (3) Pre: 451.
 660 Computer Organization (3) Pre: 461, 468.
 661 Theory of Digital Machines (3) Pre: 460.
 669 Computer Communications (3) Pre: 441, 466.
 671 Electromagnetic Theory & Applications (3) Pre: 372, Math 232.

- 691 Seminar in Electrical Engineering (1) Pre: grad, consent.
- 692 Seminar (1) Pre: grad, consent.
- 693 Special Topics in Electrical Engineering (3) Pre: consent.
- 699 Directed Reading or Research (v) Pre: grad, consent.
- 800 Thesis Research (v) Pre: candidacy for MS or PhD in EE.

Mechanical Engineering (ME)

Department Office: Holmes Hall 302

Professors: Don E. Avery, John C. Burgess, Hi Chang Chai, James C. S. Chou, Richard M. Fand, Jorn Larsen-Basse, Willem Stuijver.

Associate Professors: Ping Cheng, Joel S. Fox, Ko Moe Htun, Deane H. Kihara, Frederick C. Munchmeyer.

Acting Assistant Professor: K. Joseph Augustus.

- 113 (GE 113) Introduction to Engineering Design (3) Pre: 1 yr. high school mechanical drawing or CE 61.
- 210 Energy: Its Sources & Utilization (3) For nonengr. students. (Cross-listed as IS 197)
- 300 Measurements Lab (2) Pre: junior.
- 311 Thermodynamics (3) Pre: Phys 170.
- 312 Applied Thermodynamics (3) Pre: 311.
- 322 Mechanics of Fluids (3) Pre: CE 271.
- 323 Fluid Mechanics II (3) Pre: 322.
- 331 Materials Science (3) Pre: Phys 274.
- 341 Materials Processing (3) Pre: 331.
- 371 Mechanics of Solids (3) Pre: CE 270.
- 375 Introduction to System Dynamics (3) Pre: CE 271, Math 232.
- 400 Mechanical Engineering Experimentation (2) Pre: 300.
- 402 Computer Methods in Engineering (3) Pre: EE 253.
- 403 Advanced Mathematics for Engineers I (3) Pre: Math 232.
- 404 Advanced Mathematics for Engineers II (3) Pre: Math 232.
- 417 Air Conditioning & Refrigeration (3) Pre: 312.
- 418 Gas Turbine Power Plants (3) Pre: 312.
- 419 Design of Thermal Systems (3) Pre: 312.
- 420 Combustion & Air Pollution (3) Pre: senior.
- 422 Heat Transfer (3) Pre: 311, Math 232.
- 424 Introduction to Gasdynamics (3) Pre: 312, 321.
- 431 Electronic Processes in Materials (3) Phys 274.
- 433 Failures in Materials (3) Pre: 331 or consent.
- 451 Automatic Control (3) Pre: 375.
- 455 Nuclear Power Engineering (3) Pre: regis. in 422.
- 457 Marine Engineering (3) Pre: 311.
- 467 Design of Mechanical Elements (3) Pre: 371, senior in ME or consent.
- 468 Mechanical Engineering Design (4) Pre: 467.
- 473 Mechanical Vibration & Shock (3) Pre: 371 & 375 or consent.
- 474 Fundamentals of Acoustics (3) Pre: 375, or EE 311 or consent.
- 499 Project (v) Pre: senior.
- 611 Classical Thermodynamics (3) Pre: 312.
- 612 Statistical & Nonequilibrium Thermodynamics (3) Pre: 312.
- 617 Advanced Thermal Environmental Engineering (3) Pre: 417 or consent.
- 621 Conduction Heat Transfer (3) Pre: 422.
- 622 Convection Heat Transfer (3) Pre: 422, 626.
- 623 Radiation Heat Transfer (3) Pre: 422.
- 624 Gasdynamics (3) Pre: 424.
- 625 Numerical Methods in Fluid Mechanics & Heat Transfer (3) Pre: EE 253, ME 321, ME 422.
- 626 Viscous & Turbulent Flows (3) Pre: 321.

- 628 Theory & Measurement of Turbulence (3) Pre: 626.
- 630 Materials Science Laboratory (2) Pre: consent.
- 631 Advanced Materials Science (3) Pre: 331 or consent.
- 635 Corrosion Theory (3) Pre: 331.
- 636 Materials for the Ocean Environment (3)
- 641 Theory of Mechanical Properties of Solids (3) Pre: 331 or consent.
- 642 Mechanical Behavior of Engrg Materials (3) Pre: consent.
- 657 Methods of Search & Optimization (3) Pre: 402 or consent.
- 671 Mechanics of Continua I (3) Pre: 371.
- 672 Mechanics of Continua II (3) Pre: 671.
- 676 Noise Control (3) Pre: 474.
- 678 Dynamics of Mechanical Systems (3) Pre: 375.
- 691 Seminar (1) Pre: grad & consent.
- 696 Advanced Topics in Mechanical Engineering (v) Pre: consent.
- 699 Directed Reading or Research (v) Pre: consent.
- 800 Thesis (v) Pre: MS candidate & consent.

Ocean Engineering (OE)

Department Office: Keller Hall 219

Professors: Charles L. Bretschneider, John P. Craven, Frans Gerritsen, Antares Parvulescu, Manley St. Denis.

Researchers: Theodore T. Lee, John T. O'Brien.

Associate Professors: Karl Bathen, Ludwig H. Seidl, Giulio Venezian.

- 401 Introduction to Ocean Engineering (3)
- 403 Fundamentals of Ocean Engineering (3) Pre: consent.
- 411 Buoyancy & Stability (3) Pre: CE 270.
- 412 Resistance & Powering of Ships (3) Pre: ME 321, OE 411.
- 461 Coastal & Harbor Engineering I (3) Pre: consent.
- 601 Ocean Engineering Laboratory (3) Pre: consent.
- 603 Oceanography for Ocean Engineers (3) Pre: consent.
- 607 Wave Dynamics (3) Pre: graduate.
- 608 Statistical Analysis of Waves (3) Pre: 607.
- 609 Principles of Ocean Engineering (3) Pre: consent.
- 612 Seakeeping (3) Pre: 411.
- 614 Ocean Hydrodynamics Lab (2) Pre: 609 or Ocean 620.
- 621 Introduction to Ocean Acoustics (3) Pre: ME 474 or consent.
- 622 Sonar System Engineering (3) Pre: ME 474, or OE 621 or consent.
- 623 Electroacoustics (3) Pre: ME 474 or OE 621 or 622 or consent.
- 631-632 Structural Design of Ocean Systems I & II (3-3)
- 651 Instrumentation Seminar (2) Pre: graduate.
- 652 Nearshore Marine Survey Techniques (3) Pre: consent.
- 662 Coastal & Harbor Engineering II (3) Pre: consent.
- 664 Sediment Transport, Littoral Drift & Dredging Technology (3) Pre: 609 or consent.
- 681 Ocean Systems (3) Pre: consent.
- 682 Design of Ocean Systems (3) Pre: 411, 412, 612.
- 683 Ocean Engineering Design Project (3) Pre: consent.
- 691 Special Topics in Ocean Engineering (v) Pre: consent.
- 692 Seminar in Ocean Engineering (v)
- 694 Economics of Marine Resources (3) Pre: consent. (Cross-listed as Econ 694)
- 696 Topics in Ocean Engineering (v) Pre: grad or consent.
- 699 Directed Reading or Research (v) Pre: grad or consent.
- 800 Thesis Research (v) Pre: candidacy for MS or PhD.

College of Health Sciences and Social Welfare

In the College are four professional schools: Medicine, Public Health, Nursing, and Social Work. Programs of the separate schools are integrated, so far as possible, to orient students to common problems and various approaches to solutions. Interdisciplinary courses, colloquia, institutes and field experiences permit students to become acquainted with one another and with trends and developments in the four professions of the health care team.

SCHOOL OF MEDICINE

The School of Medicine provides instruction for three major categories of students:

1. Candidates for the M.D. degree, admitted directly to the school by its own admissions committee.
2. Candidates for master's and Ph.D. degrees in biochemistry, biophysics, pharmacology, physiology and genetics, who apply through the Graduate Division of UHM.
3. Candidates for undergraduate degrees in speech pathology & audiology and in medical technology, who apply through the undergraduate admissions office.

Candidates for M.D. training ordinarily must have earned a bachelor's degree, although in some cases it is possible to be admitted after only three years of undergraduate work, usually in biology.

The undergraduate degree may be in any discipline, including English and music, for example, but candidates commonly will have majored in the sciences; the most common baccalaureate degree among entering students is in chemistry. However, whatever the undergraduate degree, candidates must have completed the following minimums: 10 semester credits of biology; 16 semester credits of chemistry, including general and organic chemistry; 8 semester credits of physics; and mathematics, at least through precalculus.

In addition, candidates for the M.D. degree, if possible, should have studied general genetics, embryology or developmental biology, quantitative analysis, calculus, physical chemistry and statistics.

Applicants also must take the nationally-administered Medical College Admission Test which deals with the required premedical courses in biology, chemistry, physics and mathematics, as well as English.

Each entering class of M.D. candidates is limited to 66 students. Applications are accepted from July 1 through December 15 for entry the following September.

The School of Medicine also conducts two programs for students from Hawaii and the Pacific area who for socioeconomic reasons may not meet the usual requirements but who show exceptional promise. One program, Imi Ho'ola, is a remedial year in science designed to qualify the student to apply competitively for admission as an M.D. candidate. The other, the Dean's Guest program, is a decelerated program under which the student is given three years, along with special mandatory tutoring, to complete work which candidates ordinarily complete in two years.

Additional information concerning both M.D. and non-M.D. programs and application requirements is available

from: the Office of Student Affairs, School of Medicine, 1960 East-West Road, Honolulu, 96822; and the Office of Student Services, Bachman Annex 10, University of Hawaii at Manoa. For further information, see bulletin of the School of Medicine.

Allied Medical Sciences

Division of Comparative Medicine (CpMed)

Professor: Nicholas E. Palumbo.

451 The Use of Animals in Research (2)

Division of Medical History (MedHs)

Professor: Charles S. Judd, Jr.

606 Medical History (1)

699 Directed Research (v)

Division of Medical Technology (MT)

Professor: Nadhipuram V. Bhagavan.

Assistant Professors: Phyllis A. Sonoda, Patricia L. Taylor.

Instructors: Frances S. Goo, Noreen K. Inamasu, Grace M. Kagawa, June C.N. Kuroda, Edna T. Lelievre, Gladys T. Nakamura.

Prospective students of medical technology should have completed at least two years of algebra, plane geometry, and trigonometry. Precalculus, chemistry and physics are strongly recommended.

151 Introduction to Medical Technology I (2)

251 Introduction to Medical Technology II (2) Pre: college chemistry, sophomore, consent.

301-302 The Clinical Laboratory (3-3) Pre: 251, Biomed 301, junior, consent.

366 Internship (2) Pre: 3 years, 301-302, consent.

431 Medical Parasitology (3) Pre: Micro 351, consent.

451 Basic Hematology (3) Pre: 251, Micro 351, Biomed 301-302, consent.

457-458 Clinical Laboratory Instruments (3-3) Pre: college physics, 471-472, consent.

464 Immunohematology (3) Pre: Micro 461, consent.

467-468 Internship (12-12)

471-472 Clinical Biochemistry, Lecture (2-2) Pre: Biomed 301-302, Biochem 441, consent.

- 471L-472L (473-474) Clinical Biochemistry, Lab (2-2) Pre: Biomd 301-302, Bioch 441, consent.
 495 Special Topics in Med Tech (1) Pre: consent.
 499 Directed Reading & Research (v) Pre: consent.
 601-602 Advanced Clinical Laboratory Methods (4-4) Pre: 457-458, consent.
 690 Seminar in Medical Technology (1) Pre: consent.
 695 Special Topics in Medical Technology (2) Pre: consent.

Division of Speech Pathology and Audiology (SPA)

Professor: Merle Ansberry.

Associate Professors: D. Frank McPherson, Glenn K. Pang-Ching.

Assistant Professor: Dorothy D. Craven.

Prospective undergraduate majors and students who plan to enroll in the graduate program should consult with the division chairman for advice and obtain a copy of the outline of the programs in speech pathology and audiology.

Undergraduate Program. Students who plan to obtain a B.S. degree in speech pathology and audiology should enroll in the College of Arts and Sciences and complete the University core curriculum and other specific requirements during their first two years of residence. At the end of this time transfer should be made to the School of Medicine.

Specialized courses in speech pathology and audiology required for the undergraduate major are:

- 300 Introduction to Speech Correction (3)
 301 Introduction to Audiology (3)
 302 Methodology of Speech Correction (3) Pre: 300, 320.
 303 Testing of Hearing (3) Pre: 301.
 315 Hearing Habilitation and Rehabilitation (3) Pre: 301.
 320-321 Speech and Hearing Science (3-3)
 402 Pathology of Speech (3) Pre: 300, 302, 320-321.
 410V Practicum in Speech Pathology (v) Pre: 300, 302, 320-321.
 411V Practicum in Audiology (v) Pre: 301, 303, 315.

Other specific requirements are: 6 credits in linguistics including 470; 3 credits in mathematics; 4 credits in physics; at least one course in speech which deals primarily with public speaking or discussion and provides practice in these areas; and 9 credits in psychology beyond the basic course 100 and including 110 and 113. A minimum of 124 semester hours of credit is required.

Graduate Program. Admission to the master's program as a regular graduate student requires that the applicant present undergraduate credits in speech pathology and audiology covering the same areas required for undergraduate majors listed above. A conference will be held with each entering graduate student prior to initial enrollment during which an analysis of the undergraduate preparation will be made. Qualification for admission to candidacy will be determined as will the necessity for removal of undergraduate deficiencies. The student's adviser will determine when recommendation for admission to candidacy will be made; no general examination will be required.

Plan A, thesis, and Plan B, nonthesis, are both available to students. The choice will be made by the student and his advisory committee. Under Plan A 36 semester credits in course work plus a thesis (8 credits) and a final oral examination are required. Plan B requires satisfactory completion of 44 semester credits of course work including 799 and a seminar appearance in which the student will be examined upon the research study which he has completed in this course.

The minimum length of time required for completion of either program by a regular graduate student who is admitted with no undergraduate deficiencies is three semesters plus one six-week summer term or equivalent. Courses offered on the graduate level are:

- 600 Research Methods (3)
 602 Diagnostic Procedures in Speech Pathology (3)
 603 Advanced Audiology (3) Pre: 301, 303.
 610 Organic Disorders of Speech (3)
 612 Functional Disorders of Speech (3)
 613 Language Development for Children with Hearing Deficiencies (3)
 710V Advanced Practicum in Speech Pathology (v) Pre: 410.
 711V Advanced Practicum in Audiology (v) Pre: 411, 603.
 712 Advanced Practicum in Speech—Public Schools (6)
 720 Seminar in Functional Disorders of Speech (3)
 721 Seminar in Audiology—Diagnostic Procedures (3)
 722 Seminar in Organic Disorders of Speech (3)
 723 Seminar in Audiology—Rehabilitative Procedures (3)
 799B Research—Speech Pathology (3)
 799C Research—Audiology (3)
 800 Thesis Research (8)

Division of Stomatology (Stoma)

- 600 Stomatology (1)
 699 Directed Research (v)

Anatomy and Reproductive Biology (Anat)

Professors: Vincent J. DeFeo, Milton Diamond, Patricia Jacobs, Ruth G. Kleinfeld.

Associate Professors: Joan C. Hoffmann, Virgil L. Jacobs, Robert J. Teichman, Ryuzo Yanagimachi.

Assistant Professors: Sandra S. Beasley, Gillian D. Bryant.

- 602 Functional Human Anatomy (6) Pre: admission to Medical School or consent.
 632 Reproduction & Sexuality (2) Pre: admission to Medical School or consent.
 634 Experimental Methods in the Study of Reproductive Behavior (v) Pre: 1 yr. psych; 1 yr. zool or consent.
 699 Directed Research (v) Pre: consent.
 800 Thesis Research (v) Pre: consent.

The department also contributes to the following biomedical sciences courses (see p. 64 for titles and prerequisites): Biomd 301-302, 601, 602, 603, 604, 605, 606, 607.

Section of Anesthesiology (Anes)

Professor: John W. Pearson.

Clinical teaching and research in fundamentals and applications.

Biochemistry (Bioch) and Biophysics (Bioph)

Department office: Biomedical Science Bldg. T-705

Professors: Nadhipuram Bhagavan, Ian Gibbons, Frederick Greenwood, Richard J. Guillory, Morton Mandel, Howard Mower, Lawrence Piette, Kerry Yasunobu.

Associate Professors: Tom Humphreys, Bruce McConnell, Robert McKay.

Assistant Professor: Bruce Morton.

Several advanced courses are offered in alternate years.

BIOCHEMISTRY

- 241 Fundamentals of Biochemistry (3)
 341 Elements of Biochemistry (3) Pre: 241 or Chem 113-114 or consent.
 441 Basic Biochemistry (v) Pre: Chem 113-114, 243, 244 or consent.
 441L Basic Biochemistry Lab (1) Pre: 441 or concur. regis.

- 480 Introduction to Human Endocrinology (2) Pre: 441 or consent.
 481 Introduction to Molecular Biology (2) Pre: 441 or consent.
 499 Directed Reading and Research (v)
 601-602 Advanced General Biochemistry (3-3) Pre: Chem 243-244, Chem 351-352, Bioch 441 or consent.
 601L General Biochemistry Lab (2)
 605-606 Medical Biochemistry (3-3) Pre: Chem 113-114, 243, 244, or consent.
 620 Advanced Topics in Clinical Biochemistry (2) Pre: MT 471, 472, 473, 474; or Bioch 441; or Bioch 605-606 or consent.
 671 Seminar (1)
 705 Special Topics in Biochemistry (2) Pre: permission.
 710 Special Topics in Enzymology (2) Pre: 601-602 or consent.
 720 Bioenergetics (2) Pre: 601-602 or consent.
 730 Nucleic Acids & Viruses (2) Pre: 601-602 or consent.
 740 Advanced Protein Chemistry (2) Pre: 601-602 or consent.
 799 Directed Research (v) Pre: approval.
 800 Thesis Research (v) Pre: approval.

BIOPHYSICS

- 499 Directed Reading & Research (v)
 601 Survey of Biophysics (3) Pre: Chem 351-352, Math 206 or consent.
 602 Survey of Biophysics (3) Pre: Chem 351-352 or consent.
 603 Biophysics Laboratory (3) Pre: 601 or consent.
 705 Special Topics in Biophysics (2) Pre: permission.
 706 Molecular Structure & Function of Cell Organelles (2)
 799 Directed Research (v) Pre: approval.
 800 Thesis Research (v) Pre: approval.

Courses in Biochemistry offered by other departments

Biology 401 Molecular Basis of Cell Function
 Biomed 602 Endocrinology and Reproduction
 Medical Technology 471-472 Clinical Biochemistry
 Genetics 480 Molecular Genetics

Biomedical Sciences (Biomed)

Consult the Medical School Bulletin for further information concerning these interdisciplinary courses.

- 301-302 Introduction to Human Biology (4-4) Pre: 1 yr. Biol. Zool. Chem. Biomed 301 or consent.
 303-304 Review of Pre-Medical Biology (5-5) Pre: admission to Imi Ho'ola Program.
 401-402 The Scientific Basis of Medicine (2-2) Pre: admission to Imi Ho'ola Program.
 541 Interdisciplinary Experiences in Primary Care (9) Pre: 4th year Med student or consent.
 601 Introduction to Organ Systems (3) Pre: admission to Med or Grad schools.
 602 Endocrinology and Reproduction (3) Pre: admission to Med or Grad schools.
 603 Cardiovascular System (3) Pre: admission to Med or Grad schools.
 604 Neuroscience (4) Pre: admission to Med or Grad schools.
 605 Respiratory & Renal Systems (3) Pre: admission to Med or Grad schools.
 606 Nutrition in Health & Disease (1) Pre: admission to Med or Grad schools.
 607 Digestion & Metabolism (2) Pre: admission to Med or Grad schools.

Community Health (PH)

(Affiliate from the School of Public Health)

Professor: Frank L. Tabrah.

(See School of Public Health for other faculty listing)

- 695 Community Health Problems (v) Pre: 1st-yr. med student, required.
 710 Primary Care Preceptorship (9) Pre: 4th-yr. med student or consent.
 786 Community Health Concepts & Methods (2) Limited. Pre: 2nd-yr. med student, required.

Genetics (Genet)

Department Office: Biomedical Science Bldg. A-110

Professors: Geoffrey C. Ashton, Hampton L. Carson, Chin Sik Chung, John A. Hunt, Ming-Pi Mi, Yong Kyun Paik.

Associate Professors: M. Nabil Rashad, Douglas C. Vann.

Assistant Professors: David T. Arakaki, Spencer R. Malecha.

- 352 Genetics, Evolution & Society (3)
 451 Concepts of Genetics (3) Pre: Biol 220 & 250.
 451L Genetics Lab (1) Pre: concurrent with 451.
 480 Molecular Genetics (3) Pre: 451 & Bioch 441 or consent.
 499 Genetical Problems (v) Pre: 451 or 352.
 604 Evolutionary Genetics (2) Pre: Biol 220 & 250. (Alt yrs; not offered 1974-75)
 611 Human Genetics (2) Pre: Premed or consent.
 618 Cytogenetics (3) Pre: 451, Bot 418 rec. (Alt yrs; not offered 1974-75)
 625 Advanced Topics in Genetics (2) Pre: grad standing in genetics or consent.
 650 Population Genetics (3) Pre: 451; elements of calculus, probability & statistics.
 654 Seminar (1) Pre: grad standing in genetics or consent.
 660 Statistical Methodology in Genetics (3) Pre: 451, calculus, biometry or statistics. (Alt yrs; offered 1974-75)
 671-672 Techniques in Human Genetics (3-3)
 699 Directed Research (v) Pre: grad standing; consent.
 701 Human Polymorphisms (3) Pre: 451. (Alt yrs; not offered 1974-75)
 702 Immunogenetics (3) Pre: 451 & Micro 461 or consent. (Alt yrs; not offered 1974-75)
 712 Genetic Risk Analysis (3) Pre: 660 or consent. (Alt yrs; offered 1974-75)
 750 Human Population Genetics (3) Pre: 650. (Alt yrs; offered 1974-75)
 770-771 Clinical Genetics (v) Pre: 451, 611 or consent.
 800 Thesis Research (v) Pre: consent.

