

H378  
H312  
v.43  
no.3



HAWAIIAN COLLECTION  
GREGG M. SINCLAIR LIBRARY  
UNIVERSITY OF HAWAII

JUN 5 1964

# UNIVERSITY OF HAWAII

GENERAL CATALOGUE

1964-1965

# **UNIVERSITY OF HAWAII**

**GENERAL CATALOGUE**

**1964-1965**

**PRICE 50 CENTS**

| 1964      |    |    |    |    |    |    | 1965     |    |    |    |    |    |    | 1965   |    |    |    |    |    |    |
|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|--------|----|----|----|----|----|----|
| S         | M  | T  | W  | T  | F  | S  | S        | M  | T  | W  | T  | F  | S  | S      | M  | T  | W  | T  | F  | S  |
| SEPTEMBER |    |    |    |    |    |    | JANUARY  |    |    |    |    |    |    | MAY    |    |    |    |    |    |    |
|           |    | 1  | 2  | 3  | 4  | 5  |          |    |    |    |    | 1  | 2  |        |    |    |    |    |    | 1  |
| 6         | 7  | 8  | 9  | 10 | 11 | 12 | 3        | 4  | 5  | 6  | 7  | 8  | 9  | 2      | 3  | 4  | 5  | 6  | 7  | 8  |
| 13        | 14 | 15 | 16 | 17 | 18 | 19 | 10       | 11 | 12 | 13 | 14 | 15 | 16 | 9      | 10 | 11 | 12 | 13 | 14 | 15 |
| 20        | 21 | 22 | 23 | 24 | 25 | 26 | 17       | 18 | 19 | 20 | 21 | 22 | 23 | 16     | 17 | 18 | 19 | 20 | 21 | 22 |
| 27        | 28 | 29 | 30 |    |    |    | 24       | 25 | 26 | 27 | 28 | 29 | 30 | 23     | 24 | 25 | 26 | 27 | 28 | 29 |
|           |    |    |    |    |    |    | 31       |    |    |    |    |    |    | 30     | 31 |    |    |    |    |    |
| OCTOBER   |    |    |    |    |    |    | FEBRUARY |    |    |    |    |    |    | JUNE   |    |    |    |    |    |    |
|           |    |    | 1  | 2  | 3  |    | 1        | 2  | 3  | 4  | 5  | 6  |    | 1      | 2  | 3  | 4  | 5  |    |    |
| 4         | 5  | 6  | 7  | 8  | 9  | 10 | 7        | 8  | 9  | 10 | 11 | 12 | 13 | 6      | 7  | 8  | 9  | 10 | 11 | 12 |
| 11        | 12 | 13 | 14 | 15 | 16 | 17 | 14       | 15 | 16 | 17 | 18 | 19 | 20 | 13     | 14 | 15 | 16 | 17 | 18 | 19 |
| 18        | 19 | 20 | 21 | 22 | 23 | 24 | 21       | 22 | 23 | 24 | 25 | 26 | 27 | 20     | 21 | 22 | 23 | 24 | 25 | 26 |
| 25        | 26 | 27 | 28 | 29 | 30 | 31 | 28       |    |    |    |    |    |    | 27     | 28 | 29 | 30 |    |    |    |
| NOVEMBER  |    |    |    |    |    |    | MARCH    |    |    |    |    |    |    | JULY   |    |    |    |    |    |    |
| 1         | 2  | 3  | 4  | 5  | 6  | 7  | 1        | 2  | 3  | 4  | 5  | 6  |    |        |    |    | 1  | 2  | 3  |    |
| 8         | 9  | 10 | 11 | 12 | 13 | 14 | 7        | 8  | 9  | 10 | 11 | 12 | 13 | 4      | 5  | 6  | 7  | 8  | 9  | 10 |
| 15        | 16 | 17 | 18 | 19 | 20 | 21 | 14       | 15 | 16 | 17 | 18 | 19 | 20 | 11     | 12 | 13 | 14 | 15 | 16 | 17 |
| 22        | 23 | 24 | 25 | 26 | 27 | 28 | 21       | 22 | 23 | 24 | 25 | 26 | 27 | 18     | 19 | 20 | 21 | 22 | 23 | 24 |
| 29        | 30 |    |    |    |    |    | 28       | 29 | 30 | 31 |    |    |    | 25     | 26 | 27 | 28 | 29 | 30 | 31 |
| DECEMBER  |    |    |    |    |    |    | APRIL    |    |    |    |    |    |    | AUGUST |    |    |    |    |    |    |
|           |    | 1  | 2  | 3  | 4  | 5  |          |    |    | 1  | 2  | 3  |    | 1      | 2  | 3  | 4  | 5  | 6  | 7  |
| 6         | 7  | 8  | 9  | 10 | 11 | 12 | 4        | 5  | 6  | 7  | 8  | 9  | 10 | 8      | 9  | 10 | 11 | 12 | 13 | 14 |
| 13        | 14 | 15 | 16 | 17 | 18 | 19 | 11       | 12 | 13 | 14 | 15 | 16 | 17 | 15     | 16 | 17 | 18 | 19 | 20 | 21 |
| 20        | 21 | 22 | 23 | 24 | 25 | 26 | 18       | 19 | 20 | 21 | 22 | 23 | 24 | 22     | 23 | 24 | 25 | 26 | 27 | 28 |
| 27        | 28 | 29 | 30 | 31 |    |    | 25       | 26 | 27 | 28 | 29 | 30 |    | 29     | 30 | 31 |    |    |    |    |