Graduate courses in Genetics offered by other departments

Animal Sciences 652 Quantitative Genetics
 Biochemistry 730 Nucleic Acids & Viruses
 Biophysics 701 Molecular Structure & Function of Chromosomes
 Biophysics 706 Molecular Structure & Function of Cell Organelles
 Microbiology 475 Microbial Genetics

Medicine (Med)

Department Office: Harkness Pavilion, Room 105, Queen's Medical Center

Professors: Richard K. Blaisdell, Maurice L. Brodsky, Douglas G. Massey.

Associate Professors: Max G. Botticelli, H. H. Chun, John C. K. Kim, Melvin H. Levin, T. K. Lin, Frank L. Miller, Noboru Oishi, James A. Orbison, Arnold W. Siemsen, Charles K. Tashima, Bernard J. B. Yim.

Assistant Professors: Gilbert A. Ching, Richard I. Frankel, Gary A. Glober, Christian L. Gulbrandsen, Alan K. Izumi.

- 511 History-Taking and Physical Examination (2) Pre: admission to School of Medicine.
 512 History-Taking and Physical Examination (2) Pre: admission to School of Medicine.
 521-522 Clinical Judgment (3-3) Pre: 512, 2nd-year med student.
 523-524 Clinical Conference (1-1) Pre: 512, 2nd-year med student.
 531 Internal Medicine Clerkship (18) Pre: 523-524, 3rd-year med student or consent.
 545 Topics in Internal Medicine (9) Pre: 531, 4th-year med student or consent.
 599 Directed Research (v) Pre: admission to School of Medicine.
 Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

Obstetrics and Gynecology (Ob-Gyn)

Professor: Ronald J. Pion.

Associate Professors: Ralph W. Hale, John A. Krieger, Santosh Sharma.

Assistant Professors: Ronald Berman, Neal Winn.

Instructor: Jane Char.

- 531 Obstetrics & Gynecology Clerkship (9) Pre: 3rd-yr. medical student or consent of dept.
- 545 Topics in Obstetrics and Gynecology (9) Pre: 4th-year med student or consent.

Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

Pathology (Path)

Professors: W. Stanley Hartroft, Yoshitsugi Hokama, Edwin T. Nishimura, Eduardo A. Porta, Olaf K. Skinsnes.

Associate Professors: James Lumeng, Hong-Yi Yang.

Assistant Professors: Thomas Y. Kobara, Young K. Paik.

- 545 Topics in Pathology (9) Pre: 4th-year med student or consent.
- 601-602 Human Pathology (4-4) Pre: consent.
- 625 Advanced Topics in Pathology (v) Pre: consent.
- 649 Laboratory Diagnosis (2) Pre: consent.
- 670 Immunopathology Seminar (1) Pre: Micro 361 or 625 & Path 601.
- 699 Directed Research (v)
- 700 Research in Pathology Residency Program (v) Pre: M.D. degree and residency in pathology in affiliated hospital.

Pediatrics (Peds)

Professors: Sherrel L. Hammar, Donald Char, Sorrell Waxman.

Associate Professors: Sharon J. Bintliff, Se Mo Suh, Yi-Chuan Ching, George I. Nagao, Frances F. Nakamura.

Assistant Professors: Raquel M. Hicks, Marian E. Melish, Alistair G.S. Philip, George W. Starbuck.

- 531 Pediatric Clerkship (9) Pre: 3rd-yr. medical student or consent of dept.
- 545 Topics in Pediatrics (9) Pre: 4th-year med student or consent.

Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

Pharmacology (Pharm)

Department Office: Biomedical Science Bldg. T-408

Professors: Shao-Chia Chou, Eiichi Furusawa, Bert K. B. Lum, Ted R. Norton, Shoji Shibata.

Associate Professors: Vincent S. Aoki, James F. Lenney, James T. Miyahara.

Assistant Professors: Thomas M. Cashman, Jr., S. Ramanathan, George W. Read.

Junior Pharmacologists: Margaret G. Casarett, Midori Kashiwagi.

- 201 Introduction to General Pharmacology (2) Pre: mammalian physiology or consent.
- 203 General Pharmacology (3) Pre: mammalian physiology or consent.
- 600 Pharmacology: Actions & Uses of Drugs (7) Pre: consent.
- 613-614 Seminar in Pharmacology (1-1)
- 615 Toxicology (4) Pre: consent.
- 631 Medicinal Chemistry & Structure-Activity Relations (3) Pre: 600, organic chemistry.
- 634 Molecular Pharmacology (2) Pre: biochemistry, physiology, and 600.
- 635 Experimental Chemotherapy (1)
- 637 Autonomic Nervous System Pharmacology (2) Pre: consent.
- 639 Advanced Cardiovascular Pharmacology (2) Pre: consent.
- 640 Neuropharmacology (2) Pre: consent.
- 641 Pharmacological Techniques (v) Pre: permission.
- 699 Directed Research (v)
- 800 Thesis Research (v)

Physiology (Physl)

Department Office: Biomedical Sciences Bldg. T-608

Professors: Stanley Batkin, Suk Ki Hong, Terence A. Rogers, G. Causey Whittow.

Associate Professors: Frank T. Koide, Yu-Chong Lin, Terence O. Moore, Martin D. Rayner, Richard H. Strauss, Robert Tracy, William Woodard.

Assistant Professors: George A. Gerencser, Joel M. Hanna, Howard L. Gillary, Terence E. Nicholas, Richard M. Smith.

Research Associates: Edwin M. Hayashi, Birendra Huja, Benjamin L. Respicio, Joseph Szekerczes.

- 101 Introduction to Human Physiology (4)
- 401 Human Physiology (3) Pre: admission to grad nursing prog.
- 603-604 Seminar in Physiology (1-1)
- 605 Physiology of Nerve & Muscle (3) Pre: consent. (Alt yrs; not offered 1974-75)
- 606 Comparative Physiology of Thermoregulation (3) Pre: consent. (Alt yrs; not offered 1974-75)
- 607 Biophysical Concepts in Physiology (2) Pre: consent. (Alt yrs; offered 1974-75)
- 608 Advanced Renal Physiology (3) Pre: Biomed 605. (Alt yrs; offered 1974-75)
- 609 Advanced Cardiovascular Physiology (3) Pre: Biomed 603. (Alt yrs; not offered 1974-75)
- 611 Advanced Respiratory Physiology (3) Pre: Biomed 605. (Alt yrs; offered 1974-75)
- 699 Directed Research (v)
- 701 Hyperbaric and Diving Physiology (3) Pre: consent. (Alt yrs; not offered 1974-75)
- 711 Special Topics in Physiology (v) Pre: consent.
- 800 Thesis Research (v)

The department also contributes to the following biomedical sciences courses (see p. 64 for titles and prerequisites): Biomed 301-302, 601, 602, 603, 604, 605, 606, 607.

Psychiatry (Psyty)

Department Office: Leahi Hospital

Professors: William M. Bolman, Walter F. Char, Thomas W. Maretzki, John F. McDermott, Jr.

Associate Professors: George C. Bolian, Wen-Shing Tseng.

Assistant Professors: Linda L. Alexander, Alfred M. Arensdorf, William J. T. Cody, Margaret J. Hansen, J. David Kinzie, Richard A. Markoff, Danilo E. Ponce, Benjamin B. C. Young.

- 511 Introduction to Human Behavior (2) Pre: admission to School of Medicine.
- 522 Psychopathology (2) Pre: admission to School of Medicine.
- 531 Psychiatric Clerkship (9) Pre: 3rd-year med student or consent.
- 545 Topics in Psychiatry (9) Pre: 4th-year med student or consent.
- 699 Directed Research (v) Pre: consent.

Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

Section of Radiology

Assistant Professor: Richard D. Moore.

Radiology and radiotherapy for students and house officers.

Surgery (Surg)

Professors: Stanley Batkin, Pill-Whoon Hong, Charles S. Judd, Jr., Ivar J. Larsen, Richard T. Mamiya, Frank McDowell, J. Judson McNamara, O. D. Pinkerton, John Watson, Thomas J. Whelan.

Associate Professors: Eugene M. Edynak, Robert Kistner, Glenn M. Kokame, Walton Shim, Clifford J. Straehley, Roy T. Tanoue.

Assistant Professors: Lewis Chamoy, John R. Soeter.

- 531 Surgery Clerkship (18) Pre: 3rd-year med student or consent.
- 545 Topics in Surgery (9) Pre: 4th-year med student or consent.

Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

Tropical Medicine & Medical Microbiology (TrMed)

Department Office: Leahi Hospital

Professors: Robert S. Desowitz, Sidney Gaines, Scott B. Halstead, Wasim A. Siddiqui.

Associate Professors: Nyven J. Marchette, Jerome V. Schnell.

Assistant Professors: Arwin R. Diwan, Duane J. Gubler.

431 Medical Parasitology (3) Pre: consent.

499 Directed Reading & Research (v) Pre: consent.

545 Topics in Tropical Medicine (9) Pre: 4th-year med student or consent.

605 Tropical Medicine & Medical Microbiology (6) Pre: consent.

667B Lab Aspects of Viral Diseases (2) Pre: consent.

667C Lab Aspects of Bacterial Diseases (2) Pre: consent.

667D Lab Aspects of Parasitic Diseases (2) Pre: PH 666 & consent.

670 Clinical Aspects of Tropical Medicine (2) Pre: consent.

699 Directed Research (v) Pre: consent.

799 Directed Reading (Public Health Microbiology) (v) Pre: consent.

Applied Medical Sciences (v) A variety of clinical and research electives open to medical students with advanced standing. Time and credit to be arranged with the department.

SCHOOL OF NURSING

The School of Nursing offers programs to prepare students for professional nursing, associate degree nursing and dental hygiene. Programs are accredited by the Hawaii State Board of Nursing and the National League for Nursing. The dental hygiene program has been granted full approval by the Council on Dental Education of the American Dental Association. Students earn a bachelor of science degree for completing the undergraduate program in professional nursing, or an associate of science degree for work completed in the associate degree nursing program. A certificate is granted for the two-year program in dental hygiene.

A program leading to the master of science in nursing prepares graduates of accredited baccalaureate nursing programs for specialization in mental health-psychiatric nursing and medical-surgical nursing. In addition to an area of specialization, each student selects a functional area of concentration in either teaching or nursing service administration.

Admission and Degree Requirements. Applicants for the dental hygiene program must meet University admission requirements. Further selection is made by the departmental admissions committee on the bases of selected test scores, high school and college GPA's, and interviews.

Applicants for the associate degree program must have been graduated from high school. Completion of a chemistry course and a life science course in high school is highly recommended. Further selection is made on the bases of selected test scores, high school and college GPA's, interviews, and recommendations.

Applicants for the baccalaureate degree in nursing program must have fulfilled all prenursing requirements. Further selection is made by the departmental admissions committee on the bases of scores on selected tests, quality of high school work, a grade-point average of 2.5 or better in previous college work, the completion of an admissions questionnaire, and satisfactory completion of the pre-entrance interview.

The department of associate degree nursing provides the opportunity and encourages licensed practical nurses who have been accepted into the associate degree program to obtain credit by examination for the first year nursing courses. The department of professional nursing provides the opportunity and encourages registered nurses who have completed the general and prenursing requirements and who maintain

a grade-point average of 2.5 or better to obtain credit by examination for the third-year nursing courses. Information about examination dates and orientation sessions to help students prepare for the examination generally are provided during the spring semester. A fee (currently \$5 but subject to change) is charged for each course examination. This is payable in advance and nonrefundable. Additional information and application forms for credit by examination are available from the office of student services in Webster Hall, room 415.

Specific requirements for the bachelor of science degree in nursing, associate of science degree in nursing and certificate in dental hygiene are as follows:

Bachelor of Science Degree in Nursing. Complete curriculum requirements with a grade-point average of at least 2.0 (C) and a grade of C or higher in each major course.

Associate of Science Degree in Nursing. Complete curriculum requirements with a grade-point ratio of at least 2.0 (C) and a grade of C or higher in each major course.

Certificate in Dental Hygiene. Complete curriculum requirements with a grade-point average of at least 2.0.

Dental Hygiene (DH)

Department Office: Webster Hall 216

Associate Professors: Yoshi T. Koga, Walter S. Nobuhara.

Assistant Professors: Stephen S. Chung, Ted L. Quong.

Dental hygiene courses must be taken in sequence.

- 121 Introduction to Dental & Oral Hygiene (2)
- 131 Oral Anatomy & Tooth Morphology (4)
- 140 Intro to Dental Prophylaxis Procedures & Techniques (2)
- 150 Introduction to Dental Histology & Embryology (1)
- 166 Introduction to Human Pathology (1)
- 251 Dental Histology & Embryology (2)
- 267 Oral Pathology (2)
- 269-270 Survey of Dentistry (2-3)
- 272 Dental Health Education & Dental Public Health (3)
- 279-280 Dental Hygiene & Prophylaxis (5-5)
- 281 Dental Roentgenography (2)

Nursing (Nurs)

Department Office: Webster Hall 411

Professors: Edith H. Anderson, Loretta S. Bermosk.

Associate Professors: Yukie T. Gross, Jean L. J. Lum.

Assistant Professors: Lida G. Chase, Margaret L. Fong, Hazel T.

Kim, Winifred R. Kubo, Lucile L. Love, Eileen Mulqueeney,

Yoshiko Shimamoto.

Instructors: Pamela Burkhalter, Jeannine Dunwell, Mary Ohno,

Sandra Pratt, Beatriz Reyes, Sarah Severson, Rosalie Weatherford.

Registration is restricted to students preparing for nursing except by special permission.

301 Nursing Core I (3)

302 Nursing Core II (3) Pre: 301, 305.

303-304 Introduction to Nursing Research (1-2)

305 Clinical Nursing I (7)

306 Clinical Nursing II (7) Pre: 301, 305.

353 Perspective on the Nursing Profession (3)

399 Directed Reading or Research (v) Limited.

401 Nursing Core III (3) Pre: 301-302.

402 Nursing Core IV (3) Pre: 401.

405-406 Clinical Nursing III & IV (8-8) Pre: 305-306.

454 Nursing in the Changing Social Order (3)

602 Orientation to Nursing Research (3)

615 Interaction Processes (3)

617 Concepts and Nursing Practice (3)

622 Advanced Nursing Concepts I, Mental Health-Psychiatric Nursing (4) Pre: 615, 655.

625 Health Assessment (4)

626 Advanced Nursing Concepts I, Medical-Surgical Nursing (4) Pre: Phys 401.

655-656 Advanced Psychiatric Concepts (3-3)

731 Advanced Nursing Concepts II, Mental Health-Psychiatric Nursing (4) Pre: 622, 656.

732 Advanced Nursing Concepts III, Mental Health-Psychiatric Nursing (4) Pre: 731.

735 Advanced Nursing Concepts II, Medical-Surgical Nursing (4) Pre: 626.

736 Advanced Nursing Concepts III, Medical-Surgical Nursing (4) Pre: 735.

747 Curriculum Development (3)

748 Seminar and Practicum in Teaching/Administration (4)

790 Directed Study or Research (v) Limited.

Associate Degree Nursing (ANurs)

Department Office: Webster Hall 423

Assistant Professors: Genedina Goo, Marcia Grant, Shelley Horton,

Jacqueline Johnson, Mei-Li Lo, Shuku Najita, Anita Throwe.

Instructors: Cynthia Ehlke, Graceann Ehlke, Jeannie Fessenden,

Elizabeth Goodloe, Carolyn Layton, Mary McFarland, Janet

Uyehara.

151 Introduction to Nursing (2)
(not offered 1974-75)

153 Basic Skills (5)

154 Maternal-Child Nursing (8)

255 Psychiatric-Medical-Surgical Nursing (8)

256 Advanced Medical-Surgical Nursing (8)

257 Patient Management Skills (2)

258 Nursing Trends (2)

SCHOOL OF PUBLIC HEALTH

The School of Public Health, one of 18 such schools accredited in the United States, offers program emphasis in three departmental areas: public health sciences, community health development and international health.

The department of public health sciences encompasses biostatistics, epidemiology, nutrition, environmental health (including environmental management, environmental sanitation and public health engineering), community health and public health laboratory. The department of community health development includes comprehensive health planning, health services administration, public health administration, public health education, maternal and child health, gerontology, mental health and mental retardation. The third broad program area is the program in international health which includes international health, family planning and population studies. Program content may be arranged so as to combine more than one area of emphasis for eligible students. Such expanded programs will usually require an additional semester of study.

A limited number of traineeships may be available for qualified students who demonstrate a career interest in public health practice. Additionally, traineeship funds may be available for specially designated areas of emphasis. Availability of traineeships varies from year to year.

Master of Public Health Degree. The M.P.H. program prepares persons for public health careers at the local, state, national and international levels. Degree candidates must meet admission requirements of both the Graduate Division and the school. Specific undergraduate preparation and prior health or related work experience requirements vary with the area of emphasis selected by the candidate. A final examination or other final requirement, as determined by the student's program committee, must be completed before graduation. Course requirements may range from 30-45 credit hours as determined by the candidate's program committee. Course work, including the required PH 791, generally is completed in 16 months.

Master of Science Degree. The M.S. program provides students with research-oriented education in a specific area of emphasis. Degree candidates must meet admission requirements of both the Graduate Division and the school. Undergraduate records should show adequate preparation in the biological, physical and social sciences. At least two years' work experience in a health or related field is desirable. The program may require up to 24 months to complete. Two plans of study are available, each requiring at least 30 semester hours. A final oral examination or other final requirement, as determined by the student's program committee, must be completed before graduation. Refer to the *School of Public Health Bulletin* for thesis and nonthesis plan details.

Public Health (PH)

School Office: Biomedical Science Bldg. D-208

Professors: R. Warwick Armstrong, Blair Bennett, Nathan C. Burbank, Chin S. Chung, Elizabeth W. Clark, Robert S. Desowitz, Louis E. Dickinson, Setsu Furuno, Sidney Gaines, Fred I. Gilbert, Harvey L. Gochros, William P. Golden, Jerome Grossman, Scott B. Halstead, Anthony M. Lenzner, Y. Scott Matsumoto, Jerrold M. Michael, Robert E. Mytinger, Chai Bin Park, Ronald J. Pion, Arnold D. Schwartz, Wasim A. Siddiqui, Richard A. Smith, Roy G. Smith, Pauline G. Stitt, Emmanuel Voulgaropoulos, Robert J. Wolff, Robert M. Worth.

Specialists: Richard Y. Suehiro, Floyd H. Tilton, Ned B. Wiederholt.

Associate Professors: Theodore L. Bell, Ralph H. Conway, Jean H. Hankin, John M. Hayakawa, Jerry M. Johnson, Kazuye T.

Kumabe, Maggie Lim, Nyven J. Marchette, Robert C. Marvit.

Associate Specialist: Cynthia J. Stewart.

Assistant Professors: Steven J. Berman, Michael J. Chun, Richard B. Coffman, Dorothy F. Conway, Arwind R. Diwan, Duane J. Gubler, Lorraine C. Stringfellow.

Assistant Specialists: Beverly A. Manner, Katherine O'Reilly.

Lecturers: James Ikeda, Gordon Ishikawa, Michael I. Matsuura, George Tokuyama.

- 401 History and Philosophy of Global Public Health (2)
- 511 Community Health Problems (1) Pre: admission to School of Medicine.
- 522 Community Health Concepts and Methods (2) Pre: 2nd-year med student.
- 541 Primary Care Preceptorship (9) Pre: 4th-year med student.
- 545 Topics in Community Health (9) Pre: 4th-year med student.
- 601 Medical Care Systems (3)
- 602 Leadership and Organizational Behavior in Health Services (3)
- 603 Legal Basis for Health Services (1)
- 604 Principles of Organization of Health Services (2)
- 605 Personnel Practices in Health Services (2)
- 606 Economics of Health Services (3)
- 609-610 Public Health Organization & Administration (3-3)
- 611 Information Systems & Planning (3) Pre: consent.
- 612 Ecological Concepts & Planning (3) Pre: consent. (Cross-listed as Geog 612)
- 613 Seminar in Comprehensive Health Planning (3) Pre: consent.
- 614 Political Aspects of Policy Planning (3) (Cross-listed as PolSc 770)
- 616 Basic Concepts of International Health (3)
- 617 Comparative Public Health Systems (3)
- 618 Seminar in International Health (2)
- 623 Behavioral Science Basis of Mental Health (3) Pre: consent.
- 624 Community Mental Health (3)
- 625 Mental Health Aspects of Population and Its Control (3) Pre: consent.
- 631-632 Public Health Nutrition (3-3) Pre: PH Nutrition majors, consent.
- 633 Public Health Nutrition Problems in Asia and Pacific (3) Pre: PH Nutrition majors, consent.
- 634 Nutrition Problems and Applied Programs (2) Pre: College of Health Sciences and Social Welfare majors, consent.
- 635 Concepts and Practices in Hospital Dietetics (3) Pre: PH Nutrition majors, consent.
- 638 Care of Long-Term Patients (3)
- 639 Gerontology (3)
- 642 Maternal and Child Health I (2)
- 643 Maternal and Child Health II (2) Pre: 642.
- 644 The Handicapped Child (2)

- 645 Principles of Comprehensive Maternity Care (2) Pre: 642 or consent.
- 646 Health Services for the Mentally Retarded (2)
- 649 Population and Family Planning (3)
- 650 Demography and World Population Problems (3) Pre: consent.
- 651 Fertility and Reproduction (2) Pre: consent.
- 652 Components of Population Control (2) Pre: consent.
- 654 Vital and Health Statistics (3) Pre: college algebra or consent.
- 655 Biostatistics I (3) Pre: Math 134 or consent.
- 656 Biostatistics II (3) Pre: 655 or consent.
- 658 Seminar in Biostatistics (1)
- 659 Techniques in Demographic Analysis (3) Pre: 654 or 655.
- 663 Principles of Epidemiology (v) Pre: 654 or 655 or consent.
- 665 Epidemiology and Control of Chronic Diseases (2) Pre: 663 or 786 or consent.
- 666 Epidemiology of Infectious Diseases in the Pacific Area (3) Pre: 654 or 655 or consent.
- 667(Alpha) Laboratory Aspects of Infectious Diseases in the Pacific Area (2) (Cross-listed as TropMed 667)
- 667B Viral Diseases (2)
- 667C Bacterial Diseases (2)
- 667D Parasitic Diseases (2) Pre: 666 & consent.
- 670 Socio-Cultural Aspects of Health and Illness (3) Pre: consent.
- 673-674 Education and Community Health (3-3)
- 675 Group Methods in Public Health (3)
- 676 Communication Processes in Public Health (3)
- 678 In-Service Training of Health Workers (2)
- 679 Educational Approaches to Public Health Problems (3)
- 681 Environmental Health (3)
- 682 Vector Control in Environmental Health (3)
- 683 Occupational Health I (2) Pre: consent.
- 685 Solid Waste Management and Control (3) Pre: CE 638 or consent. (Cross-listed as CE 642)
- 686 Solid Waste Management and Control (3) Pre: CE 638 or consent. (Cross-listed as CE 643)
- 687 Sampling and Analysis of Solid Wastes (4) Pre: 685, consent.
- 688 Design of Solid Waste Disposal Facilities (4) Pre: 685, 686, consent. (Cross-listed as CE 648)
- 701 Seminar in Medical Care Organization (2) Pre: 601 or consent.
- 702 Principles of Fiscal Management for Health Services (2)
- 703 Planning and Evaluation of Health Services (3)
- 704 Institutional Health Care Facilities (3)
- 705 Non-Institutional Health Care Facilities (2) Pre: 604.
- 706 Case Studies in Health Services Administration (2)
- 707 Health Program Planning and Evaluation (3) Pre: consent.
- 724 Mental Abnormality and the Law (2) Pre: consent.
- 736 Seminar on Health of the School-Age Child (2)
- 741-742 Family Planning Programs (3-3)
- 747 Statistical Techniques in Epidemiological Research (3)
- 749 Sampling Techniques in Public Health (3)
- 765 Evaluative and Action Research in Public Health (3)
- 766 Staff Development in Health Systems (3)
- 771 Environmental Control of Disease Through Food Protection (2)
- 772 Environmental Factors in Health Problems (3) Pre: CE 638 or consent.
- 773 Measurement of Environmental Factors (3) Pre: 772, consent.
- 774 Water Quality Management (3) (Cross-listed as CE 631)
- 775 Advanced Treatment Technology (3) (Cross-listed as CE 632)
- 777 Environmental Health Chemistry (3) (Cross-listed as CE 635)
- 778 Environmental Health Biology (3) (Cross-listed as CE 636)
- 791 Advanced Public Health Practice (3)
- 792 Seminar in Public Health (1-5) Pre: consent.
- 799 Directed Reading/Research (1-4) Pre: consent.
- 800 Thesis Research (1-6) Pre: consent.

SCHOOL OF SOCIAL WORK

The School of Social Work offers a two-year graduate program leading to the M.S.W. degree. It also offers courses on the undergraduate and preprofessional levels for juniors and seniors and operates the Social Welfare Development and Research Center. In addition, the school provides through its continuing education program a wide spectrum of social welfare courses geared to the needs of professional and paraprofessional human service practitioners. The school is accredited by the Commission on Accreditation of the Council on Social Work Education. For specific information on admission and degree requirements write: School of Social Work, Hawaii Hall 117, 2500 Campus Road, Honolulu, Hawaii 96822.

Social Work (SW)

School Office: Hawaii Hall 117

Professors: Joel Fischer, Harvey Gochros, Oscar Kurren, Fred Merritt, Bernice Polemis, Richard Takasaki, Winifred Walsh.

Associate Professors: Jane Krisberg, Kazuye Kumabe, Herbert Kutchins, Lawrence Lister, Daniel Sanders.

Assistant Professors: Katherine Asato, Marilyn Caulfield, Mary Chung, Winifred Ishimoto, Stuart Kirk, Miyono Kunioka, Robert Masuda, Marjorie Morris, June Oda, Sidney Rosen (on leave), David Shimomura, Helen Verdeyen, Wai Tim Wong, Charlotte Woodruff.

Instructors: Betty Erhart, Nilufer Ibrahim, George Okazaki.

GRADUATE PROGRAM

- 603-604 General Social Work Practice (3-3)
- 605-606 Social Work Practice with Individuals and Groups (3-3)
- 607-608 Social Work Practice in Community Organization (3-3)
- 610-611 Human Development and Behavior in Cross-Cultural Perspective (2-2)
- 620-621 Integration Seminar (1-1)
- 626 Prevention and Treatment of Juvenile Delinquency (2)
- 627-628 Policies and Services in World Social Welfare (2-2)

- 651 Introduction to Scientific Method and Research Principles in Social Work (2)
- 652 Research Methodology in Social Welfare and Social Work (2)
- 655-656(Alpha) Topics in Social Welfare (3-3)
- 660-661 Practicum (3-3)
- 699(796) Directed Reading or Research (v)
- 703-704 General Social Work Practice (2-2)
- 720-721 Integration Seminar with Director of Field Work and Advisers (1-1)
- 755-756(Alpha) Seminar in Substantive Fields (3-3)
- 760-761 Practicum (v-v)
- 764 The Social Caseworker and the Use of Group in Treatment (2)
- 765 Advanced Social Casework (2)
- 766 Seminar in Social Casework (2)
- 767 Casework with Children (2)
- 770 Advanced Social Group Work (2)
- 771 Seminar in Social Group Work (2)
- 774-775 Studies in Individual and Social Behavior (3-3)
- 776 Social Work and Social Psychiatry (3-3)
- 777 Planning, Policy-Making & Administration in Soc Welfare (2)
- 778 Seminar in Planning-Policy-Administration in Soc Welfare (2)
- 780 Administrative Methods in Social Work (2)
- 781 Advanced Community Organization in Social Work Practice (2)
- 782 Seminar in Community Development in Cross-Cultural Perspective (2)
- 785 Methods of Supervision in Social Work (2)
- 794-795 Group Research Project (3-3)
- 799(797) Directed Reading or Research (v)

UNDERGRADUATE PROGRAM

Pre: junior standing.

- 300 The Field of Social Work (3)
- 301 Social Welfare as a Social Institution (3)
- 305 Community Planning & Development in Social Welfare (3)
- 310 Research Development in Social Welfare (3)
- 315 Social Work Methods (3) Pre: 300, 301.
- 320 Social Work with Juvenile and Adult Offenders (3)
- 335-336 Seminar in Social Welfare (4-4)
- 340-341 Practicum (4-4)

COLLEGE OF TROPICAL AGRICULTURE

The College of Tropical Agriculture provides students with a well-rounded education and a professional competence in agriculture and related industries and in human resources development.

All curricula lead to the bachelor of science degree.

Admission and Degree Requirements. Requirements for admission are the same as those for the University. Students who lack some of this required preparation are unable to follow regular programs and may need more than four years to complete degree requirements.

To be eligible for the degree a student must:

1. complete the general requirements prescribed by the University (p. 17);

2. complete the course requirements of a curriculum;
3. have a 2.0 grade-point ratio for all registered credits and a minimum of 128 credits.

Preprofessional Programs. For students considering professional and graduate training, each department provides advisers familiar with the recommendations of appropriate national professional organizations. In addition, they will assist the student to select courses for specific programs and schools.

The animal sciences department maintains a pre-veterinary sciences committee prepared to give specific aid to students who wish to enter schools of veterinary medicine.

Opportunities for special research studies are available under the 399 and 499 series.

CURRICULA IN AGRICULTURE

The various curricula are designed to give students a knowledge of the fundamental principles underlying agriculture as a science, and the relationship of man to his natural environment. These programs of study should prepare them for effective service in business, industry, research, and teaching, as well as in practical farming.

In addition to the general University requirements for a B.S. degree, the college requirement is Chem 113, 114, 115, 116; Ag 100; An Sc 141; Hort 262 or Agron 201; Ag Econ 220; Ento 261; and Soils 304.

There are three general curricula in the college: agricultural technology, agricultural science, and agricultural economics.

1. Agricultural Technology. There are at present four majors within this curriculum, with a minimum requirement of 18 credits from: Ag Eng 351, 351L, Agron 201, Ento 374, Hort 450, PPath 401-401L, Soils 350, Fd Sc 201.

(a) **General Agriculture major:** 18 credits from agriculture including Ag 200-201, 18 credits of nonagriculture electives, and additional credits to make 128 credits.

(b) **Mechanized Agricultural Production major:** 15 credits in agricultural engineering courses including Ag Eng 499, GE 113, and 27 credits from the following: Ag Econ 428; Agron 411, 412; An Sc 244; Fd Sc 401; Soils 350, 460; Acc 201, 202; BAS 301, 302; Bot 470; Math 205, 206, 231, 232; Phys 170, 171, 272, 273; CE 270, 271, 320, 421; EE 311, 313; ME 311, 312, 424; and additional credits to make 128 credits.

(c) **Horticultural Technology major:** Hort 364 (Summer Practicum), 3 credits of Hort 499 (Summer Practicum); 25 credits from courses in agriculture, botany, Geog 300, 314, or Acc 201, 202 that have not been used to satisfy other requirements; and additional credits to make 128 credits. A minimum of 15 horticulture credits overall is also required.

(d) **Animal Technology major:** AnSc 244, 251, 321; 21 credits from: Agron 201, 413; AgBio 402; Ag Econ 321, 322, 427, 430; AgEng 351, 351L, 435; AnSc 342, 351, 352, 353, 354, 362, 445, 451-452, 453; FdSc 201, 401; Hort 453, 481; Soils 340, 440, 460, 461, 470; Geog 300, 314; Acc 201, 202; and additional credits to make 128 credits. A minimum of 18 Animal Science credits overall are also required.

2. Agricultural Science. There are at present four majors within this curriculum. All four majors require the following: Chem 243, 245; Chem 244, 246 or Ag Bio 402, 403; Genet 451, 452; Phys 151-154 and Micro 130. A total of 128 credits is required for graduation.

(a) **Animal Science major:** An Sc 244, 321; 9 credits from An Sc 251, 342, 351, 352, 353, 354, 362; Zool 320; 16 credits from Ag Bio 402, 402L; Ag Eng 351, 351L; Agron 201, 413; An Sc 445, 451-452, 453; Chem 133; Econ 150; Ento 374, 374L; Zool 340, 416, 417, 430. *Pre-Veterinary Medicine Option:* Biol 250; Bot 101; Chem 113, 113L, 114, 114L, 133, 133L, 243, 244L; BioChem 441, 442 or 605, 606 can be substituted for Ag BioChem 402, 403; Eng 100, 251 or 315; Genet 451, 451L; Math 134 and 150 or 205; Phys 151, 151L, 152, 152L; Zool 101, 420; Micro 351 can be substituted for Micro 130; and 4 credits each of Humanities and Social Sciences.

(b) **Entomology major:** Ento 361, 362, 374, 376; one year of a foreign language approved by adviser; 15 credits from Ag Eng 351, 351L; Bot 105, 461, 470; Chem 133; Geog 300; Hort 450, 453; Phil 210; PPath 401-401L; Soils 340, 350; Zool 330, 340, 416, 417, 430, 631, 632.

(c) **Agronomy and Soil Science major:** With emphasis on crops—Agron 310, 499; Ag Bio 402; Bot 470 and 18 credits from the courses listed below. With emphasis on soils—Chem 133, 134; Soils 340, 350, 499, and 18 credits from the courses listed below. Agron 201, 310, 402, 411, 412, 413; Ag Econ 327, 434, 481; Ag Eng 351, 351L, 435; An Sc 244; Bot 160, 201, 410, 412, 430, 453, 461, 470; Chem 133, 134, 243, 244, 351, 352, 422; Geog 101, 300, 314, 400, 406; GG 101, 102, 301, 302, 424; Hort 450, 453, 481; Math 205, 206, 231, 232; Phil 210; PPath 401, 401L; Soils 340, 350, 404, 440, 460, 461, 470; Zool 631, 632; one year of an approved foreign language.

(d) **Tropical Horticulture major:** Hort 364, 450 and 28 credits from the following: Ag Bio 402, 402L; Ag Eng 351, 351L, 435; Agron 310, 402, 412; Biol 220, 250, 401, 440; Bot 105, 130, 160, 201, 399, 410, 412, 421, 430, 436, 450, 453, 454, 461, 470, 480; Chem 133, 133L; Ento 374, 374L; Hort 350, 420, 453, 460, 471, 481, 499; Math 205, 206; PPath 401, 401L, 405; Soils 340, 350, 404; or one year of a foreign language.

3. Agricultural Economics

- (a) Econ 150, 151, 300, 301; Ag Econ 321, 322, 428, 432, 434.
- (b) Electives totalling 33 credit hours, none of which may overlap with courses taken to satisfy the various core requirements and distributed so as to have at least six credit hours from each of the following groups:
 - (1) Ag Econ 427, 429, 430, 480, 481.
 - (2) Econ 310, 340, 399, 400, 404, 405, 410, 411, 412, 414, 415, 425, 426, 430, 440, 450, 452, 460, 461, 470, 480, 490, 492, 496.
 - (3) Pol Sc 110; Law 300, 311; Acc 201, 202, 305, 307, 361, 365; RE 300; BEc 342, 361, 362; Mgt 301, 341, 344, 345; Mkt 315, 321, 381, 397; PIR 361, 365, 367.
 - (4) Ag 200-201; Ag Bio 402, 403; Ag Eng 351, 351L, 435; Agron 201, 310, 411, 412, 413; Soils 340, 440, 460, 461, 470; An Sc 244, 321, 341, 342, 351, 352, 353, 354, 445, 453; Ento 374, 376; Fd Sc 201, 401; Hort 350, 450, 453, 471, 481; PPath 401-401L; Bot 105.
- (5) A total of 128 credits is required for graduation.

Agriculture (Ag)

Associate Professor: Shosuke Goto.

- 100 Agriculture Orientation (1)
- 200 Agricultural Practice (2)
- 201 Agricultural Practice (2)
- 399 Agricultural Thesis (v)

Agricultural Biochemistry (AgBio)

Department Office: Henke Hall 329

Professors: Arthur Bevenue, John Hylin, Hiromu Matsumoto.

Associate Professor: Chung-Shih Tang.

Assistant Professor: Francisco Montalvo.

- 402 Principles of Metabolism (3) Pre: Chem 117-118 or 113-115, 114-116, and 241-242, or consent.
- 403 Principles of Metabolism-Laboratory (1)
- 602 Carbohydrate Chemistry & Biochemistry (3) Pre: AgBio 402.
- 610 Plant Biochemistry (3) Pre: 402 or consent.
- 700 Pesticide Use, Regulation and Environmental Interactions (1)

Agricultural Economics (AgEc)

Department Office: Keller Hall 106

Professors: Frank S. Scott, Jr., Harold L. Baker, Jack R. Davidson, Jack T. Ishida, Nicolaas Luykx, Walter Miklius, Perry F. Philipp, Heinz Spielmann.

Associate Professors: Robert N. Anderson, Salvatore Comitini, Chennat Gopalakrishnan, James S. Holderness, Joseph T. Keeler, Herbert K. Marutani, Bertrand M. Renaud, William J. Staub, Hiroshi Yamauchi.

Assistant Professors: Peter V. Garrod, Gary R. Vieth.

Lecturers: Howard C. Hogg, Paul P. Wallrabenstein.

- 220 Agricultural Economics (3)
- 321 Price Analysis in Agriculture (3)
- 322 Marketing Agricultural Products (3) Pre: introductory economics or consent.
- 399 Directed Study (v) Pre: consent.
- 427 Management of Agri-Business Firms (3) Pre: 321 or consent.
- 428 Production Economics (3) Pre: Econ 301, 327 or consent.
- 430 Agricultural Finance (3) Pre: 327 or consent.
- 432 Introduction to Natural Resource Economics (3) Pre: 150 or consent.
- 434 Statistical Methods (3)
- 480 Computer Programming in Ag Ec Research (3)
- 481 Managerial Economics in Agriculture (3)
- 624 Research Methodology (3) Pre: grad standing.

- 625 Economics of Agriculture: Tropical Countries and Asia (3) Pre: 220 or consent.
- 626 Collection of Economic Data in Agriculture (3) Pre: 434 or consent.
- 629 Advanced Production Economics (3) Pre: 428, 480 or consent.
- 630 Advanced Agricultural Market Analysis (3) Pre: statistics.
- 634 Quantitative Methods and Statistical Analysis (3) Pre: Econ 321, Econ 325 or Ag Econ 434.
- 636 Agricultural, Resources, and Ecological Policy (3)
- 637 Resource Economics (3) Pre: 428, 432 or consent.
- 638 Seminar: Land Use in Developing Countries (3) Pre: 432 or consent.
- 639 Agricultural Development Economics and Development Planning (3)
- 640 Agriculture and Rural Development Administration (3)
- 699 Directed Research (v) Pre: consent.
- 701 Seminar in Agricultural Economics (1)
- 800 Thesis Research (v)

Agricultural Engineering (AgEng)

Department Office: Ag Engineering Institute 101

Professors: J. K. Wang, H. M. Gitlin, E. B. Hundtoft.

Associate Professors: T. Liang, M. R. Smith, I. P. Wu.

Assistant Professor: G. M. Wong-Chong.

- 333 Computer Programming for Bio-Science (3)
- 351 Mechanization Principles and Practices (3)
- 351L Mechanization Laboratory (2) Pre: 351 or consent.
- 435 Irrigation Principles and Practices (3)
- 499 Directed Research (v) Pre: consent.
- 622 Experimental Methods in Cause-Effect Modeling (3)
- 631 Analysis of Implement Design (3) Pre: ME 468.
- 638 Systems Analysis in Bio-Sciences (3)
- 647 Methods of Agricultural Engineering (3) Pre: Math 402.
- 699 Directed Research (v)
- 700 Seminar (1) Pre: consent.
- 800 Thesis Research (v)

Agronomy and Soil Science

Department Office: St. John 300

Professors: Paul C. Ekern, Robert L. Fox, Richard E. Green, Yoshinori Kanehiro, Wade W. McCall, Peter P. Rotar, W. G. Sanford, Goro Uehara.

Associate Professors: Samir A. El-Swaify, Haruyoshi Ikawa, Rollin C. Jones, James A. Silva, Hong Yip Young.

Assistant Professors: Duane P. Bartholomew, Burton L. Koch, Marion O. Mapes, Ukio Urata.

Agronomy (Agron)

- 201 Principles of Tropical Agronomy (4) Pre: Bot 101, Chem 114.
- 310 Tropical Crop Production (3) Pre: 201.
- 402 Plant Tissue Culture (3) Pre: Bot 201.
- 411 Sugar Cane Agronomy (3) Pre: Soils 304.
- 412 Pineapple Culture (2) Pre: consent.
- 413 Pasture Management (3) Pre: Bot 101.
- 499v Directed Study (4) Pre: senior; consent.
- 610 Physiology of Crop Production (3) Pre: Bot 470; consent.
- 651 Advanced Techniques in Plant & Soil Analysis (3) Pre: consent.
- 699v Directed Research (12) Pre: candidacy for M.S.; consent.
- 701 Seminar in Advanced Agronomy (1) Pre: grad status.
- 710 Mineral Nutrition of Tropical Crops (2) Pre: Bot 470; Soils 350.
- 799v Directed Research (12) Pre: candidacy for Ph.D.; consent.
- 800v Thesis Research (12)

Soil Science (Soils)

- 204 Soils and Man (3) Pre: Chem 113.
- 304 Tropical Soils (4) Pre: Chem 114.
- 340 Soil Chemistry (3) Pre: 304.
- 350 Soil Fertility (3) Pre: 304.
- 404 Soil Microbiology & Biochemistry (3) Pre: Micro 130, AgBio 402.

- 440 Soil Salinity & Irrigation Water Quality (3) Pre: 340; consent.
 460 Soil Physics (3) Pre: Phys 151 or 171; 304.
 461 Soil Erosion: Causes and Controls (3) Pre: consent.
 470 Tropical Soil Survey and Interpretation (2) Pre: 304.
 499v Directed Study (4) Pre: senior, consent.
 640 Advanced Soil Chemistry (3) Pre: 340.
 650 Advanced Soil Fertility (4) Pre: consent.
 661 Meteorology in Agriculture (3) Pre: consent.
 670 Soil Formation and Classification (4) Pre: consent.
 671 Soil and Clay Mineralogy (3) Pre: consent.
 699v Directed Research (12) Pre: candidacy for M.S.; consent.
 704 Soil Science Seminar (1) Pre: grad status.
 799v Directed Research (12) Pre: candidacy for Ph.D.; consent.
 800v Thesis Research (12)

Animal Sciences (AnSc)

Department Office: Henke Hall 106

Professors: Coy C. Brooks, Williams I. Hugh, James H. Koshi, Allen Y. Miyahara, James C. Nolan, Jr., Ernest Ross, Oliver Wayman.
Associate Professors: Raymond B. Herrick, Robert M. Nakamura, Steven E. Olbrich, Anastacio L. Palafox, Dale W. Vogt.
Lecturer: Max B. Smith.

- 141 Animals and Man (3)
 152 Pets and Companion Animals (3)
 244 Fundamental Animal Nutrition (3) Pre: Chem 113-114.
 251 Livestock Management Practices (3) Pre: 141 or consent.
 321 Applied Animal Nutrition (3) Pre: 244.
 341 Livestock Management Laboratory (2) Pre: 141.
 342 Beef Production (3)
 351 Swine Production (3)
 352 Tropical Dairying (3)
 353 Horses and Horsemanship (3)
 354 Poultry Production (3)
 362 Animal Industry Seminar (1)
 445 Animal Breeding (3) Pre: 1 sem. genetics or consent.
 451-452 Physiology of Domestic Animals (4-4)
 453 Animal Diseases & Their Control (3) Pre: 141 or consent.
 499 Directed Study or Research (v) (Limited)
 641 Seminar in Animal Science (1) Pre: consent.
 642 Ruminant Nutrition (2) Pre: consent.
 643 Physiology of Reproduction (3) Pre: 451-452.
 652 Quantitative Genetics (3) Pre: 1 sem. genetics, 1 yr. statistics.
 699 Directed Research (v)
 800 Thesis Research (v)

Entomology (Ento)

Department Office: Krauss Hall 23

Senior Professor: D. Elmo Hardy.