# UNIVERSITY OF HAWAII BULLETIN

VOLUME XLIII

May 1964

Number 3

The University of Hawaii Bulletin is published quarterly at the University of Hawaii, 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.

Printed by the Honolulu Lithograph Company, Ltd.

## 1964-65 CALENDAR

### First Semester

|  |  |
|--|--|
| September 14-15, Monday and Tuesday.....       | Orientation of freshmen  |
| September 14, Monday.....                      | Registration: seniors, classified graduate students;<br>unclassified foreign graduate students   |
| September 15, Tuesday.....                     | Registration: juniors; sophomores in Selected Studies Program  |
| September 16, Wednesday.....                   | Registration: sophomores; freshmen in<br>Selected Studies Program  |
| September 17-18, Thursday and Friday.....      | Registration: freshmen   |
| September 19, Saturday.....                    | 8:00 a.m. to 2:00 p.m. Registration: unclassified<br>students and auditors   |
| September 21, Monday.....                      | Instruction begins   |
| September 25, Friday.....                      | Last day of registration for credit  |
| October 3, Saturday.....                       | Primary Election Day (holiday)   |
| October 19, Monday.....                        | Last day of withdrawal from courses without "grade" penalty  |
| November 3, Tuesday.....                       | General Election Day (holiday)   |
| November 11, Wednesday.....                    | Veterans' Day (holiday)  |
| November 13, Friday.....                       | Deficiency reports due   |
| November 25, Wednesday.....                    | Last day for removal of "Incompletes"  |
| November 26-28, Thursday through Saturday..... | Thanksgiving recess  |
| December 7, Monday.....                        | Last day for withdrawal from courses   |
| December 7-18, Monday through Saturday.....    | Pre-registration: <i>currently enrolled</i><br>seniors, juniors, classified graduate students; unclassified<br>foreign graduate students |
| December 19, Saturday.....                     | Last day before Christmas recess   |
| January 4, Monday.....                         | Instruction resumes  |
| January 16, Saturday.....                      | Last day of instruction, first semester  |
| January 18, Monday.....                        | Final examinations begin   |
| January 23, Saturday.....                      | First semester ends  |

### Second Semester

|   |   |
|---|---|
| February 4, Thursday.....                   | Registration: new juniors, seniors, classified graduate<br>students; unclassified foreign graduate students;<br>all Selected Studies students |
| February 5, Friday.....                     | Registration: freshmen  |
| February 6, Saturday.....                   | 8:00 a.m. to 2:00 p.m. Registration: unclassified<br>students and auditors  |
| February 8, Monday.....                     | Instruction begins  |
| February 12, Friday.....                    | Last day of registration for credit   |
| February 22, Monday.....                    | Presidents' Day (holiday)   |
| March 8, Monday.....                        | Last day of withdrawal from courses without "grade" penalty   |
| March 24, Wednesday.....                    | Last day for removal of "Incompletes"   |
| March 26, Friday.....                       | Prince Kuhio Day (holiday)  |
| April 2, Friday.....                        | Deficiency reports due  |
| April 16, Friday.....                       | Good Friday (holiday)   |
| April 17-24, Saturday through Saturday..... | Easter recess   |
| May 3, Monday.....                          | Last day for withdrawal from courses  |
| May 30, Sunday.....                         | Memorial Day (holiday)  |
| May 31, Monday.....                         | Holiday (Monday after a holiday falling on Sunday)  |
| June 1, Tuesday.....                        | Last day of instruction   |
| June 2, Wednesday.....                      | Final examinations begin  |
| June 8, Tuesday.....                        | Second semester ends  |
| June 13, Sunday.....                        | Commencement  |

### Summer Session

|                      |                                     |
|----------------------|-------------------------------------|
| June 21, Monday..... | Registration day for Summer Session |
|----------------------|-------------------------------------|