Professors: John W. Beardsley, Frank H. Haramoto, Albert A. LaPlante, Wallace C. Mitchell, Ryoji Namba, Toshiyuki Nishida, Martin Sherman, Minoru Tamashiro.
Assistant Professor: Franklin Chang.

- 261 General Entomology (4) Pre: Zool 101 or Bot 101 or consent.
 361 Insect Morphology (3) Pre: 261 or consent.
 362 Systematic Entomology (3) Pre: 361 or consent.
 374 Economic Entomology (3) Pre: 261, Chem 113, 114, or consent.
 374L(376) Economic Entomology Lab (1) Pre: 374 or consent.
 641 Insect Physiology (4) Pre: 361; Chem 243, 244 or Ag Bio 402-403 or consent.
 661 Medical and Veterinary Entomology (3) Pre: 261 or consent.
 662 Advanced Systemic Entomology (3) Pre: 362 or consent.
 664 Immature Insects (3) Pre: 362 or consent.
 671 Insect Ecology (3) Pre: 362, 374, or consent.
 672 Acarology (3) Pre: 362 or consent.
 673 Insect Pathology (3) Pre: 374 or consent.
 675 Biological Control of Pests (3) Pre: 362, 374, or consent.
 681 Insect Toxicology (3) Pre: 374; Chem 234, 244, 245, 246, or consent.

- 681L(683) Insect Toxicology Lab (1) Pre: 681 or consent.
 686 Insect Transmission of Plant Pathogens (3) Pre: 261 & PPath 410, or consent.
 687 Entomology Seminar (1)
 699 Directed Research (v)
 800 Thesis Research (v)

Food Science and Technology (FdSc)

Department Office: Food Science & Tech Bldg.

Professors: Hilmer A. Frank, Roy E. Moser, Tommy Nakayama, Harry Y. Yamamoto.

Associate Professors: Francisco S. Hing, James H. Moy.

Assistant Professor: Catherine G. Cavaletto.

- 201 Man's Food (2)
 401 Food Processing (3) Pre: Chem 116 & Phys 151 or consent.
 403 Microbiology of Foods (3) Pre: Micro 351.
 411 Food Engineering (3) Pre: 1 yr. physics or AgEng 351.
 430 Food Chemistry (3) Pre: Chem 113-114, 241.
 440 Food Safety & Consumer Protection (2) Pre: chem & micro or biol.
 477 Food Composition (3) (Cross-listed as FNS 477)
 604 Special Topics in Food Microbiology (v) Pre: consent.
 610 Advanced Food Processing I (3) Pre: 1 yr. each of gen. phys, gen. chem, algebra.
 613 Advanced Food Processing II (3) Pre: 401 or consent.
 620 Seminar in Food Science (1)
 630 Food Fermentation (3) Pre: consent.
 640 Food Safety (2) Pre: microbiology & organic chemistry.
 699 Directed Research (v) Pre: consent.
 701 Seminar in Recent Advances in Food Research (1)
 730 Biochemical Aspects of Food Science (3) Pre: biochem.
 800 Thesis Research (v)

Horticulture (Hort)

Department Office: St. John Lab 102

Professors: Ernest K. Akamine, James L. Brewbaker, James C. Gilbert, Richard A. Hamilton, Haruyuki Kamemoto, Henry Y. Nakasone, Yoneo Sagawa, Robert M. Warner, Donald P. Watson, Warren Y.J. Yee.

Associate Professors: Richard A. Criley, Richard W. Hartmann.

Assistant Professors: John T. Kunisaki, Charles L. Murdoch, Roy K. Nishimoto, Fred D. Rauch, Jack S. Tanaka.

- 101 Plants are for People (2)
 262 Principles of Horticulture (3) Pre: Bot 101; Chem 114.
 350 Tropical Landscape Horticulture (3) Pre: 262.
 364 Horticultural Practices (2) Pre: 262.
 420 Plant Propagation & Seed Technology (3) Pre: Hort 262.
 450 Tropical Horticultural Crop Production (3) Pre: 262.
 453 Plant Breeding (3) Pre: Genet 451.
 460 Turfgrass Management (3) Pre: 262.
 471 Post-Harvest Handling (3) Pre: 262 or consent.
 481 Weed Science (3) Pre: 262 or Agron 201.
 499v Directed Study (v) Pre: 262.
 603 Experimental Design (3) Pre: Zool 631 or AgEcon 434.
 611 Plant Improvement Systems & Plant Breeding Profession (3) Pre: 453.
 615 Advanced Plant Breeding (3) Pre: 453.
 618 Cytogenetics (3) Pre: Genet 451, Bot 618.
 650 Advanced Vegetable Crops (3) Pre: 450.
 662 Advanced Tropical Fruit Science (3) Pre: 450.
 664 Orchidology (3) Pre: Bot 101; Genet 451.
 666 Biochemical Genetics of Plants (3) Pre: consent.
 667 Horticulture Seminar (1)
 668 Growth Regulators in Horticulture (2) Pre: Bot 470.
 691 Crop Ecology (3) Pre: 450 or consent.
 699 Directed Research (v) Pre: consent.
 711 Special Topics in Experimental Horticulture (v) Pre: consent.
 800 Thesis Research (v)

Plant Pathology (PPath)

Department Office: St. John Lab 305

Professors: Walter J. Apt, Minoru Aragaki, Ivan W. Buddenhagen, Oliver V. Holtzmann, Albert P. Martinez, Suresh S. Patil.

Associate Professors: Mamori Ishii, Wen-hsing Ko, Kenneth G. Rohrbach, Eduardo E. Trujillo.

Assistant Professor: Richard R. Bergquist.

Instructor: Anne M. Alvarez.

- 401 Principles of Plant Pathology (2) Pre: Bot 101.
- 401L(403) Principles of Plant Pathology Lab (2)
- 405 Clinical Plant Pathology (2) Pre: 401 & 401L & consent.
- 499 Directed Research (v) Pre: consent.
- 601 Tropical Plant Pathology (3)
- 612 Principles of Plant Disease Control (3) Pre: 401 & 401L.
- 616 Plant Nematology (3) Pre: 401 & 401L, Zool 101 or consent.
- 621 Plant Pathology Techniques (3) Pre: 401 & 401L, Micro 351; or consent.
- 630 Plant Virology (3) Pre: 401 & 401L, or consent.
- 635 Epidemiology of Plant Diseases (3) Pre: 401 & 401L & consent.
- 637 Physiology of Fungi (4) Pre: 430 or Micro 431 or AgBio 402-403 or consent. (Cross-listed as Bot 637)
- 660 Seminar (1)
- 699 Directed Research (v) Pre: candidacy for M.S.; consent.
- 705 Host-Parasite Physiology (3) Pre: consent.
- 800 Thesis Research (v)

Plant Physiology

Department Office: St. John Lab 503-B

Professors: Bruce J. Cooil, Maxwell S. Doty, Douglas J.C. Friend, Noel P. Kefford, Charles H. Lamoureux, Dieter Mueller-Dombois, Gerald A. Prowse, Sanford M. Siegel.

Associate Professors: Edison W. Putman, Clifford W. Smith, William L. Theobald.

Instructor: Ruth A. Gay.

Lecturers: Robert T. Hirano, Kenneth Nagata.

Botany

- 470 Principles of Plant Physiology (4)
- 612 Advanced Botanical Problems (v)
- 637 Physiology of Fungi (4) (Cross-listed as PPath 637)
- 640 Environmental & Space Biology II (v)
- 650 Ecology Seminar (1)
- 651 Marine Agronomics (3)
- 670 Plant Nutrition & Water Relations (3)
- 671 Energetics & Biosynthesis in the Plant Kingdom (3)
- 672 Techniques in Physiology (2)
- 673 Techniques in Physiology-Biochemistry (2)
- 675 Physiology Seminar (1)
- 699 Directed Research (v)
- 799 Directed Research (v)
- 800 Thesis Research (v)

CURRICULA IN HUMAN RESOURCES DEVELOPMENT

Departments in this division are fashion design, textiles and merchandising; food and nutritional sciences; home economics; and human development. Studies embrace the following interdisciplinary interests:

Human Development. Study of human behavior over the life span in existing life situations.

Food and Nutritional Sciences. Relationships of food to health, welfare and happiness. Includes the science of food, and social and cultural behavior as it relates to dietary patterns and habits.

Aesthetic Aspects of the Near Environment. Study of clothing and space arrangements with special reference to aesthetic needs of individuals in various surroundings.

Consumer Science and Family Decision Making. The study of individual, family and household use and consumption of resources, including their effect on the resources of the wider community.

Applied work is in the new professional directions that are emerging in the community to deliver services once performed within the family: family life education; dietetics and nutrition consulting; day care administration; housing and consumer counseling; child development consulting; and services in business and industry relating to foods, clothing and textiles, and household equipment and arrangements.

Fashion Design, Textiles and Merchandising (FDM)

Department Office: Miller Hall 202

Associate Professors: Gloria Furer, Orpha Herrick, Phyllis McOmber.

Assistant Professors: Diane Chung, Barbara Harger, June Sankey.

Lecturers: Marcia Morgado, Florence Zinn.

Three curriculum options are available:

The fashion design option trains students for careers as designers, assistant designers, stylists, or fashion executives.

Starting positions are sample makers, graders, and pattern makers.

The fashion merchandising option leads to a career with retail and wholesale organizations in buying, merchandising, fashion coordination, publicity, sales or marketing.

Both options offer field experience in business and industry. Arrangements may be made in either option to study at the Fashion Institute of Technology in New York City during the spring semester of the junior year.

A special interest option offers qualified senior students the opportunity to combine fashion design with their individual interests. A list of requirements is available in the FDM office.

- 111 Esthetics of Clothing (3)
- 113 Basic Clothing Construction (3)
- 125 Fashion Analysis (3)
- 215 Block Pattern Designing (3) Pre: 113.
- 216 Fashion Design & Sketching (3) Pre: 111.
- 220(213) Textiles I (3)
- 221 Textiles II (3) Pre: 220.
- 310(417) Costumes of the Western World (3) Pre: 6 cr. world civ.
- 315 Draping (3) Pre: 215 or consent.
- 316 Advanced Pattern Designing (3) Pre: 315.
- 324 Fashion Careers (1)
- 327 Fashion Buying & Merchandising (4) Pre: 125, Mkt 300.
- 328 Merchandise Planning & Control (3) Pre: 327, Acct 201.
- 329 Field Experience (3) Pre: 327 & consent.
- 330 Advanced Materials & Methods for Clothing Construction (3) Pre: 113 or consent.
- 401 Man and Clothing (3) Pre: 6 cr. soc or psy & consent.
- 403 Case Studies in Fashion Merchandising (3) Pre: 327, 328 & consent.
- 416 Costumes of East Asia (3) Pre: 6 cr. world civ.
- 418 Costumes of South & Southeast Asia (3) Pre: 6 cr. world civ.
- 419 Apparel Design Studio (4) Pre: 310, 316, 330, 416 or 418.
- 420 Apparel Design Studio (4) Pre: 419.
- 425 Fashion Sales Promotion (3) Pre: 125, 327.
- 429-430 Fashion Coordination Studio (v) Pre: 425 & consent.
- 499 Directed Reading & Research (v)
- 699 Directed Reading & Research (v)

Food and Nutritional Sciences (FNS)

Professors: Ira J. Lichten, Kathryn J. Orr, Robert Van Reen.
Associate Professors: Doris M. Hilker, Bluebell R. Standal, L. Earline Weddle, Nao S. Wenkam, Franklin Young.
Assistant Professors: Mary L. Ching, Audrey N. Maretzki.
Instructors: Elizabeth Ann Cabanas, Deanna D. Helber, Sandra M. Kageyama, Bert A. Pedersen.

Curriculum options are offered in clinical dietetics, community nutrition, food service management, nutritional science, foods in industry and research, and consumer services in foods. The first three options meet the academic requirements of the American Dietetic Association for those specialties. Students may inquire at Miller Hall 224 or Henke Hall 224 for academic advising. 125 credits are required for graduation.

- 181 Principles of Food Preparation (3)
- 185 Contemporary Issues in Foods and Nutrition (2)
- 276 Meal Management (3) Pre: 181 or consent.
- 285 The Science of Human Nutrition (2)
- 376 Advanced Foods (3) Pre: 181, 276, Chem 113-114 or consent.
- 380(490) Diet & Disease (3) Pre: 285, Biomed 301.
- 383 Principles of Quantity Food Purchasing & Preparation (6) Pre: 181, 276.
- 384 Food Facilities System Planning (3) Pre: 383.
- 385 Applied Projects (v) Pre: consent.
- 389 Food and Beverage Management (3) Pre: 181, 276.
- 475 Principles and Practices of Human Nutrition (3) Pre: Chem 113-114, biol or zool or consent.
- 476 Cultural Aspects of Food Habits (3)
- 477 Food Composition (3) Pre: Math 205, Chem 113, 114, 115, 116, 241, 242 or consent. (Cross-listed as FdSc 477)
- 481 Food Cost Accounting (2) Pre: 383; Acc 201.
- 482 Current Topics in Food & Nutritional Sciences (1) Cr/NC
- 483 Field Experience (v)
- 485-486 Advanced Human Nutrition (3-3) Pre: 285; Biomed 301; AgBio 402 or Biochem 441 or consent.
- 492 Product Evaluation (3) Pre: basic psych, stat; consent.
- 493 Community Nutrition (3) Pre: 285.
- 499 Directed Reading and Research (v)

GRADUATE COURSES IN NUTRITION (FNS)

- 676 Nutritional and Metabolic Diseases (2) Pre: 485-486 or consent.
- 677 Nutrition in Reproduction, Growth, Development and Senescence (3) Pre: 485-486.
- 679 Mineral Metabolism (2) Pre: 485-486 or consent.
- 681 Seminar (1) Pre: consent.
- 682 Nutritional Status (3) Pre: 485-486 or consent.
- 684 Lipids in Health & Disease (2) Pre: 485-486 or consent.
- 685-686 Advanced Human Nutrition (2-2)
- 687 Advanced Nutrition Laboratory (3)
- 688 Vitamins in Health and Disease (2) Pre: consent.
- 699 Directed Reading and Research (v)
- 800 Thesis (v)

Home Economics (HE)

Department Office: Miller Hall 7

Professor: Verda Dale.

Assistant Professors: Mary Ellen Des Jarlais, Pamela Kimura.

There are two curriculum options. Option I (home economics: community service) prepares students for careers with the Cooperative Extension Service or with community service or consumer service organizations and agencies. Option II (home economics education: secondary school teaching) is for students interested in teaching careers. Under this option, students apply for entrance to the College of Education at the

end of their sophomore year. See the 1973-74 Catalog for requirements.

- 153 Management of Family Resources (3)
- 260 Family Management and Decision Making (3)
- 267 Home Furnishings (3)
- 357 Consumer Economics (3) Pre: Econ 120.
- 359 Home Management Seminar (3) Pre: 260.
- 363 Housing and Society (3)
- 375 Professional Preparation in Home Economics (2) Pre: consent.
- 461 Family Economics (3) Pre: 357 or consent.
- 475 Field Experience in Home Economics (v) Pre: consent.
- 499 Directed Reading and Research (v)
- 699 Directed Reading and Research (v)

Human Development (HD)

Department Office: Makai Campus 8

Professors: James Allen, John Chantiny, Hazel Kraemer, William Lampard, Anthony Lenzer, Shirley Weeks.

Assistant Professors: Jean Fargo, Ruth Finney, Jing Hsu, Richard Kappenberg, Connie Meredith, Sylvia Schwitters.

Lecturers: Kaleinani Larsen, Emogene Yoshimura.

Research Affiliate: Satoru Izutsu.

Human development majors may prepare for entry-level positions in the human services, and for graduate work in education, social work, public health, personnel and guidance, and child development.

Admission to upper-division major status requires a minimum grade-point average of 2.0, successful completion of 231-232 and 300 or 345.

The junior program is made up of 396, 393, 349, 390, and 391, taken concurrently. For seniors 493 and 494 are required. Other upper-level courses can be selected in specific fields. For seniors selecting 449, field work placements are designed to meet individual needs and interests.

Students planning to major in human development in combination with early childhood education should complete 9 hours of introductory human development work while in the lower division.

Students should apply through the department chairman and complete the required forms. Those applying after the beginning of the fall semester of their junior year may need to attend an additional semester.

- 196 Introductory Seminar in Student Development (2) Pre: consent.
- 231 Introduction to Human Development (3)
- 232 Introduction to Human Development (3)
- 300 Interpersonal Relations (3)

Life Cycle Sequence: Any course can be taken separately. Pre: 231 and 232 or equiv.

- 310 Infancy (3)
- 315 Childhood (3)
- 320 Adolescence and Young Adulthood (3)
- 325 Middle Age (3)
- 330 Old Age (3)
- 341 Family Relationships (3)
- 343 Human Needs and Community Resources (3) Pre: Soc 151.
- 345 Group Leadership (3)
- 349 Field Experience in Human Development (v)
- 350 Male/Female Identity & Relationships (3) Pre: 231-232.
- 355 Parent-Child Relationships (3) Pre: 231-232.
- 390 Survey of Human Development Theory (3) Pre: 231-232, 300 or 345, or consent.
- 391 Application of Human Development Theory (3) Pre: 390.
- 393 The Self & Process in Human Development (3) Pre: jr. status or consent.

- 396 Methods of Research (3) jr. status or consent.
- 442 Community Action (3) Pre: 345 and consent.
- 449 Advanced Field Experience in Human Development (v) Pre: 349 with consent.
- 493 Documentary Research (Senior Thesis) (3) Pre: senior.
- 494 Problems & Issues in Human Dev (Senior Seminar) (2) Pre: senior.
- 496 Supervised Teaching of Human Development (v) Pre: sr. & consent.
- 499 Directed Reading and Research (v)
- 641 Seminar in Human Development, Family Relationships (3)
- 699 Directed Reading and Research (v)

Cooperative Extension Service in Agriculture and Human Resources Development

This off-campus noncredit educational program, conducted jointly by the college and the United States Department of Agriculture, is devoted to the advancement of agriculture in Hawaii and to the improvement of family living.

Personal contacts are maintained with the rural and urban population through the field staff of county agricultural and home economics agents, with the help of the specialists at the state headquarters in the academic departments at the University of Hawaii at Manoa.

Improved farm and home practices are taught by means of short courses and practical demonstrations before extension clubs, commodity groups, special interest groups, and 4-H clubs, supplemented by farm and home visits and mass media communications.

An important activity is the practical demonstration of new knowledge generated by experiment stations in Hawaii and elsewhere.

Hawaii Agricultural Experiment Station

The function of the station is to promote scientific investigation and experiments respecting the principals and applications of agricultural science. Investigations cover the physiology of plants and animals; diseases, insects, and parasites; agronomy, soils, food science, food processing, agricultural engineering, biochemistry, human and animal nutrition; breeding and genetics; as well as research in culture, production and marketing.

The station, including the research staff and the field laboratories, are an important part of undergraduate and graduate instruction. Students are able to study the latest methods and results of agricultural research.

Facilities for carrying on this work are provided by offices and laboratories located at UHM and by research stations in rural Oahu and on the neighbor islands.

COLLEGE OF CONTINUING EDUCATION

College of Continuing Education and Community Service programs include conferences, institutes, formal and informal courses, lyceums, lectures, and educational experiences designed for particular purposes or groups. Programs and courses are offered both on and off campus.

In addition the college administers the academic affairs of students who have been admitted to the University, but who are not candidates for a degree at UHM. These students may attend full- or part-time in the day or evening. Inasmuch as they have no required program of study, such students have great latitude in selecting courses. They must, however, comply with other requirements and regulations of the University and must have completed any prerequisites required for the course they choose.

The activities of the college are organized under five major programs.

Courses and Curricula

Credit Courses. Basic courses, including the general education courses required by all degree curricula, are offered on and off campus and open to all high school graduates. Advanced courses are offered when needed by a substantial number of evening students, including sufficient courses to com-

plete all requirements for bachelor's degrees in accounting, management, history, mathematics, psychology or sociology. Regular residence credit is given, including graduate credit where applicable.

On-campus accelerated evening courses are scheduled four times a year. Off-campus accelerated programs are also offered four times a year at Hickam Air Force Base, Pearl Harbor, Wheeler Air Force Base, and other off-campus locations. With longer class periods, semester-length courses are completed in ten weeks.

To serve the needs of teachers, another program of courses is scheduled each fall and spring at public schools on Oahu, Maui, Kauai, Molokai, and Lanai. With the cooperation of the State Department of Education, advanced education courses and in-service courses designed to upgrade the teachers' subject-area competence are offered. On Oahu these classes usually meet in the late afternoon; on other islands, they often meet on weekends with faculty members commuting from UHM.

Study Abroad Office is responsible for coordinating all study abroad opportunities in the University system. It sponsors programs ranging from short-term study tours to academic-year programs at cooperating mainland and foreign institutions. While primary emphasis is on undergraduate and grad-

uate needs, special programs may be designed to assist the training of various professional groups.

In addition to its program within the state, the college operates overseas centers at Samoa, Canton, Johnston, Kwajalein and Midway islands. Selected courses—credit and noncredit—are given in an effort to meet the needs of personnel, both military and civilian, stationed in these areas.

Under federal contracts the college schedules credit courses in the Navy's PACE program for shipboard personnel.

Mass Media Programming develops television courses, films, slide presentations and all related media areas for broadcast or other educational distribution.

Noncredit Courses. Short courses covering selected college-level material in art, business, English, engineering, foreign languages, mathematics, general culture and other subjects are offered on and off campus. These and other special courses provide training in specific professional or vocational areas, prepare candidates for professional licensing examinations or assist with special local problems. Noncredit courses generally are scheduled in the evening.

Any person with the equivalent of a high school education may enroll. Students who attend regularly receive certificates upon completion of their course of study.

The Hawaii English Language Program (HELP) offers intensive English language training for nonnative speakers with basic, intermediate, and advanced classes in listening, speaking, reading and writing.

The college offers a noncredit program in management and computer science in cooperation with the Japan-American Institute of Management Science (JAIMS) a nonprofit educational institution located in Hawaii Kai.

Individual course offerings at times and places suited to special groups of students can be arranged, either on a credit or noncredit basis.