## 1965-66

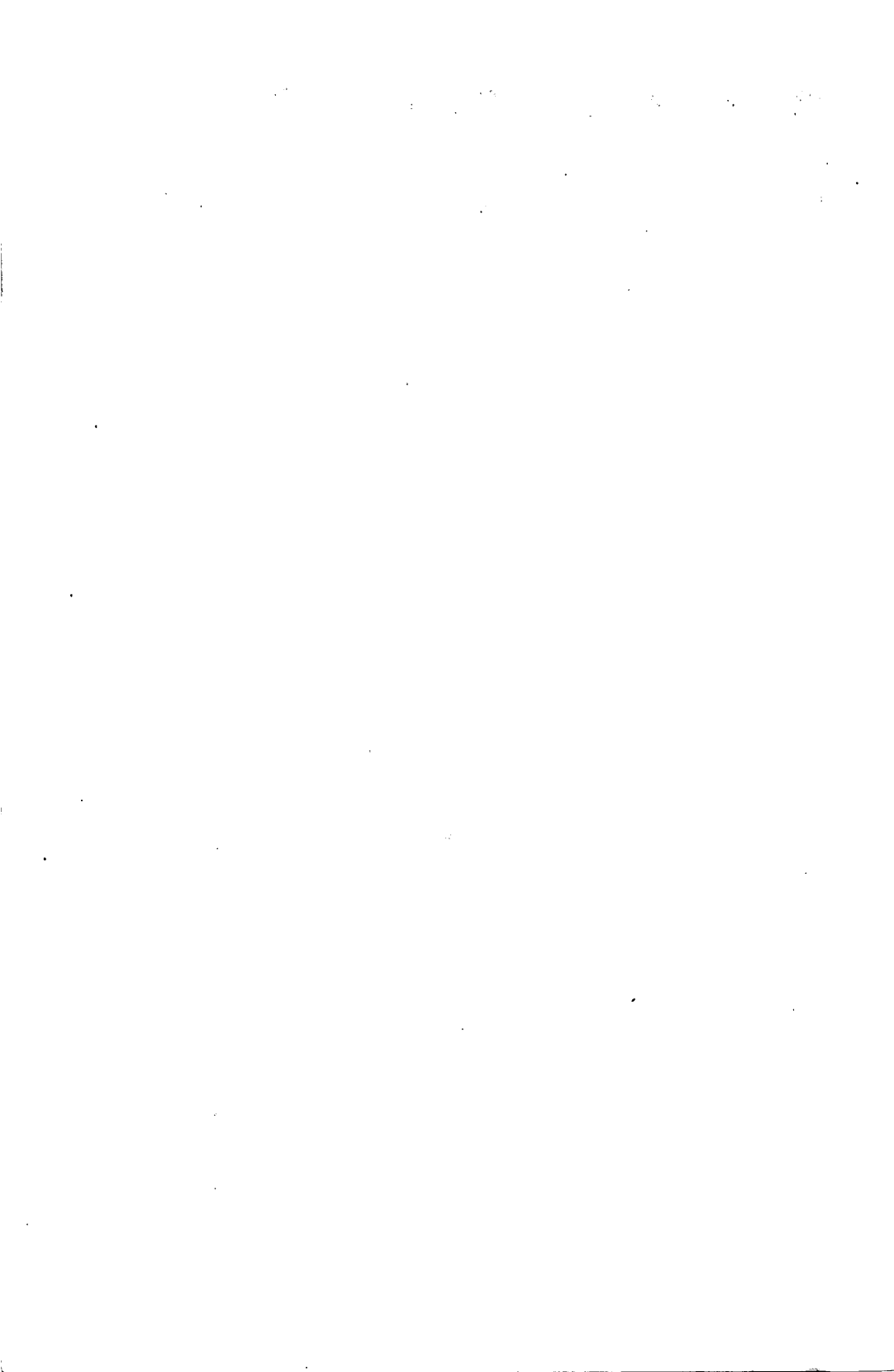
|   |              |
|---|--------------|
| September 13-18, Monday through Saturday..... | Registration |
|---|--------------|