Community Service Programs

Lyceum Program provides informal ongoing education through cultural presentations, including a touring subscription series of dance, drama, literary and musical events presented annually throughout the state, and performing arts presentations at UHM.

Lama Ku Program plans and presents appropriate lecture series, film-discussion series, and other cultural heritage series in cooperation with military services, community colleges, Hilo College, libraries and community centers.

Office of Emergency Preparedness Education trains specialists in radiological defense. Courses include aerial radiological monitoring, civil defense management, natural disaster plans and operations, and emergency operating center simulation workshops. The program conducts conferences in civil defense for government, business and industry. Courses and conferences are offered on all islands.

Continuing Education for Women offers academic and career planning services to women entering or re-entering the University. CEW works through the University system and seeks to facilitate a successful academic experience for mature wom-

en. Each semester, CEW conducts a 12-week seminar, "You and the University," to assist women in their return to school. Individual counseling is also available.

Conference Program serves community groups and University departments by providing planning and administrative services for conferences, institutes, and workshop programs. Services include assistance in planning; preparation and administration of budgets; procurement of resource persons, arrangements of travel, living accommodations and facilities; preparation of final financial and proceeding reports.

Manuscript Criticism Service. Writers of fiction, nonfiction, poetry, and drama may submit manuscripts for professional opinion and advice of qualified faculty members. Reading fees are available on request.

Kapaa Community Service Project is a pilot program for small communities which lack the advantage of having resources readily available from the University. This project tries to evaluate the needs and interests of the community and provides a comprehensive program which includes the cultural and performing arts as well as focusing on identified economic-social issues.

Center for Governmental Development

The center provides in-service training programs, scholarships, internships, and other means to aid in the development of government officers and employees. The center presents and coordinates courses, workshops, seminars and programs in public administration and serves as a clearinghouse for information and training in government-management practices, techniques and new technologies.

Comprehensive Criminal Justice Regional Training Project

The Criminal Justice Regional Training Center coordinates training requests from agencies involved in the criminal justice system. It develops and conducts training programs and develops curricula within the University of Hawaii system for the education of practitioners in the criminal justice field.

Center for Labor-Management Education

The center provides basic leadership training for those associated with management and labor, to promote (1) understanding by both groups of the fundamental problems of mutual interest with which they deal; (2) knowledge of the factors which are essential to productive relations between them; and (3) appreciation of the public's interest in the satisfactory solution of their common problems. General and special courses, one-day and weekend institutes, conference and staff training programs, as well as research into areas of specific concern to labor and management, are offered.

Announcements and other information concerning these programs are available from the College of Continuing Education on request.

SCHOOL OF LAW

The School of Law, established in 1973 and accredited by the American Bar Association in 1974, offers a program leading to the juris doctor degree.

Admission Requirements. Applicants must (1) have earned a baccalaureate degree from an accredited U.S. institution of higher learning or, in the case of foreign applicants, a baccalaureate or like degree which is fully equivalent; (2) take the Law School Admission Test, which is administered by the Educational Testing Service in centers throughout the U.S.; (3) submit transcripts of their college record to the Law School Data Assembly Service for processing (applicants register for the LSDAS when applying for the Law School Admission Test); (4) submit at least two letters of recommendation from college instructors setting forth in detail applicants' scholastic and personal qualifications. Additional recommendations may be submitted. These are of particular importance for applicants who have had some intervening experience since completing academic work.

For application forms and additional information, applicants should write to the School of Law, University of Hawaii, Honolulu, Hawaii 96822.

Degree Requirements. Six semesters of full-time study at the Law School, including attainment of passing grades for 84 credit hours of study, maintenance at all times of a cumulative weighted grade-point average of 2.0 or better, and attainment of a passing grade in all first-year and other required courses. Students must complete this work within five years from the date of first registration.

Full-time study shall mean registration for at least 14 credit hours of study per semester, plus regular and punctual attendance at scheduled class meetings. The latter requirement is based on the premise that the program can only realize its full potential with active participation by all members of the Law School community.

Law (Law)

School Office: Makai Campus 17

Professors: Theodore L. Becker, David R. Hood, Donald Gordon, Benjamin T. Hopkins, Richard S. Miller.

Associate Professors: Marilyn Cohen, Julian Gresser.

Assistant Professors: A. Jerome Dupont, Lindsey Chao-Yun Kiang.

- 497 Law and Social Change (3)
- 601-602 Clinical Method Seminar (3-3)
- 603-604 Practicum (3-3)
- 611 Social Decision Making I: Comparative Decision Processes (3)
- 612 Social Decision Making II: Civil Court Procedure (3)
- 613 Social Decision Making III: American Decision Making Institutions (4)
- 614 Social Decision Making IV: Federal Courts Federal System (4)
- 621 Fundamentals of Modern Factual Inquiry and Advocacy (3)
- 631 Regulation of Economic Activity: Real Property (4)
- 632 Regulation of Economic Activity: Contracts (3)
- 633 Business Law (4)
- 634 Federal Income Tax (4)
- 641 Criminal Justice Process (4)
- 651-652 Legal Education and the Profession (1-1)
- 660 Student Workshop (1)
- 661 Civil Rights (4)
- 671 Transnational Law: Ocean Resources (4)

Second and Third Year Curriculum

The curriculum is being developed. Pedagogical possibilities include clinical seminars, interdisciplinary police research seminars, reading seminars, survey courses, "mini-courses," programmed instruction, internships, externships, and various integrated combinations or "packages" thereof. Traditional topics will include torts, constitutional law, wills and estates, commercial law, corporation law, antitrust, labor, evidence, tax, family and international law—among others. Newer areas will almost certainly include environmental protection law, consumer protection law, women and the law, poverty, ocean, and population law. In addition, students will be encouraged to enroll in appropriate courses offered by other departments of the University, by arrangement with the law faculty and the other departments involved.

As students proceed through the second and third years, they will exercise an increasing choice concerning their individual programs of study and will be required to work more independently of faculty supervision. Thus, second-year students may be presented with a limited choice among two or three preplanned, integrated seminar/course packages and several separate courses, while third-year students may be free to elect a large amount of independent clinical work, a large amount of independent research, or some of each, plus work in separate courses.

GRADUATE SCHOOL OF LIBRARY STUDIES

The Graduate School of Library Studies prepares professional personnel for academic, public, school and special libraries, and promotes library service in general through research and field study. The school is accredited by the American Library Association.

Requirements for Admission

1. Graduation from an approved institution of higher learning with a bachelor's degree representing a broad cultural background plus a field of specialization.

2. Evidence in the college record of above-average scholastic ability and promise for successful graduate study, shown by graduation with a *B* average, or by a Graduate Record Examination Aptitude Test score of 500 in both parts of the test.

3. Evidence of professional promise as shown by reference reports and/or personal interviews.

Students may be admitted to the library school as *regular students*, *probational students*, or *special students*, depending on qualifications, background, and purpose.

For application forms or more information write to: The Graduate School of Library Studies, University of Hawaii, Honolulu, Hawaii 96822.

Requirements for the Degree. 30 to 36 credit hours of approved graduate study, depending on previous education and library service, are required for the Master of Library Studies (MLS) degree. Maximum course load is 15 credit hours per term; 36 hours would therefore require two terms and a summer on a full-time basis. The program may be undertaken on a part-time schedule with the expectation that it will normally be completed within a two- to three-year period.

Master of Library Studies Program. The program leading to the MLS degree consists of a core curriculum to provide the basic professional equipment for all types of library work and enough electives to enable each student to explore one area of specialization. The normal basic curriculum includes the following courses, to be taken generally in the order given:

610, 601, 605, 615, and 647 or 650. School librarians, in addition, will take four of the following courses: 607, 642, 681, 682, 683, 684, 685, 696.

Academic Advisory Service. The office of the dean provides academic advising and placement counseling.

Library Studies (LS)

School Office: Sinclair Library 106

Professors: Margaret W. Ayrault, Ira W. Harris, Robert D. Stevens, Yukihisa Suzuki.

Assistant Professors: Josefa Abrera, Therese Bard.

Lecturers: Alan Kamida, Margaret Lane, G. Raymond Nunn, Shiro Saito, Margaret Setliff, Stanley L. West.

- 601 Bibliography and Reference Sources (3)
- 602 Advanced Reference Sources (3) Pre: 601.
- 605 Basic Cataloging & Classification (3)
- 606 Advanced Cataloging & Classification (3) Pre: 605.
- 607 Organization of Non-Book Materials (3) Pre: 605.
- 610 Social Functions of Libraries (3)
- 615 Building Library Collections (3)
- 618 Government Documents (3)
- 641 Audiovisual Services in Libraries (3)
- 647 Management of Library Operations (3)
- 650 Administration of Libraries (3)
- 660 Science & Technology Literature (3) Pre: 601.
- 662 Business & Economic Literature (3)
- 664 Abstracting & Indexing for Information Services (3)
- 665 Special Libraries (3)
- 670 Literature Searching & Documentation (3) Pre: 605.
- 678 Reader Services (3)
- 681 Reading Materials for Children (3)
- 682 Reading Materials for Youth (3)
- 683 Service for Children & Young People (3)
- 684 School Library-Media Center Problems (3) Pre: 642.
- 685 Traditional Literature & Oral Narration (3)
- 693 Special Topics in Librarianship (3)
- 696 Field Seminar (3)
- 701 Administration of Libraries in Asia (3)
- 705 Asian Reference Sources (3)
- 706 Technical Services for Far Eastern Collections (3) Pre: 606, 615.
- 715 Seminar in Library Development (3)
- 716 International Publishing and Bibliography (3)

GRADUATE DIVISION

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

The following regulations and procedures for the Graduate Division at the University of Hawaii at Manoa are subject to change without prior notice. Prospective students should consult the *1973-74 Graduate Division Catalog* or correspond with particular graduate fields of study for further details.

79

1974-75 GRADUATE DIVISION CALENDAR

| | Fall Semester | Spring Semester | Summer I | Session II |
|---|---------------|-----------------|-----------|----------------|
| Registration | Aug. 21, 22 | Jan. 8, 6 | May 19-23 | Jun. 30-Jul. 3 |
| Instruction begins | Sept. 3 | Jan. 20 | May 27 | Jul. 7 |
| Last day to withdraw from courses | Sept. 12 | Jan. 29 | | |
| Last day to change from credit to audit | Sept. 12 | Jan. 29 | | |
| Last day to register | Sept. 16 | Jan. 31 | | |
| Last day to change from audit to credit | Sept. 16 | Jan. 31 | | |
| Last day to add courses for credit | Sept. 16 | Jan. 31 | | |
| Last day to file diploma applications | Sept. 23 | Feb. 10 | May 23 | May 23 |
| Last day for Records Office to receive / removal grades | Nov. 27 | Mar. 21 | | |
| Last day of final examinations, Plan A and Ph.D. | Nov. 18 | Apr. 21 | Jul. 14 | Jul. 14 |
| Theses and dissertations due in Graduate Division | Nov. 25 | Apr. 28 | Jul. 21 | Jul. 21 |
| Last day to submit Plan B final exam results | Dec. 2 | May 5 | Aug. 8 | Aug. 8 |

| (continued) | Fall Semester | Spring Semester | Summer I | Session II |
|--|---------------|-----------------|----------|------------|
| Last day to file titles of theses and dissertations with Graduate Division | May 15 | Dec. 15 | Feb. 1 | Feb. 1 |
| Last day of instruction | Dec. 12 | May 6 | Jul. 3 | Aug. 14 |
| Final examinations begin | Dec. 16 | May 9 | | |
| Term ends | Dec. 22 | May 18 | Jul. 3 | Aug. 14 |
| Commencement | Dec. 22 | May 18 | | Aug. 17 |

Application deadlines for graduate admissions—new, renewal & re-consideration—are as follows:

- 1) for Spring 1975 from May 1 to Sept. 1, 1974
- 2) for Fall 1975 from Nov. 1, 1974 to Mar. 1, 1975

Application deadlines for change in field of study are as follows:

- 1) for Spring 1975 from May 1 to Sept. 30, 1974
- 2) for Fall 1975 from Nov. 1, 1974 to Mar. 1, 1975

(Applications accepted for Fall and Spring semesters only)

Last day to file returnee forms for students returning after an absence are as follows:

- 1) for Spring 1975—Oct. 1, 1974
- 2) for Fall 1975—Apr. 1, 1975

Last day to file petition for admission to doctoral program (only by currently enrolled UH master's candidates graduating at end of semester) are as follows:

- 1) for Spring 1975—Nov. 15, 1974
- 2) for Fall 1975—June 15, 1975

TUITION AND FEES

For information on tuition and fees for graduate students see p. 10 of this catalog. Fees (but not tuition) for graduate students are the same as for undergraduates except for the following:

Application Fee. All applicants pay a \$10 application fee for each admissions application filed. This fee is applicable to the following categories of applicants as well:

Returnees. Returnees are students who return to their studies after a leave of absence from the University of Hawaii at Manoa of at least one semester (not counting summer sessions). Returnees who have been out for two or more consecutive semesters must apply for readmission to their field of study, paying the \$10 application fee. Complete withdrawal from the University is considered a semester of nonattendance for this purpose. The following categories of returnees are exempt from this fee: (a) students who are out for one semester only, (b) any doctoral or master's degree candidate returning to register for Thesis/Dissertation 800 only, (c) EWC students returning from field study tours, (d) school teachers with the state department of education (DOE) and in-state librarians who are degree candidates attending summer sessions only.

Renewals. Newly admitted students who are no-shows or who completely withdraw from courses within the first eight days of instruction of their first semester of enrollment must apply for readmission if they wish to return to their studies. Students applying for readmission after a lapse of two or more consecutive semesters pay the \$10 application fee.

Changes in Fields of Study. Students who apply for changes in fields of study pay \$10 for each application filed.

Reconsiderations. Students who have been denied admission by the Graduate Division and/or the Graduate Field of Study pay the fee for each reconsideration requested.

Graduation Fee. All recipients of advanced degrees are required to pay a graduation fee of \$5 during their last term.

Thesis Binding Fee. The fee is \$4 to cover the cost of binding two copies of the thesis, payable during the student's last term.

ASSISTANTSHIPS AND FELLOWSHIPS

Graduate Assistantships. The University offers a number of graduate assistantships to graduates of accredited institutions of higher learning who have satisfactory scholastic records, an adequate undergraduate background in the major field, and evidence of a high level of English proficiency. Further, to be awarded a graduate assistantship a student must be registered in the Graduate Division as a classified graduate student studying for an advanced degree.

Graduate assistants serve as part-time teaching or technical assistants and carry a program of study usually limited to a maximum of nine hours a semester. The period of service is from fall registration week through spring Commencement. The initial remuneration is \$3,708, payable in twelve monthly installments, and waiver of tuition and the general fee. Graduate assistants registering for twelve or more semester hours (including audit) are exempt from the general fee, but are not exempt from special course fees listed under "Tuition and Fees" p. 10. For fall admissions it is suggested that applications be sent to the chairman of the appropriate department before February 1. Individual departments, however, may extend the deadline. Each application must be accompanied by three letters of recommendation from former professors or employers.

In addition, one-half time assistantships are available in various fields in connection with research contracts or grants supervised by members of the faculty. Inquiries concerning these should be addressed to the chairman of the appropriate field of study.

All new applicants for graduate assistantships must be admitted as intended degree candidates before a decision can be made. New applicants for assistantships are therefore advised to apply for admission to the Graduate Division prior to or at the same time consideration for the assistantship is requested.

East-West Center Scholarships. See the *Bulletin of the East-West Center* for details.

Fellowships and Traineeships. The graduate student programs office of the Graduate Division has available general information on fellowship competitions open to graduate students which are administered by outside foundations or agencies. For application purposes, it is important to distinguish between (1) those awards made directly by the sponsoring agency to individual students, and (2) those awards made by the sponsoring agency to an institution to be awarded, in turn, to students for study at that specific institution.

Awards in the first category are generally presented by national organizations and allow students to choose their institution of affiliation. Applications are submitted by students to the sponsor, usually in early fall preceding the year graduate study is to begin. Examples listed here with their addresses include:

National Science Foundation Graduate Fellowships, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418

Danforth Foundation, 222 South Central Avenue, St. Louis, Missouri 67105

Fulbright-Hays Graduate Study Abroad, Institute of International Education, 809 United Nations Plaza, New York, N.Y. 10011

Awards in the second category, which vary in source from federal to local, include EPDA, Part E Fellowships for Prospective Community College Teachers, as well as a large number of smaller programs. At the University of Hawaii nominations for these awards are made by the departments that are eligible. Students are urged to exercise their initiative to explore the various possibilities. In any case, *the first place to inquire is at the major department.*

ACADEMIC INFORMATION

ADMISSION

Students with baccalaureate degrees from accredited United States institutions of higher learning or, in the case of foreign students, baccalaureate degrees fully equivalent to the bachelor's degree granted by a U.S. university, may be admitted to the Graduate Division, subject to the following qualifications: (1) that the standards of the degree in question are equivalent in both the distribution of academic subject matter and in scholarship achievement requirements to those maintained at the University of Hawaii; and (2) that the students can be accommodated in the fields in which they wish to study.

The dean of the Graduate Division will deny admission if the applicant's record of scholarship is not sufficiently distin-

guished, or if the undergraduate program is inadequate for advanced academic or professional study. These provisions affect all applicants from colleges or schools in the United States or elsewhere.

The Graduate Division notifies each applicant of acceptance or rejection as soon as a decision is reached. Applicants should not make definite arrangements to attend the University until they receive a formal notice of acceptance.

Application. Application forms and specific graduate program information should be obtained directly from departmental offices well in advance of the application deadline. (For names of departments refer to the graduate fields of study listed in the 1973-74 *Graduate Division Catalog*.) Letters should be addressed to the appropriate department, University of Hawaii at Manoa, Honolulu, Hawaii 96822. Applicants to the Graduate School of Library Studies, School of Social Work, School of Public Health, School of Medicine, and School of Law should apply directly to the school concerned. For general graduate admissions information write to the Graduate Division Admissions Office, University of Hawaii at Manoa, 2540 Maile Way, Honolulu, Hawaii 96822.

Undergraduate applicants should apply after the first quarter or semester of their senior year. They should heed early deadlines for the various examinations required for admission, making arrangements to take the TOEFL, GRE, ATGSB, etc. well in advance of the deadlines.

Students with distinguished overall academic records at the conclusion of the junior year may apply at that time.

If yearly examination results or grade reports are not available, or where the student's performance is rated only after the final examination is passed (i.e., first class honors, second class honors, upper division, etc.) application should be made after completing the degree.

Admission for classified status is limited to the fall and spring semesters. Request for exceptions should be sent to the Graduate Division admissions office.

Deadlines. Applications for the fall semester are accepted November 1 to March 1, and for the spring semester May 1 to September 1. All documents should be sent to the Graduate Division admissions office, postmarked no later than March 1 for the fall semester or September 1 for the spring semester.

Application Requirements. Students applying for admission to the Graduate Division must submit the following:

1. Application form.
2. Transcripts (two official copies) from each institution attended.
3. \$10 application fee.
4. Application fee form.
5. Residence information form (for tuition purposes).
6. Records of examinations (GRE, MAT, etc.) as required by certain fields (refer to application instructions).
7. Letters of recommendation as required by certain fields.
8. Visa information/language proficiency/financial statement forms (non-U.S. citizens only).
9. Results of Test of English as a Foreign Language (foreign applicants only; refer to TOEFL requirement, *see below*).

Nontraditional Grading. If all or more than 25% of a student's undergraduate course work has been graded under a nontraditional grading system (i.e., pass/fail, credit/no credit, S/U, etc.):

1. the transcripts must be accompanied by official course performance reports, i.e., faculty evaluations (2 copies each of transcripts and performance reports).
2. applicants must take the aptitude test of the Graduate Record Examination and submit the results to the department to which they are applying.

Test of English as a Foreign Language.* (*See above.*) All applicants from foreign countries where English is not the usual means of communication are required to take the Test of English as a Foreign Language (TOEFL). Applicants in the following categories are automatically exempt from this requirement:

1. Native speakers of English from Australia, Great Britain, Canada or New Zealand.
2. Students who have received a bachelor's degree or advanced degrees from an accredited university/college in the United States, Australia, Britain, Canada or New Zealand.

Applications for admission will not be processed until the Graduate Division has received the TOEFL results. TOEFL scores over two years old are not acceptable.

The TOEFL is administered four times each year. For the year beginning July 1, 1974 and ending June 30, 1975, a new pattern of test dates has been established as follows:

| Test Dates | Regular Registration Closing Dates | Registration Cut-Off Dates | Approximate Score Report Mailing Dates |
|--|---|---|--|
| Test will be given on the Mondays listed below | Last date for receipt by ETS of Registration Form without \$3 penalty fee | Registration Forms received by ETS after these dates will be transferred to the next date | |
| September 16, 1974 | August 5, 1974 | August 20, 1974 | October 23, 1974 |
| November 25, 1974 | October 10, 1974 | October 29, 1974 | January 6, 1975 |
| February 24, 1975 | January 13, 1975 | January 28, 1975 | April 2, 1975 |
| May 19, 1975 | April 7, 1975 | April 22, 1975 | June 25, 1975 |

At test centers *outside* of the United States, candidates who were unable to register with ETS will be permitted to register at the center on the day of the test ("on the spot") *only if all the following conditions are met*: (1) they present a letter requesting that they be tested at that administration and signed by a representative of a United States embassy, the Agency for International Development (AID), a sponsoring agency, or an institution to which they have applied; (2) they present a completed registration form accompanied by payment of the fee or firm evidence that the fee has been paid; (3) they furnish positive identification; and (4) the center has sufficient space and test materials remaining after it has admitted all previously registered candidates. As in the past, on-the-spot registrations are not permitted under any circumstance within the United States.

*See p. 19 for information relating to the University's English Language Institute, and its role in evaluating the English proficiency of foreign students.

Applicants are advised to take the TOEFL three to six months prior to the application deadline **BUT NO LATER THAN THE DATES SPECIFIED BELOW:**

| <i>For admission in:</i> | <i>Last test date:</i> |
|--------------------------|-----------------------------------|
| Spring 1975 semester | June 1, 1974 (under old schedule) |
| Fall 1975 semester | November 25, 1974 |
| Spring 1976 semester | May 19, 1975 |
| Fall 1976 semester | November 1975 |

The TOEFL testing fee will be raised from the present \$12 to \$15, effective July 1, 1974.

Students who wish to take TOEFL in Hong Kong, India, Nepal, or Taiwan should obtain the appropriate editions of the *TOEFL Bulletin of Information* at the addresses given below:

In Hong Kong: Education Department, Examinations Section, Canton Road Government Offices, 393 Canton Road, 11th Floor, Kowloon, Hong Kong; or Institute of International Education, 408 J. Hotung House, Fourth Floor, 5/15 Hankow Road, Kowloon, Hong Kong.

In India and Nepal: Test of English as a Foreign Language, Bureau of Educational Research, Ewing Christian College, Allahabad 3, U.P., India.

In Taiwan: Language Center, 2-1, Hsu-chow Road, Taipei, Taiwan (100), Republic of China.

Students who wish to take TOEFL in other countries should obtain the *TOEFL Bulletin of Information for Candidates, International Edition*. Copies of this bulletin and the registration form are generally available at American embassies and consulates, the U.S. Information Service (USIS), U.S. educational commissions and foundations abroad, and binational centers. Several private organizations also distribute TOEFL bulletins, among them (1) the Institute of International Education (IIE) in Nairobi, Kenya; Paris, France; and Lima, Peru; (2) the African-American Institute (AAI) in Dar es Salaam, Tanzania; and Lagos, Nigeria; (3) the American Friends of the Middle East (AFME) in Tehran, Iran; Amman, Jordan; Beirut, Lebanon; Tangier, Morocco; and Cairo, Egypt; and (4) the American-Korean Foundation in Seoul, Korea.

Students unable to obtain a copy of the bulletin otherwise should write for them well in advance to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey, U.S.A. 08540. Please do not write to the University of Hawaii for information on TOEFL.

ENTRANCE EXAMINATIONS

As a service to in-state students, application forms for the GRE are available at the Counseling and Testing Center, 2327 Dole Street, and for the ATGSB at the MBA office, College of Business Administration, University of Hawaii, Honolulu, Hawaii 96822. All out-of-state students must write to the address designated below.

Graduate Record Examination (GRE). The GRE is required for admission in a number of fields of study. In some fields it is recommended but not required. The Graduate Division requires the aptitude test of the GRE of all students who have done their undergraduate work under a nontraditional grading system. For requirements of the individual graduate fields of study, consult the relevant field-of-study descriptions in the 1973-74 *Graduate Catalog*. Students taking the test must

submit completed registration forms and test fees to the Educational Testing Service at least one month prior to the examination date. Applicants may request forms directly by writing to Graduate Record Examinations, Educational Testing Service, Box 1502, Berkeley, California 94701; or Box 955, Princeton, New Jersey 08540.

Test dates, test fees and registration deadlines are posted on graduate school bulletin boards on all university campuses in the U.S. The GRE will be administered in January, February (U.S. only: aptitude test only, no advanced test), April, June, October, and December. ETS should be directed to forward test results directly to the department to which the student is applying for admission. GRE scores over five years old are not acceptable.

The following testing deadlines must be observed if the GRE is required for admission: For Spring 1975, test must be taken no later than June 1974. For Fall 1975, test must be taken no later than January 1975 (outside of U.S.); February 1975 (U.S. only). The advanced test of the GRE is not given in February.

Admission Test for Graduate Study in Business (ATGSB). The ATGSB is required of every applicant for admission to the MBA program in business administration. The test is given four times a year—in November, January, March, and July.

In-state students may obtain the *Bulletin of Information* and registration forms from the MBA office, College of Business Administration, University of Hawaii, Honolulu, Hawaii 96822. Out-of-state students should write directly to ATGSB, Educational Testing Service, Box 966, Princeton, New Jersey 08540, for registration forms. Completed registration forms and test fees must be submitted to Educational Testing Service at least one month prior to the examination date. Results of the test should be sent, at the applicant's request, to the MBA office, College of Business Administration.

Since applications are not processed if the ATGSB is not taken on time, the following testing deadlines should be strictly adhered to: For Spring 1975, test must be taken no later than July 1974. For Fall 1975, test must be taken no later than January 1975.

Miller Analogies Test (MAT). In-state students required to take the MAT should contact the Counseling and Testing Center for specific test dates. The MAT is usually administered once a month. There is no need for preregistration. Mainland U.S. students should contact a college or university in their area to arrange for the testing. Foreign students may write to The Psychological Corporation, 304 East 45th Street, New York, N.Y. 10017.

CHANGE IN FIELD OF STUDY

Graduate students who wish to change their fields of study must submit a change in field application with a \$10 fee to the Graduate Division admissions office within the following dates:

Nov. 1 to March 1—for the next fall semester.

May 1 to September 30—for the next spring semester.

A change in field is not permitted during the student's current semester of enrollment. New students may apply for a change in field only after the third week of instruction. Letters of recommendation, GRE, MAT, or ATGSB test scores, if

required for admission by the new field of study, must be received in the appropriate department by the application deadline.

The new (prospective) field will review the student's application for a change along with new applications for the semester in question. Previous acceptance by a field of study does not guarantee acceptance by another field.

CLASSIFICATION OF STUDENTS

Graduate students (graduates of this University or of other institutions of approved standing) who have been admitted to the University of Hawaii at Manoa Graduate Division are designated as *classified* (regular, probational, special) students.

Regular students are those accepted by the Graduate Division and in their respective fields of study as potential candidates to pursue programs leading to advanced degrees.

Probational students are those admitted probationally by the Graduate Division and in their respective fields of study as potential candidates to pursue programs leading to advanced degrees.

Special students are those admitted to nondegree programs.

UNCLASSIFIED STUDENTS

Because of the limited space and facilities, out-of-state graduate students, including foreign students, are not accepted as unclassified graduate students.

To be considered for admission as classified graduate students, unclassified students must have earned a *B* average (3.0 grade-point ratio) for *all* upper division post-bachelor courses as well as for all *graduate* courses (numbered 600 and above) completed while in unclassified status at the University of Hawaii as well as at other institutions.

Computation of the grade-point average after admission to the Graduate Division (a *B* average is required for continued registration and graduation) will include grades in courses completed while in unclassified status which are applied toward fulfilling requirements for an advanced degree.

Twelve (12) units of course credit earned while in unclassified status at the University of Hawaii may be petitioned for application toward fulfillment of the advanced degree requirements.

SUMMER SESSION

Students applying for admission to the summer session should apply to: Director of Admissions and Records, University of Hawaii at Manoa, 2444 Dole St., Honolulu, Hawaii 96822. Applications for advanced degree programs are accepted for the fall and spring semesters only. Admission to summer session courses does not imply or guarantee eventual admission to the Graduate Division. However, appropriate credits from summer session courses are countable toward an advanced degree at the recommendation of the fields of study involved.

REGISTRATION AND CREDITS

Student Identification Numbers. The University uses social security numbers as student identification numbers. For those without social security numbers the University issues student identification numbers. Students must use the number assigned to them throughout their matriculation at the University.

Certification of Degree. Students whose bachelor's and/or master's degrees were incomplete at the time they filed applications for admission must submit to the Graduate Division two official copies of transcripts certifying completion

of their degrees. These must be submitted within 60 days after registration in the first semester of enrollment. Registration will be denied for the following semester to those who fail to meet this requirement.

Course Loads. Sixteen credit hours in a semester and seven in a six-week summer session are considered a maximum course load and may be exceeded only with the approval of the dean. The minimum full-time load for graduate students is as follows:

8 credits, including two or more graduate courses (courses numbered 600 and above)

9 credits, including one graduate course

12 credits, undergraduate courses exclusively

Doctoral candidates, however, carrying fewer than 8 credits in Thesis 800 may be certified by their advisers as carrying a full load. For graduate assistants, the minimum full-time load is 6 credits. Because their duties ordinarily require 20 hours per week, they are restricted to 9 credit hours (including Thesis 800). Graduate assistants may, with special permission from the dean of the Graduate Division, register for 12 semester hours, including audit.

Late Registration. With written approval from the dean of the Graduate Division, a student may register (initial or as a result of program changes) only during and not later than the first eight days of instruction. See Calendar, "Last day to register."

Registration to audit courses is permitted at any time, but auditors may not change to credit status after the above late registration period.

Variable Credit Courses. The number of credits obtainable in most courses is stated in this catalog and in the schedule of courses available shortly before registration. Certain courses, designated by "v" offer variable credit. Students in these courses usually carry on individual work. The number of credits to be earned in such a course must be approved by the instructor at the time of registration. Students may earn no more or less than the stated number without the college dean's approval.

Course Changes. Students wishing to change a course or courses must follow the procedures given for withdrawing from a course (*see below*) and for late registration (*see above*). Forms are available in self-service racks in the Graduate Division hallway.

Withdrawal from Courses. To withdraw from a course, students must obtain the following signatures of approval on the withdrawal form available in self-service racks in the Graduate Division hallway: the instructor, academic adviser and dean of the Graduate Division. The form must then be turned in, along with a \$2 fee, to the treasury office in Bachman Hall.

To withdraw from all courses, a student must obtain a complete withdrawal form from the office of admissions and records, Bachman 120, obtain the necessary signatures as indicated on the form, and turn in the completed form to the treasury office, Bachman 110.

Students wishing to withdraw from a course without penalty and without a designation of the course on that record must do so by the deadlines specified in the Calendar (Thursday, September 12, for the fall semester; Wednesday, January 29, for the spring semester). After the last date for such withdrawals, graduate students may receive a *W* if (*and only if*) they completely withdraw from the University with the approval of the Graduate Division. Emergency petitions for other withdrawals must be approved by the instructor, adviser, and the dean of the Graduate Division.

If a student ceases to attend classes without officially with-

drawing, the instructor may award any one of the following final grades: *A, B, C, D, or F*.

Refunds for withdrawals from courses are noted under "Tuition and Fees—Refunds (see p. 11)." Students seeking tuition refunds for withdrawals from courses should go to the treasury office in Bachman Hall immediately after the withdrawal form has been completed and signed, taking the form with them.

Denial of Registration. The dean of the Graduate Division will deny further registration to any student whose work is below the required level.

Graduate Credit for Seniors. Seniors at the University of Hawaii may earn credit toward an advanced degree for some courses completed 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 such courses fulfill requirements in the major field. To obtain such credit students should get written approval of the chairman of the department in which the course is offered, their academic adviser, the dean of the appropriate undergraduate college and the Graduate Division when registering for the course.

Credit by Examination. Graduate students may obtain credit by examination in courses numbered 300-499 with the approval of the program adviser or chairman of the program committee, the instructor concerned, and the dean of the Graduate Division, subject to general University regulations and procedures. There is no limit on the number of examinations which a graduate student may take during any one semester. Credit may not be obtained by examination in courses numbered 600 or above.

Correspondence Course Credits. No graduate credit is allowed for correspondence courses.

Undergraduate Deficiencies. Courses in directed research are not to be used to make up undergraduate deficiencies.

Course Numbers. Courses numbered 600-799 are graduate courses, and are intended primarily for graduate students. Courses numbered 300-499 are the only undergraduate courses which may be used to fulfill advanced degree requirements.

Courses numbered 500-599 are not applicable toward advanced degrees. These numbers are used to designate special institute, in-service training, study tour, and refresher courses.

CREDITS, GRADES AND EXAMINATIONS

For general information on credits, grade points and grade reports, see pp. 15-16.

Grades. Grades given in all courses are *A, B, C, D, F, Cr, NC*, and *I*, except for 800 (thesis research) in which the grade of *S* (satisfactory) is given upon acceptance of the thesis. Failure to make satisfactory progress on a thesis does not entitle a student to refund of tuition fees. The lowest passing grade is *D* but only grades of *A, B*, and *C*, may be used to fulfill requirements for advanced degrees.

An *I* is given to students who fail to complete a small but important part of a semester's work before the semester grades are determined, if the instructor believes that the failure was caused by conditions beyond the student's control and not by carelessness and procrastination. Students receiving an *I* should contact the instructor to determine the steps to be taken to remove the *I*. The deadline for removing an *I* received in the first semester is the Easter recess of the following semester; for removing an *I* received in the second semes-

ter or the summer session, the deadline is the Thanksgiving recess of the next semester. (See Calendar for specific dates.)

Instructors who record a grade of *I* on the final grade card for undergraduate courses (100-499), must also record the grade which will replace the *I* if the work is not made up by the deadline; that grade is computed on the basis of what grades or other evidence the instructors have, averaged together with *F*'s for all the incompleting work (including the final examination, if it is not taken). This alternate grade may be any one of the following: *A, B, C, D, F*, or if the course was taken under Credit-No Credit, *Cr* or *NC*. The designation *W* cannot be used as an alternate grade.

Instructors who record a grade of *I* on the final grade card for graduate courses (600-799) will not record an alternate grade to replace the *I* if the work is not made up by the deadline. If the work is not completed by the specified time for these courses, a grade of *I* will remain on the student's record.

If work for any course is completed prior to the deadline, the instructor will report a change of grade, taking the completed work into consideration.

CREDIT—NO CREDIT OPTION

The major purpose of the Credit-No Credit option is to encourage students to broaden their education by venturing into subject areas outside their fields of specialization without hazarding a relatively low grade. Under the option, students receive grades of *Cr* (Credit) or *NC* (No Credit). These do not carry grade points, therefore are not computed in the student's grade-point ratio.

The Credit-No Credit option must be exercised at the time of registration, and only under the following conditions:

1. Except as noted, courses taken under the *Cr/NC* option may not be applied toward the requirements for the master's degree. Only 699/799 directed reading/research courses may be taken on *Cr/NC* at the option of the graduate field of study and may be granted credit toward a master's degree within the limits already prescribed by the Graduate Division (two credits in Plan A thesis programs).
2. A course for which a grade of *NC* is received may be retaken under the *Cr/NC* option, or under the regular letter-grade system.
3. The *Cr* designation in the non-letter grade system denotes *D*-caliber work or better (at the graduate level, *C* or better).
4. The *NC* designation and the course in which it is received will appear in official records as part of the student's academic history.
5. The *NC* designation affects neither the credit hours total nor the grade-point total of the student.
6. The *Cr* designation assumes all functions and meanings of the former *P* (Pass) designation.

REQUIREMENTS FOR CONTINUED REGISTRATION

To remain eligible for further graduate work and to be awarded a graduate degree, students must have a *B* average (3.0 grade-point ratio) for all courses numbered 300-499 and 600-799 (300-799 for M.B.A. candidates). They must also have a *B* average for all graduate courses (numbered 600 and above).

The Graduate Division will disregard grades for courses numbered 100-299 and 500-599 (except for 500-599 courses in business administration) in arriving at these grade-point ratios.

Credit-hour requirements for graduate degrees can only be fulfilled by grades of *A, B*, and *C* except for 699/799 courses taken under the Credit-No Credit option. Grades

of *Cr* for 699/799 directed reading or research courses are counted in credit-hour requirements within stated rules, but are not computed for grade-point ratios. Grades of *NC* are not counted nor computed. Grades of *D* and *F* are not counted toward the completion of requirements for advanced degrees but are counted in computing the grade-point ratio.

A student admitted as a *regular* student whose cumulative grade-point average fails to meet the minimum requirements after completing at least 12 credit hours or two semesters of course work will be placed on academic probation for the following semester for the duration of that semester.

A student admitted as a *probational* student whose grade-point ratio since admission fails to meet the minimum requirements after completing one semester of course work will be placed on academic probation for the duration of the following semester.

All grades for courses taken during the probationary semester, as well as for all previous semesters, will be included in calculating the grade-point ratio at the end of the probationary semester. No extensions of the probationary semester may be granted due to Incompletes (*I*).

A student on probation who fails to attain the minimum standards at the end of the probationary semester will be denied further registration in the Graduate Division.

A student whose academic record falls below the required minimum at any time following one academic probationary semester is not eligible for an additional probationary semester, resulting in dismissal.

For purposes of these rules, a "semester" is the calendar period, regardless of the number of credits taken.

Two summer sessions equal one semester, regardless of the number of credits taken. For M.B.A. candidates taking courses in the College of Business Administration, one summer session is equal to one semester.

In special cases, two grades below *B* in undergraduate courses taken during the first semester as a graduate student at the University of Hawaii at Manoa may be excluded when computing the GPR if a petition, filed by the student and recommended for approval by the chairman of the graduate faculty, is approved by the dean of the Graduate Division. If these grades are so excluded, the concomitant course credits may not be counted toward fulfillment of requirements for graduate degrees. Any such waiver will not alter the official University record of student grades and grade-point ratios.

No work may be transferred from another institution unless the grade is *B* or higher (exception: EWC grantees on study tour, in which all credits of *C* or better will be transferred).

In computing the GPR of students who retake a course in which they received a grade of *C*, *D*, or *F*, all grades in that course will be included.

These rules apply: (1) to all students who enter the University during the fall 1973 semester and thereafter; and (2) to all students, previously enrolled, who would benefit by application of the rule.

Special nondegree graduate students are not subject to the *B*-average rule.

WARNING: Students transferring from either Plan A or Plan B to Plan C must have a minimum GPR of 3.0 in all courses completed (300-499, 600-799) as well as in all graduate (600-799) courses completed. Credits taken under the Credit-No Credit option (except 699/799) while under Plan C will not be counted toward meeting degree requirements for either Plan A or B.

DIPLOMAS

An application for a diploma must be filed at the beginning of the semester in which the student expects to complete the degree requirements. Application forms may be obtained at the Graduate Division from self-service racks outside Spalding 354, and fees paid at the treasury office, Bachman 110.

DEGREE CHECKS

An appointment for a degree check must be made at the time the student registers for the final semester of work. At this time the student will be informed of missing grade labels, Progress Report Forms, etc.

The Graduate Division will automatically delete from the graduation list the name of any student whose final grade label contains either a grade of *I* (incomplete) or a missing grade, unless certification is received beforehand from the chairman of the graduate field of study that the course is not a requirement for the degree.

CONFERRING OF DEGREES

Degrees are conferred and diplomas awarded three times annually, in December, May and August. Commencement exercises are held in December, May and August. Students completing their degree requirements at any time during the year may, upon request, receive certification from the dean of the Graduate Division that the degree will be conferred at the end of the appropriate semester.

Diplomas may be obtained from the admissions and records office. Inquiries regarding diplomas should be addressed to: Admissions and Records, 2444 Dole St., not to the Graduate Division.

TRANSCRIPTS

Transcripts may be obtained from the admissions and records office, Bachman 125.

RESPONSIBILITY

Students admitted to the Graduate Division are assumed to be mature adults and are expected to behave accordingly. Though advisory services are provided to assist the students, the student alone is responsible for following the procedures and completing the steps required in the degree program. Requirements of the Graduate Division, both procedural and substantive, may be waived only by written request of the student and/or committee concerned and must have the written approval of the dean. Petition forms are available in department offices and the Graduate Division office.

DEGREES, REQUIREMENTS, AND PROCEDURES

MASTER'S DEGREES

The University of Hawaii at Manoa confers the degrees of master of architecture, master of arts, master of business administration, master of education, master of fine arts, master of library studies, master of music, master of public health, master of science, master of social work, and master of urban and regional planning.

The master of arts is offered in:

American Studies • Anthropology • Art
Asian Studies • Asian Languages
Communication
Classics • Drama and Theatre • Economics
English • English as a Second Language
French • Geography • German • History
Linguistics • Mathematics • Music
Pacific Islands Studies • Philosophy
Political Science • Psychology • Russian
Sociology • Spanish

The master of science is offered in:

Agricultural Economics • Agricultural Engineering
Agronomy and Soil Science
Anatomy and Reproductive Biology
Animal Sciences • Astronomy • Biochemistry
Biophysics • Botanical Sciences • Chemistry
Civil Engineering • Electrical Engineering
Entomology • Food Science • Genetics
Geology and Geophysics • Horticulture
Information and Computer Sciences
Mechanical Engineering • Meteorology
Microbiology • Nursing • Nutrition
Ocean Engineering • Oceanography
Pharmacology • Physics • Physiology
Public Health • Speech Pathology and Audiology
Zoology

The master of education is offered in:

Educational Administration Educational Psychology
Educational Communications Elementary Education
Educational Foundations Secondary Education

The master of architecture is designed to provide intensive professional study and to meet the criteria of professional licensing boards.

The master of business administration is designed to provide opportunities for the development of administrative skills in business.

The master of fine arts is offered for creative production rather than research in: Art • Drama and Theatre.

The master of music is offered for composition and performance in music.

The master of library studies is offered by the Graduate School of Library Studies. For requirements, etc., see the bulletin of the Graduate School of Library Studies.

The master of social work is offered by the School of Social Work. For requirements, etc., see the bulletin of the School of Social Work.

The master of public health is offered by the School of Public Health. For requirements, etc., see the bulletin of the School of Public Health.

The master of urban and regional planning is offered through the Pacific Urban Studies and Planning Program. It is a multidisciplinary program with options in specializations in the following areas:

Urban and Regional Systems Planning
Public Policy Planning
Development Planning

Residence

The minimum residence requirement is two semesters of full-time work or four six-week summer sessions or the equivalent in credits. For the master of social work and the master of fine arts in visual arts, four semesters of full-time work are required.

Language Requirements

At the option of the graduate field of study, the intended candidate for the master's degree may be required to demonstrate comprehension of one or more foreign languages. For specific language requirements in particular fields of study, see the appropriate section listed alphabetically under "Graduate Fields of Study" in the *1973-74 Graduate Division Catalog*.

Foreign language reading proficiency examinations in East Asian languages, European languages, and Indo-Pacific languages administered by the respective departments are held three times a year coinciding with the Educational Testing Service test dates (except the summer administration). Announcements regarding these tests are circulated by the Graduate Division to the graduate fields of study for posting on bulletin boards three times a year, usually in September, January, and March.

Students in the following fields of study planning to take the French, German, or Spanish examinations must take the ETS Graduate School Foreign Language Tests administered by the Counseling and Testing Center on campus four times a year: chemistry, English, geography, geology & geophysics (Ph.D. only), history, linguistics, meteorology (Ph.D. only), microbiology, oceanography, sociology, and zoology.

The GSFLT will be administered on the following dates during 1974-75:

DEADLINE DATES

| Test Date | Penalty Date* | Final Closing Date† |
|------------------|-------------------|---------------------|
| October 27, 1974 | October 2, 1974 | October 9, 1974 |
| January 19, 1975 | December 27, 1974 | January 2, 1975 |
| April 27, 1975 | April 2, 1975 | April 9, 1975 |
| June 15, 1975 | May 21, 1975 | May 28, 1975 |

Deadline dates are dates of receipt at ETS. They are *not* postmark dates.

Time Allowed

Candidates for the master's degree who fail to complete all requirements within five years after admission to candidacy must be readmitted to candidacy by the dean of the Graduate Division before they can proceed. All work must be completed within seven years preceding the date upon which the degree is conferred.

Candidates for the doctoral degree will normally be expected to complete all requirements within six years after admission to the doctoral program.

Transfer of Credits

Upon recommendation of the graduate faculty and no later than admission to candidacy, up to one-half of the total course credits required in a given field of study may be trans-

*Last day for receipt of registration form without \$3.50 penalty fee.

†Last day for guaranteed registration or for change in registration.

ferred. However, at least one-half the credits required in graduate courses (numbered 600 and above) must be completed at the University of Hawaii. Up to 6 credits of work completed at another accredited institution following admission to candidacy may be transferred to this University, providing such transfer does not exceed the maximum allowable. No credit may be transferred from another institution unless the grade is *B* or better.

For East-West Center students whose programs include a semester or two at mainland or Asian universities, the total number of credits approved for transfer before the students leave for the field study will be automatically transferred, provided that the Graduate Division receives official transcripts of records from the institutions attended. All course credits and grades will be computed for the grade-point ratio. The students are responsible for delivering the transcripts to the Graduate Division.

Progress Report Forms

The Graduate Division issues to each graduate field of study a set of printed forms for each new graduate student who enrolls. The graduate field of study uses these progress report forms to notify the Graduate Division of the student's progress toward the degree. The "Summary of Procedure" after each degree discussed on the following pages lists the forms which are submitted to the Graduate Division and the copies which are sent to the student.

Rules and Requirements

The rules and requirements listed below are those of the Graduate Division and must be observed by all graduate students. Please note that for some programs of study there are special requirements (see 1973-74 *Graduate Division Catalog*, Graduate Fields of Study, p. 33).

PLAN A (THESIS)

Unless otherwise stated, Plan A is available in all fields of study.

Credit-Hour Requirements. A minimum of 30 credit hours are required, including a minimum of 18 credit hours of course work and between 6-12 credit hours of thesis research, depending on the requirements of the graduate field of study. A minimum of 12 credits, exclusive of research methods courses, must be earned in courses numbered 600-799, including at least one graduate seminar in the major field or in a related field. A maximum of 2 credits may be allowed in directed reading/research courses.

Candidates must be registered in the appropriate thesis research course (800) during the entire term in which the work for the degree is completed. Candidates who accumulate the maximum number of thesis research credits but fail to complete all degree requirements must register for a minimum of 1 credit of thesis research at the beginning of the term in which the degree is awarded.

Thesis Requirement. When a thesis proposal has been approved by the graduate faculty of the student's field of study, the chairman of the graduate field of study sends to the Graduate Division the candidate's name and recommendation for membership of the thesis committee. The student may then enroll in the thesis research course (800) at the beginning of the next academic term. Students must register for Thesis 800 during the announced registration period. Students given special permission by the Graduate Division to register after the announced registration period will be assessed a late registration fee or a change of registration fee, whichever is applicable.

Upon request by the thesis committee relevant work done by the student in directed reading/research (course 699/799) may be utilized as part of the thesis research. In such instances, the total credits for such directed reading/research (course 699/799) and thesis research (800) to be applied toward the minimum requirement for the degree shall not exceed the maximum specified for thesis credit (6-12).

The thesis committee is made up of three members of the graduate faculty.

The chairman of the thesis committee is primarily responsible for directing and guiding the candidate's research and writing activities. It is the responsibility of the student to keep all members of the committee informed of the scope, plan, and progress of both the research and the thesis. Instructions for thesis preparation can be obtained at the Graduate Division office.

Copies of the completed thesis must be submitted to committee members at least two weeks prior to the date of the final examination. The original and first carbon copies, signed by all members of the committee, must be deposited with the Graduate Division by the deadline specified in instructions issued to all candidates at the beginning of the session in which the degree is conferred. Additional bound copies may be required by individual departments.

Examinations

General Examination. At the option of the faculty of the field of study, a general examination may be required before a student is advanced to candidacy for a master's degree. All students within a particular field of study must take the examination if it is required at all. The examination is usually given during the first semester of residence. It is designed to reveal the quality of the student's preparation for advanced work in the field and the ability of the student to pursue graduate work at the master's level. The examination also enables the student's committee or adviser to assist in planning a program that will overcome any deficiencies in the student's background.

A student who passes the examination may be recommended for advancement to candidacy for the master's degree. A student who fails the general examination may repeat it once. However, students failing the general examination a second time will not be considered for candidacy again.

In fields of study not requiring a general examination, the student may be advanced to candidacy upon the recommendation of the adviser and/or the graduate faculty of the field of study concerned. It is assumed that in these cases the recommendation for advancement to candidacy will be based on some other form of evaluation of the student's potential performance rather than of his performance in the general examination.

Final Examination. A final oral examination, covering the thesis and related areas, may be required by individual graduate fields of study. All students within a particular field of study must take the examination if it is required at all. It should be held at least three weeks before the end of the term during which the degree is conferred. It is conducted by the thesis committee and is open to all graduate faculty members. As an alternative, the committee chairman may have the candidate present results of the thesis at a departmental graduate seminar, but all members of the thesis committee must be present.

Students failing the final examination may repeat it only once. If the field of study does not require a final examination, the chairman of the graduate faculty concerned reports the completion of all degree requirements on Progress Report Form VI.

Summary of Procedure

1. Application for admission to the Graduate Division.
2. Preliminary conference; appointment of interim adviser. (Progress Report Form I submitted to Graduate Division, with copy to student.)
3. General examination, if required, and admission to candidacy. (Form II submitted, with copy to student.)
4. Appointment of thesis committee. (Form III submitted, with copy to student.)
5. Approval of thesis topic. (Form IV submitted, with copy to student.)
6. Application for diploma, payment of graduation and thesis binding fee.
7. Completed thesis submitted to committee.
8. Final oral examination, if required. (Form VI submitted; student notified of results.)
9. Final copies of thesis submitted to Graduate Division.
10. Granting of the degree.

PLAN B (NONTHESES)

Plan B is available only in the following fields of study:

Agricultural Economics • Agricultural Engineering
 American Studies • Anthropology
 Art • Asian Languages
 Asian Studies • Astronomy • Biochemistry
 Biophysics • Botanical Sciences
 Business Administration • Civil Engineering
 Classics • Drama and Theatre
 Economics • Educational Administration
 Educational Communications
 Educational Foundations • Educational Psychology
 Electrical Engineering • Elementary Education
 English • English as a Second Language
 Entomology • Food Science • French
 Genetics • Geography • Geology and Geophysics
 German • History • Horticulture
 Information and Computer Sciences
 Library Studies • Linguistics • Mathematics
 Mechanical Engineering • Microbiology • Music
 Nursing • Ocean Engineering • Pharmacology
 Philosophy • Physics • Physiology • Plant Pathology
 Political Science • Public Health • Russian
 Secondary Education • Social Work
 Sociology • Spanish • Speech-Communication
 Urban and Regional Planning • Zoology

Credit-Hour Requirements. A minimum of 30 graduate credit hours is required. A minimum of 18 credits must be earned in courses numbered 600-799, including at least one graduate seminar in the major field or in a related field.

When the student is advanced to candidacy, the chairman of the field of study appoints a program adviser or a program committee made up of three members of the graduate faculty. The program adviser/committee advises the candidate and approves a coherent program of courses for the candidate.

Examinations

General Examination. At the option of the faculty of the field of study, a general examination may be required before a student is advanced to candidacy for a master's degree. All students within a particular field of study must take the examination if it is required at all. The examination is usually given during the first semester of residence. It is designed to reveal the quality of the student's preparation for advanced work in the field and the ability of the student to pursue graduate

work at the master's level. The examination also enables the student's committee or adviser to assist in planning a program that will overcome any deficiencies in the student's background.

A student who passes the examination may be recommended for advancement to candidacy for the master's degree. A student who fails the general examination may repeat it once. However, students failing the general examination a second time will not be considered for candidacy again.

In fields of study not requiring a general examination, the student may be advanced to candidacy upon the recommendation of his adviser and/or the graduate faculty of the field of study concerned. It is assumed that in these cases the recommendation for advancement to candidacy will be based on some other form of evaluation of the student's potential performance rather than on his performance in the general examination.

Final Examination. At the option of the faculty of the field of study, a final examination may be required of Plan B candidates for the master's degree. If required, it is designed to determine the candidate's achievement in the field of study at the master's level. This examination has several possible forms. It may be a seminar appearance, a written comprehensive examination, an oral examination, some equivalent, or a combination of these. If a final examination is required by the field of study, it must be given at least three weeks before the end of the term during which the degree is conferred.

Students failing the final examination may be permitted to repeat it only once. Students failing the examination a second time are irrevocably dropped from the program.

Summary of Procedure

1. Application for admission to the Graduate Division.
2. Preliminary conference; appointment of interim adviser. (Progress Report Form I submitted to Graduate Division, with copy to student.)
3. General examination, if required, admission to candidacy, and establishment of degree plan. (Form II submitted, with copy to student.)
4. Appointment of program committee/adviser. (Form III submitted, with copy to student.)
5. Diploma application, payment of graduation fee.
6. Final examination, if required. (Form VI submitted; student notified of results.)
7. Completion of course work.
8. Granting of the degree.

PLAN C (EXAMINATIONS)

Plan C is available in Agronomy and Soil Science, Economics, English, English as a Second Language, Linguistics, Mathematics and Public Health. Neither a thesis nor a certain number of course credits is required by this plan. Rather, the student is asked to demonstrate competence by examination.

A preliminary conference will be held to discuss with the students their objectives and how to meet them, and to determine the general program the students will follow in order to prepare themselves for the required examinations. The conference will be conducted by the chairman of the graduate field of study or by a designated member of the graduate faculty. The plan of study developed at this conference may include course work and/or independent study and research. Each field of study specifies its own requirements in addition to the following.

Examinations

General Examination (oral and/or written). A general exploratory examination will be given to determine if the intended candidate should be admitted to candidacy for the master's degree under Plan C, and to ascertain weaknesses in the student's academic preparation. This examination is designed to reveal the quality of the student's preparation for advanced work in the field and the ability of the student to pursue graduate work at the master's level. The examination will be conducted by the student's interim adviser and the graduate faculty of the field of study or a committee thereof consisting of at least three members of the faculty. It is given during the first semester of residence, and is from one to two hours in length. A student who fails the general examination may repeat it after three months only if a petition, recommended for approval by the graduate faculty of the major field of study, is approved by the dean of the Graduate Division. A student who fails the general examination a second time will not be considered for candidacy again.

Final Examination (written and oral). A final examination or series of examinations, written and oral, will be given to determine the candidate's comprehension of the field of study at the master's level. Since there are no course requirements for this plan, the final examinations will be designed to give the student opportunity to demonstrate a level of achievement consonant with the level of achievement required by Plans A and B. It is assumed that many students will prepare themselves for the examinations by taking courses recommended by advisers.

Specifications for the number of written examinations required, what they cover, and the amount of time required for each (two or three hours or more for written examinations and one or more for the oral portion) are set forth in the statement of requirements in each field of study. The written examinations may be given by the candidate's committee or by an examination committee of graduate faculty members constituted for that purpose.

The oral portion of the final examination follows the written portions and must be held at least three weeks before the end of the term during which the degree is conferred. It is conducted by the candidate's committee and is open to all members of the faculty. The examination must be announced in the *Manoa Campus Bulletin*.

Candidates failing the final examination may be allowed to repeat it upon petition approved by the graduate faculty concerned and the dean of the Graduate Division. Students failing the final examination a second time are irrevocably dropped from candidacy.

Summary of Procedure

1. Application for admission to the Graduate Division.
2. Preliminary conference; appointment of interim adviser (Progress Form I submitted to Graduate Division, with copy to student).
3. General examination and admission to candidacy (Form II submitted, with copy to student).
4. Appointment of program committee (chairman and at least two other members; Form III submitted, with copy to student).
5. Application for diploma, payment of graduation fees.
6. Final examinations (Form VI submitted, student notified of results).
7. Granting of degree.

DOCTORAL DEGREES

The degree of doctor of philosophy (Ph.D.) is awarded only for the most distinguished scholarly achievement. The quality of a candidate's work is judged by a variety of means culminating in a set of comprehensive and final examinations and a dissertation. The dissertation must be a significant original contribution to knowledge in the candidate's chosen field. The additional, special requirements in any given field of study, as stated in the *1973-74 Graduate Catalog*, are designed to prepare the candidate for the examinations and successful completion of the dissertation.

Candidates are accepted only in fields of study in which the teaching staff, library, laboratory equipment, and cooperative relationships with other research institutions make it possible to offer training. These are:

Agricultural Economics • Agronomy and Soil Science
 American Studies • Anthropology
 Asian Languages
 Astronomy • Biochemistry • Biophysics
 Botanical Sciences • Chemistry • Drama and Theatre
 Economics • Educational Psychology
 Electrical Engineering • Entomology • Genetics
 Geography • Geology and Geophysics
 History • Horticulture • Linguistics
 Mathematics • Meteorology • Microbiology
 Ocean Engineering • Oceanography • Pharmacology
 Philosophy • Physics • Physiology
 Political Science • Psychology • Sociology
 Zoology

The degree of doctor of education (Ed.D.) is awarded for distinguished academic preparation for professional practice in the field of education. The quality of a candidate's work is judged by a variety of experiences, culminating in an internship, a set of comprehensive and final examinations and a dissertation. The dissertation is based on a selected research problem and is a significant part of the candidate's field experience or internship. Two areas of specialization are available: Curriculum and Instruction, and Educational Foundations.

Faculty or staff members of the assistant level or higher rank may not be awarded a doctoral (or master's) degree by the University of Hawaii in the graduate field of study administered by the department in which they are employed.

Residence

The minimum residence requirement is three semesters of full-time work or the equivalent in credits at the University of Hawaii.

Time Allowed

A candidate for the doctoral degree will normally be expected to complete all requirements within six years after admission into the doctoral program.

Credits

There are no course credit requirements for the doctoral degrees; nonetheless, candidates may be advised or required to enroll in courses if, in the opinion of their advisers or the faculty in charge of the program of study, these courses are essential to preparation for the examinations required of all candidates. For information regarding required or recommended courses, see the section of the *1973-74 Graduate Division Catalog* appropriate to the field of study.

Language Requirements

At the option of the graduate field of study, intended candidates for the doctoral degree may be required to demonstrate comprehension of one foreign language. To test for comprehension, the students will be given a written examination. To pass the examination they must be able to read at reasonable speed research materials in their field of interest. English is not considered a foreign language in this context. The agency to administer the examination is designated by the graduate faculty of the fields of study, but all students within a particular field of study must be examined by the same agency for examinations offered by that agency.

No limit has been placed on the number of times students may take the examination. However, it must be passed before they can be advanced to candidacy and permitted to take the comprehensive examination.

For information on language test administrations, see "Language Requirements" in previous section.

Doctoral Committee

The doctoral committee may be selected at any time after a student becomes an intended candidate. The chairman of the graduate faculty of the field of study recommends to the dean of the Graduate Division appointment of a doctoral committee consisting of at least five members of the graduate faculty, including representatives of the minor field or fields. This committee, appointed by the dean of the Graduate Division, prescribes for the candidate a course of study in preparation for the comprehensive examination. The committee conducts the comprehensive and oral examinations described below. It also approves the dissertation research problem and dissertation itself (see below).

Examinations

Doctoral candidates must pass the following examinations:

Qualifying Examination (optional to fields of study)

Some fields of study require a doctoral qualifying examination. The purpose of this examination is to determine whether to encourage students to proceed in a doctoral program and if encouraged, to enable their advisers to assist them in planning a program that will familiarize them with the requisite knowledge and techniques of their chosen field of study. Fields of study requiring this examination give it early in the intended candidate's program (often coinciding with the master's final examination). It may be oral and/or written, and is conducted either by a special examination committee appointed by the chairman of the graduate field of study or by the student's doctoral committee.

Comprehensive Examination

The comprehensive examination is an important step in the sequence toward the Ph.D. degree. This examination covers the major field of study and work fundamental thereto and minor fields as may be required by the field of study. Its purpose is to ascertain the student's comprehension of the chosen field(s) of study.

The examination is given only after the student has completed the foreign language requirement, if required, and when in the judgment of the appointed doctoral committee, the student has had sufficient preparation in the field of study either through course work or other individual study and research. The comprehensive examination may be either oral or

oral and written. It is conducted by the student's doctoral committee composed of five members of the graduate faculty, at least one being from outside the major field of study and outside the department responsible for the field of study.

Students who fail the comprehensive examination may repeat it once at the discretion of the graduate faculty concerned. A student who fails the second examination is irrevocably dropped from the program.

The student who passes the examination is eligible, at the option of the various fields of study, to receive a University certificate indicating that all requirements of the doctoral except for the dissertation have been completed.

Final Examination

A final examination in defense of the dissertation, which may also cover related subjects, is required of all candidates for the doctoral degree. The examination is oral and is conducted by the candidate's doctoral committee. It is never less than one hour in length. Arrangements for it must be made at least one month in advance, and it must occur at least six weeks before the end of the session in which the degree is granted. The examination is announced in the *Manoa Campus Bulletin* and is open to the public.

Candidates failing the final examination may be allowed to repeat it upon petition approved by the graduate faculty concerned and the dean of the Graduate Division. Candidates failing the final oral examination twice are dropped from candidacy.

Candidates who pass the examination, all other requirements having been met, will be awarded the doctoral degree at the end of the appropriate term.

Dissertation

A minimum of three members of the doctoral committee of five must read the dissertation. The committee will make the decision with the student on which three will read the dissertation and affix their signatures to the signature page. This policy does not preclude all five members from reading the dissertation.

The doctoral dissertation for the Ph.D. is expected to be a scholarly presentation of an original contribution to knowledge resulting from independent research and should be suitable for publication. For the Ed.D. degree, the dissertation emphasizes the capability and competence of the candidate to apply research findings to the educational problem encountered in one's professional career.

When the dissertation topic has been approved by the doctoral committee, it will notify the Graduate Division. The candidate may then register for the dissertation research course (800) during the next registration period.

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 the dissertation 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 dissertation, and (2) a representative of the related field is placed on the student's doctoral committee.

Candidates should look to the chairman of their doctoral committee for primary direction regarding research methods and the preparation of results. It is the joint responsibility of the chairman and the student to see that all members of the committee are kept informed of the scope, plan, and progress of both the research and the dissertation. A brochure on instructions for preparation of the dissertation can be obtained at the Graduate Division office.

Copies of the completed dissertation must be submitted to committee members at least four weeks prior to the date of the final oral examination. The original and first carbon copies must be deposited with the Graduate Division by the deadline specified in instructions issued to all candidates at the beginning of the session in which the degree is conferred. Additional bound copies may be required by individual departments.

A majority of the members of the doctoral committee must approve both the dissertation and the examination on the dissertation. A minority member has the right of appeal to the Graduate Division Council for a final decision. The chairman must ensure that the final form of the dissertation, including revisions, and amendments agreed upon, is acceptable to a majority of the committee. The committee members express their approval on the signature page of the dissertation.

Candidates must be registered in the appropriate thesis research course (800) during the entire term in which the work for the degree is completed. Candidates who accumulate the maximum number of thesis research credits but who fail to complete all degree requirements must be registered for a minimum of one credit of thesis research during the term in which the degree is awarded.

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

Summary of Procedure

1. Application for admission to the Graduate Division.
2. Preliminary conference; appointment of interim adviser. (Progress Report Form I submitted to Graduate Division, with copy to student.)
3. Certification of proficiency in a foreign language where required; admission to candidacy. (Form II submitted, with copy to student.)
4. Appointment of doctoral committee. (Form III submitted, with copy to student.)
5. Approval of dissertation proposal. (Form IV submitted, with copy to student.)
6. Certification of proficiency in second foreign language, where required; comprehensive examination. (Form V submitted.)
7. Diploma application, payment of graduation and dissertation binding fee.
8. Abstract of dissertation filed with the Graduate Division, if applicable.
9. Final examination. (Form VI submitted, student notified of results.)
10. Copies of dissertation filed in Graduate Division.
11. Granting of the degree.

The above order is that usually followed, but at the discretion of the graduate faculty of any field of study, admission to candidacy and beginning of dissertation research may be delayed until after successful performance on the comprehensive examination.

EAST-WEST CENTER

The East-West Center, formally known as the Center for Cultural and Technical Interchange between East and West, is a federally-funded institution located on the UHM campus and administered by the University's board of regents. Its purpose is to foster better relations and mutual understanding among the peoples of the Pacific, Asia, and the United States.

Degree students, mid-career professionals seeking further knowledge and skills in short-term projects, and research-oriented fellows study, work and confer together in center programs. They are supported by annual grants from the U.S. Congress, supplemented in some fields by cost-sharing contributions from Asian-Pacific governments, regional agencies and private foundations. Scholarships and fellowships are awarded on the basis of two Asian-Pacific participants for each American grantee.

UHM provides academic instruction for degree students, predominantly at the graduate level. Degrees are awarded by the University. Some center program staff members hold joint faculty appointments with UHM.

Center institutes are devoted to problem-oriented programs in communication, culture learning, food population, and technology and development. A limited number of open grants is awarded to graduate students and fellows for study and research in fields outside the interests of the problem-related institutes.

For detailed information, consult the East-West Center Bulletin. Write Admissions Officer, East-West Center, 1777 East-West Road, Honolulu, Hawaii 96822.

UNIVERSITY OF HAWAII AT MANOA **SUMMARY OF ENROLLMENT, 1973-1974**

REGULAR CREDIT ENROLLMENT

Degree and Diploma Candidates 1st Sem. 2nd Sem.

| | | |
|---------------------------|--------------|--------------|
| Graduate Division | | |
| Doctor's Candidates | 797 | 784 |
| Master's Candidates | 2,738 | 2,593 |
| | <u>3,535</u> | <u>3,377</u> |

| | | |
|------------------------------|---------------|--------------|
| College of Arts and Sciences | | |
| Seniors | 1,943 | 1,577 |
| Juniors | 2,574 | 2,460 |
| Sophomores | 2,817 | 2,796 |
| Freshmen | 2,953 | 2,837 |
| | <u>10,287</u> | <u>9,670</u> |

| | | |
|------------------------------------|--------------|--------------|
| College of Business Administration | | |
| Seniors | 755 | 569 |
| Juniors | 700 | 697 |
| Sophomores | 494 | 541 |
| Freshmen | 260 | 294 |
| | <u>2,209</u> | <u>2,101</u> |

| | | |
|--------------------------------------|------------|------------|
| School of Travel Industry Management | | |
| Seniors | 117 | 84 |
| Juniors | 144 | 146 |
| Sophomores | 139 | 150 |
| Freshmen | 119 | 125 |
| | <u>519</u> | <u>505</u> |

| | | |
|---------------------------------------|--------------|--------------|
| College of Education | | |
| Professional Diploma Candidates | 327 | 351 |
| Seniors | 877 | 656 |
| Juniors | 647 | 671 |
| Sophomores | 34 | 61 |
| | <u>1,885</u> | <u>1,740</u> |

| | | |
|------------------------|------------|------------|
| College of Engineering | | |
| Seniors | 338 | 253 |
| Juniors | 223 | 234 |
| Sophomores | 145 | 138 |
| Freshmen | 151 | 148 |
| | <u>857</u> | <u>773</u> |

| | | |
|---------------------------------|------------|--------------|
| College of Tropical Agriculture | | |
| Seniors | 276 | 213 |
| Juniors | 403 | 416 |
| Sophomores | 199 | 258 |
| Freshmen | 112 | 128 |
| | <u>990</u> | <u>1,015</u> |

| | | |
|---------------------|----|----|
| School of Law | 52 | 53 |
|---------------------|----|----|

| | | |
|------------------------|------------|------------|
| School of Medicine | | |
| Medical Students | 194 | 200 |
| Seniors | 86 | 74 |
| Juniors | 44 | 49 |
| | <u>324</u> | <u>323</u> |

| | | |
|-------------------|------------|------------|
| School of Nursing | | |
| Seniors | 121 | 119 |
| Juniors | 109 | 115 |
| Sophomores | 99 | 101 |
| Freshmen | 26 | 24 |
| | <u>355</u> | <u>359</u> |

| | | |
|---|--------|--------|
| Total Degree and Diploma Candidates | 21,013 | 19,916 |
|---|--------|--------|

| | | |
|---|-----|-----|
| Not a Degree or Diploma Candidate | | |
| Special Graduate Students ... | 2 | 5 |
| Unclassified Undergraduate Students | 252 | 231 |
| Unclassified Graduate Students | 907 | 934 |
| No Data | 98 | 36 |

| | | |
|---|-------|-------|
| Total Non-Degree and Diploma Candidates | 1,259 | 1,206 |
|---|-------|-------|

| | | |
|--|---------------|---------------|
| TOTAL REGULAR CREDIT ENROLLMENT | 22,272 | 21,122 |
|--|---------------|---------------|

CONTINUING EDUCATION CREDIT PROGRAM

| | |
|--------------------|--------|
| Accelerated Term | |
| First | 1,907 |
| Second | 2,517 |
| Third | 2,330 |
| Fourth | 2,091* |
| Semester Programs: | |
| Summer | 2,134 |
| Fall | 2,948 |
| Spring | 3,079* |

* Estimated 4/15/74

SUMMER SESSION 1973

| | |
|-------------------|-------|
| First Term | 8,572 |
| Second Term | 4,702 |
| Third Term | 4,687 |

INDEX

- Abbreviations in course listings, 3
- Absence from classes, 15
- Academic advising
(*See individual colleges*)
- Academic distinction, 19
- Academic failure, 17
- Academic probation, 17
- Academic regulations, 12
- Academic year, 7
- Accounting courses, 48
- Accreditation of the University, 7
- Activities for students, 8
- Administrative intern program, 54
- Admission information: Undergraduates, 12;
Graduate students, 80
(*See also individual colleges*)
- Admission Test for Graduate Study in
Business, 82
- Advance tuition payment, 10
- Advanced placement exams, 16
- Advisers (*See individual colleges*)
- Aerospace studies program, 20
- Agricultural biochemistry courses, 71
- Agricultural economics courses, 71
- Agricultural engineering courses, 71
- Agricultural Experiment Station, 75
- Agriculture, College of Tropical, 70
- Agriculture courses, 71
- Agriculture curricula, 70
- Agronomy courses, 71
- Allied medical sciences, 62
- American studies courses, 26
- Anatomy courses, 63
- Anesthesiology, 63
- Animal sciences courses, 72
- Anthropology courses, 27
- Application fee
Undergraduates, 12
Graduate students, 80
- Application for admission
Undergraduates, 12
Graduate students, 81
- Application for degree, 18
- Applied music courses, 42
- Arabic, 38
- Architecture courses, 27
- Armenian, 38
- Art courses, 28
- Arts and Sciences, College of, 22**
- Asian languages, 31
- Asian studies courses, 28
- Assistantships for graduate students, 80
- Associated Students of the
University of Hawaii (ASUH), 8
- Astronomy and physics courses, 43
- Athletics and sports, 8
- Attendance at classes, 15
- Audiology courses, 63
- Auditors, 12; registration, 14
- Avestan, 38
- Awards and Prizes, 8
- Baccalaureate requirements, 17
- B-average rule for graduate students, 84
- Bachelor's certification, Grad Division, 83
- Bachelor's degrees, programs leading to, 17,
(*See also individual colleges*)
- Balinese, 38
- Batak, 38
- Bengali courses, 39
- Biochemistry courses, 63
- Biological sciences, 29
- Biology courses, 29
- Biomedical science courses, 64
- Biophysics courses, 63
- Bisayan, 38
- Botany courses, 29
- Budget (*See Tuition and fees*)
- Bureau of Student Activities, 8
- Burmese courses, 39
- Business, admission test for
graduate study (ATGSB), 82
- Business Administration, College of, 47**
- Business analysis and statistics courses, 48
- Business economics courses, 48
- Business education program, 52
- Business, graduate courses, 49
- Business law courses, 48
- Cafeterias, 9
- Calendar, University, 2
Graduate Division, 79
- Cambodian courses, 39
- Campus Center Board, 8
- Campus housing, 9
- Career planning office, 8
- Center for Engineering Research, 59
- Ceramics courses, 28
- Certificates (*See subject listings*)
- Certification of degree, 83
- Certification programs, 54
- Cham, 38
- Change in study programs
Undergraduates, 15
Graduate students, 83
- Chemistry courses, 30
- Chinese, language courses, 31;
literature courses, 32
- Civil engineering courses, 59
- Class attendance, 15
- Classics
Undergraduate major, 23
Master's program, 86, 88
- Classification of students, 12; 83
- College aptitude tests, 13
- Communication courses, 30
- Community college teaching program, 52
- Community health, 64
- Comparative literature major, 19
- Comparative medicine division, 62
- Computer sciences, 39
- Conference program, 76
- Conferring of degrees, 85
- Continuation at the University, 17; 84
- Continuing Education and Community
Service, College of, 75**
- Continuing education for women, 76
- Cooperating institutions, 7
- Correspondence course credits, 84
- Cooperative Extension Service, 75
- Core requirements, 17
- Counseling and Testing Center, 8
- Course changes, 15; 83
- Course examinations, 16
- Course loads, 83
- Course numbering system, 3
- Credit and grade-point requirements, 18; 84
- Credit by examination, 16; 84
- Credit for previous foreign
language study, 16
- Credit/No credit option, 16; 84
- Credits, Undergraduates, 15
Graduate students, 83
- Credits, variable, 15; 83
- Curricula:
Arts and Sciences, 22
Business Administration, 47
Education, 50
Engineering, 58
Health Sciences and Social Welfare
(*See individual schools*)
Tropical Agriculture, 70
Human Resources Development, 73
- Curricular requirements, general, 17
- Curriculum and instruction courses, 54
- Deficiencies, undergraduate, 84
- Deadlines for applications, 12; 81
- Degree applications, 18
- Degree programs, 17
(*See also respective colleges*)
- Denial of registration, 84
- Dental hygiene courses, 66
- Design courses (*See Art and Architecture*)
- Dismissal and suspension, 17
- Doctor of education, 50; 89
- Doctor of philosophy, 89
- Dormitories, 9
- Drama and theatre courses, 31
- Dutch courses, 36
- Early admission program, 13
- Early childhood education program, 50
- East Asian languages, 31
- East Asian literature, 32
- East-West Center, 7
- Economics courses, 32
- Economics, business, courses, 48
- Education, bachelor of, 50
- Education, College of, 50**

- Education, doctor of, 50; 89
- Education, master of, 50; 86
- Educational administration courses, 55
- Educational communications and technology courses, 55
- Educational foundation courses, 55
- Educational psychology courses, 56
- Electrical engineering courses, 60
- Elementary education program, 51
- Employment, student, 8
- Engineering, College of, 58**
- English courses, 33
- English as a second language courses, 34
- English Language Institute, 19
courses, 34
- Enrollment, University, 92
- Entomology courses, 72
- Entrance requirements, 13; 81
- Equal opportunity policy, 7
- Ethnic studies program, 21
- European languages courses, 34
- European literature courses, 34
- Evening courses, 75
- Examination, credit by, 16; 84
- Examinations, in courses, 16
- Exchange program, National Student, 21
- Expenses, student, 10

- Failure, academic, 17
- Fashion design, textiles and
merchandising courses, 73
- Fees and tuition, 10
- Fellowships and assistantships, 80
- Field services courses, 56
- Finance courses, 48
- Financial aids, 8
- Financial obligations, 9
- Fine arts, bachelor of, 25
- Food and nutritional sciences courses, 74
- Food science and technology courses, 72
- Food services, 9
- Foreign language placement exams, 16
- Foreign student admission, 13
- Foreign student adviser, 8
- Foreign students' rights and freedoms, 9
- French courses, 35
- Freshmen admissions, 12
Residents, 13
Out-of-state, 13
- Freshmen seminar program, 21
- Full-time students, definition of, 12

- GI bill, 8
- General curricular requirements, 17
- General education core, 17
- General science courses, 45
- Genetics courses, 64
- Geography courses, 36
- Geology courses, 37
- Geophysics courses, 37
- German courses, 35
- Grade-point ratios, 16; 84
- Grade-point requirements, 16; 84
- Grades, 15
- Graduate assistantships, 80
- Graduate credit for seniors, 18; 84
- Graduate Division, 79
Admission information, 80
Registration and credits, 83
Requirements—continued registration, 84
Master's Degrees
Plan A, 87
Plan B, 88
Plan C, 89
Doctoral degrees, 89
- Graduate Record Examination, 82
- Graduation fee requirements, 11; 80
- Graduation requirements, baccalaureate, 17
- Greek courses, 35

- Hawaii English Language Program (HELP), 20**
- Handicapped student services, 21
- Hawaii Agricultural Experiment Station, 75
- Hawaiian courses, 39
- Hawaiian studies major, 19
- Health and physical education courses, 56
- Health insurance plan, 8
- Health requirements, 9
- Health Sciences and Social Welfare, College of, 62**
- Health service, student, 8
- Hindi courses, 39
- History courses, 37
- Home economics courses, 74
- Honors program and courses, 19
- Housing, student, 9
- Human development courses, 74
- Human resources development curricula, 73

- "I" grades (Incompletes), 15; 84
- Ilokano courses, 39
- Indo-Pacific languages, 38
- Indonesian courses, 39
- Industrial education courses, 55
- Information about University, 7
- Information and computer sciences courses, 39
- Injuries in sports, 8
- Inquiries by prospective students, 7
- Insurance courses, 48
- Insurance, student health, 8
- Intercollegiate athletics, 8
- Interdisciplinary courses, 19
- International Student Office, 8
- Intramural-extramural sports, 8
- Italian courses, 36

- Japanese, language courses, 32
literature courses, 32
- Javanese, 38
- Journalism courses, 34

- Ka Leo, 8 (*See also* Journalism)
- Kokua, 21
- Korean, language courses, 32
literature courses, 32

- Language placement exams, 16
- Language requirements
Master's degrees, 86
Doctoral degrees, 90
- Lao courses, 39
- Late registration, 14; 83
- Latin courses, 35
- Law, business, courses, 48
- Law School, 77
- Liberal studies program, 19
- Library Studies, School of, 78
- Linguistics courses, 40
- Literature courses
East Asian, 32; English, 33;
European, 34
- Living accommodations, 9
- Loan programs, 8
- Look Laboratory, 59
- Lyceum program, 76
- Lockers, book, 9

- Madurese, 38
- Majors and requirements:
Arts and Sciences, 22
Business Administration, 47
Education, 50
Engineering, 58
Tropical Agriculture, 70; 73
- Management courses, 48
- Manuscript criticism service, 76
- Marathi courses, 39
- Marine option program, 21
- Marketing courses, 49
- Mass media programming, 76
- Master's degree programs, 86
- Mathematics courses, 40
- Maximum registration, 15
- Mechanical engineering courses, 61
curriculum, 58
- Media specialist program, 54
- Media, training in
(*See* Educational communications)
- Medical clearance for registration, 9
- Medical history division, 62
- Medical technology division, 62
- Medicine courses, 64
- Medicine, School of, 62**
- Merchandising, textiles, fashion
design courses, 73
- Meteorology courses, 41
- Microbiology courses, 29
- Military science program, 20
- Miller Analogies Test, 82
- Minangkabau, 38
- Mon. Muong, 38
- Music courses, 41
- Music degree program, 25

- National Student Exchange program, 21
- No credit/credit option, 16; 84
- Noncredit courses, 76
- Nonresident students
admission of, 13
tuition, 10
- Nontraditional grading system, 81
- Numbering of courses, 3
- Nursing, School of, 66**
- Nutrition courses, 74

- Obstetrics and gynecology, 65
- Ocean engineering courses, 61
- Oceanography courses, 42
- Off-campus credit courses, 75
- Off-campus housing, 9
- Out-of-state student admission, 13
- Out-of-state student fees, 10

- Pacific islands program, 42
- Pacific languages, 38
- Pacific urban studies and planning
program courses, 42
- Pali language, 39
- Parking and traffic, 10
- Part-time employment, 8
- Part-time students, 12
- Pass-fail program (*See* Credit/no credit)
- Pathology courses, 65
- Payment of fees, 10; 80
- Pediatrics, 65
- Persian, 38
- Personnel and industrial relations
courses, 49
- Pharmacology courses, 65
- Philosophy courses, 43
- Physical education courses, 56

- Physics and astronomy courses, 43
- Physiology courses, 65
- Placement office, 8
- Plant pathology courses, 73
- Plant physiology, 73
- Plan A, 87
- Plan B, 88
- Plan C, 89
- Polish courses, 36
- Political science courses, 44
- Population studies certificate, 20; courses, 44
- Portuguese courses, 36
- Prakrit, 39
- Preprofessional programs, 26
- Prerequisites for courses, 15
- Preservice teacher education program, 50
- Probation, academic, 17
- Professional diploma students, admission of, 14
- Professional diploma program, 53
- Progress report forms, 87
- Psychiatry courses, 65
- Psychology courses, 44
- Public Health, School of, 67**
- Radiology, 65
- Readmission
 - Undergraduates, 14, 17
 - Graduate students, 80
- Recreation leadership program, 52
- Refunds, 11
- Registration fees, 10; 80
- Registration information
 - Undergraduates, 14
 - Graduate students, 83
- Registration in ELI, 19
- Religion courses, 45
- Renewal of application, 80
- Reproductive biology program, 63
- Requirements
 - Admission of undergraduates, 12
 - Admission of graduate students, 80
 - Credit and grade-point, 18; 84
 - Continued registration, 17; 84
 - Graduate degrees, 84
 - Undergraduate degrees, 17
 - University curricular, 17
- Research administration office, 7
- Research assistantships, 80
- Reserve Officer Training Corps (ROTC), 20
- Residence accommodations, 9
- Residence regulations, 11
- Residence requirements for degrees,
 - Undergraduates, 18
 - Master's, 86
 - Doctoral, 90
- Resident student admission, 13
- Returnees, admission of, 14; 80
- Russian courses, 36
- Russian area studies certificate, 21
- Sanskrit courses, 39
- Scholarships and grants
 - Undergraduates, 8
 - Graduate students, 80
- Scholastic aptitude test, 13
- School counseling certificate program, 54
- School psychology certificate program, 54
- Science, general, courses, 45
- Sculpture courses, 28
- Secondary education program, 51
- Selected studies program, 19
- Services to handicapped, 21
- Social security numbers, 13
- Social Work, School of, 69**
- Sociology courses, 46
- Soil science courses, 71
- Spanish courses, 36
- Special education courses, 57
- Special instructional programs, 19
- Speech courses, 46
- Speech-communication courses, 46
- Speech pathology and audiology, 63
- Sports program, 8
- Stieng, 38
- Stomatology, 63
- Student activities, 8
- Student classification, 12; 83
- Student conduct, 9
- Student employment, 8
- Student exchange program, 21
- Student health service, 8
- Student housing, 9
- Student regulations, 9
- Student services, 8
- Student teaching, 53
- Study Abroad, 75
- Summer session, 10; 83
- Sundanese, 38
- Surgery, 65
- Suspension and dismissal, 17
- Tagalog courses, 39
- Tahitian, 38
- Tamil courses, 39
- Test of English as a Foreign Language (TOEFL), 81
- Testing center, 8
- Tests for admission, 13; 81
- Textile design courses, 28
- Textiles and merchandising, 73
- Thai courses, 39
- Thesis requirements, 87; 91
- Time limitations
 - Bachelor's degrees, 18
 - Master's degrees, 86
 - Doctoral degrees, 90
- Traineeships, 80
- Traffic and parking, 10
- Transcripts, 11; 13; 81; 85
- Transfer of credits, Graduate Division, 87
- Transfer within University, 15
- Transfer students admission, 13
- Transportation courses, 49
- Travel Industry Management, School of, 49**
- courses, 49
- Tropical Agriculture, College of, 70**
- Tropical medicine courses, 66
- Tuition and fees, 10
- Tutoring, 21
- Unclassified students, 83
 - (See also Continuing Education)
 - admission of, 14
- Undergraduate admission to University, 12
- Undergraduate degree requirements, 17
- Unit of high school work, 13
- University curricular requirements, 17
- University Theatre
 - (See Drama and theatre)
- Variable credit courses, 15; 83
- Veterans admission, 8
- Vietnamese courses, 39
- Vocational agriculture program, 52
- Vocational home economics program, 52
- "W" (Withdrawal) grades, 15; 84
- Weapons, prohibition of, 10
- Weaving courses, 28
- Withdrawal from courses or University, 15; 83
- Women's studies major, 19
- X-rays for students, 9
- Zoology courses, 29

UNIVERSITY OF HAWAII BOARD OF REGENTS

| | |
|--|------|
| Harriet Mizuguchi, Chairperson, Oahu | 1975 |
| Kiyoshi Sasaki, Vice-Chairman, Kauai | 1975 |
| Sandra H. Ebesu, Oahu | 1974 |
| Roger C. Evans, Oahu | 1974 |
| Wallace S. Fujiyama, Oahu | 1976 |
| John A. Hoag, Hawaii | 1977 |
| Ruth Oshiro, Oahu | 1976 |
| Herbert M. Richards, Jr., Hawaii | 1974 |
| Tom. T. Shibano, Maui | 1977 |

THE UNIVERSITY OF HAWAII SYSTEM 1973-74

Harlan Cleveland, President
Bachman Hall
2444 Dole Street • Honolulu, Hawaii 96822

The University of Hawaii at Manoa
Wytze Gorter, Chancellor
2500 Campus Road • Honolulu, Hawaii 96822

The University of Hawaii at Hilo
Paul M. Miwa, Chancellor
1643 Kilauea Avenue • Hilo, Hawaii 96720

University of Hawaii, West Oahu College
Richard H. Kosaki, Chancellor
2444 Dole Street • Honolulu, Hawaii 96822

Hilo College
Charles M. Fullerton, Acting Provost
P.O. Box 1357 • Hilo, Hawaii 96720

Hawaii Community College
Mitsugu Sumada, Provost
1175 Manono Street • Hilo, Hawaii 96720

Honolulu Community College
Clyde Yoshioka, Provost
874 Dillingham Boulevard • Honolulu, Hawaii 96817

Kapiolani Community College
Frederick P. Haehnlen, Provost
620 Pensacola Street • Honolulu, Hawaii 96814

Kauai Community College
Edward T. White, Provost
RR 1, Box 216 • Lihue, Kauai 96766

Leeward Community College
Ralph M. Miwa, Provost
96-045 Ala Ike • Pearl City, Oahu 96782

Maui Community College
H. Glen Fishbach, Provost
310 Kaahumanu Avenue • Kahului, Maui 96732

Windward Community College
LeRoy J. King, Provost
45-720 Keaahala Road • Kaneohe, Oahu 96744

CORRESPONDENCE DIRECTORY

Detailed information on specific items may be obtained by writing to the offices listed below.

**Add: University of Hawaii at Manoa
Honolulu, Hawaii 96822**

Undergraduate Admissions

Director, Admissions and Records
Bachman Hall 125
2444 Dole Street

Graduate Student Admissions

Admissions, Graduate Division
Spalding Hall 352-A
2540 Maile Way

Dormitories

Student Housing Office
Johnson Hall A
2555 Dole Street

Scholarships and Loans

Financial Aids Office
1627-A Bachman Place

Curriculum Information

Dean of Student Services
(College or School)

Graduate Assistantships

Chairman of (Department)

Summer Session

Dean of Summer Session
Krauss Hall 101
2500 Dole Street

Student Services

Dean of Student Affairs
Hawaii Hall 102
2500 Campus Road

Student Activities

Bureau of Student Activities
Campus Center
2465 Campus Road

General Information

University Relations
Hawaii Hall 106
2500 Campus Road

UNIVERSITY OF HAWAII AT MANOA
HONOLULU, HAWAII 96822