# CONTENTS

|  | PAGE |
|--|------|
| GENERAL INFORMATION .....                    | 7    |
| ACADEMIC INFORMATION .....                   | 18   |
| English Language Institute .....             | 36   |
| Honors Courses .....                         | 38   |
| Air Science Courses .....                    | 39   |
| Military Science Courses .....               | 39   |
| COLLEGE OF ARTS AND SCIENCES .....           | 42   |
| Anthropology .....                           | 50   |
| Art .....                                    | 53   |
| Asian and Pacific Languages .....            | 59   |
| Asian Studies .....                          | 64   |
| Botany .....                                 | 65   |
| Chemistry .....                              | 67   |
| Drama and Theatre .....                      | 70   |
| Economics .....                              | 72   |
| English .....                                | 75   |
| European Languages .....                     | 80   |
| General Science .....                        | 86   |
| Geography .....                              | 86   |
| Geology .....                                | 89   |
| History .....                                | 92   |
| Interdisciplinary Studies .....              | 96   |
| Mathematics .....                            | 96   |
| Meteorology .....                            | 98   |
| Microbiology .....                           | 100  |
| Music .....                                  | 102  |
| Philosophy .....                             | 107  |
| Physics .....                                | 110  |
| Political Science .....                      | 113  |
| Psychology .....                             | 117  |
| Religion .....                               | 120  |
| Social Sciences .....                        | 121  |
| Sociology .....                              | 121  |
| Speech .....                                 | 125  |
| Zoology .....                                | 129  |
| COLLEGE OF BUSINESS ADMINISTRATION .....     | 133  |
| Accounting .....                             | 136  |
| Business Analysis and<br>Statistics .....    | 137  |
| Business Economics .....                     | 138  |
| Finance .....                                | 139  |
| Hotel Management and<br>Tourism .....        | 140  |
| Insurance .....                              | 140  |
| Law .....                                    | 141  |
| Management .....                             | 141  |
| Marketing .....                              | 142  |
| Personnel and Industrial<br>Relations .....  | 143  |
| Real Estate .....                            | 143  |
| COLLEGE OF EDUCATION .....                   | 145  |
| Educational Administration ..                | 154  |
| Educational Psychology .....                 | 155  |
| Elementary Education .....                   | 157  |
| Health and Physical<br>Education .....       | 159  |
| History and Philosophy<br>of Education ..... | 163  |
| Industrial Education .....                   | 164  |
| Library Science .....                        | 165  |
| Secondary Education .....                    | 166  |
| COLLEGE OF ENGINEERING .....                 | 170  |
| Civil .....                                  | 175  |
| Electrical .....                             | 179  |
| General .....                                | 181  |
| Mechanical .....                             | 182  |
| COLLEGE OF GENERAL STUDIES .....             | 184  |
| COLLEGE OF NURSING .....                     | 186  |
| Dental Hygiene .....                         | 190  |
| Medical Technology .....                     | 191  |
| Nursing .....                                | 191  |

|  | PAGE                            |
|--|---------------------------------|
| <b>COLLEGE OF TROPICAL AGRICULTURE</b> .....   | 193                             |
| Agriculture (unclassified) .... 204            | Food Science and                |
| Agricultural Biochemistry .... 204             | Technology ..... 211            |
| Agricultural Economics .... 204                | Home Economics ..... 212        |
| Agricultural Engineering .... 207              | Horticulture ..... 215          |
| Agronomy and                                   | Nutrition ..... 216             |
| Soil Science ..... 207                         | Plant Pathology ..... 217       |
| Animal Science ..... 209                       | Plant Physiology ..... 217      |
| Entomology ..... 210                           | Poultry Science ..... 218       |
| <b>GRADUATE SCHOOL</b> .....                   | 219                             |
| American Studies ..... 220                     | Oceanography ..... 223          |
| Biochemistry and Biophysics 220                | Overseas Operations Program 225 |
| Genetics ..... 222                             | Public Health ..... 226         |
| Linguistics ..... 223                          | Social Work ..... 227           |
| <b>EAST-WEST CENTER</b> .....                  | 230                             |
| Institute of American Studies Seminars .....   | 232                             |
| <b>FACULTY AND STAFF</b> .....                 |                                 |
| Board of Regents .....                         | 237                             |
| Former Presidents .....                        | 237                             |
| Administrative Officers .....                  | 238                             |
| Directors of Special Units .....               | 239                             |
| Emeriti .....                                  | 239                             |
| Visiting Faculty .....                         | 240                             |
| Instruction .....                              | 241                             |
| College of General Studies .....               | 285                             |
| Library .....                                  | 285                             |
| Pacific Biomedical Research Center .....       | 286                             |
| Communications Center .....                    | 286                             |
| Economic Research Center .....                 | 286                             |
| Bureau of Educational Research .....           | 287                             |
| Engineering Experiment Station .....           | 287                             |
| Hawaii Institute of Geophysics .....           | 287                             |
| Industrial Relations Center .....              | 288                             |
| Land Study Bureau .....                        | 288                             |
| Legislative Reference Bureau .....             | 288                             |
| Hawaii Marine Laboratory .....                 | 289                             |
| Peace Corps .....                              | 289                             |
| Social Science Research Institute .....        | 290                             |
| Statistical and Computing Center .....         | 290                             |
| Hawaii Agricultural Experiment Station .....   | 290                             |
| Cooperative Extension Service .....            | 294                             |
| Office of Student Personnel .....              | 297                             |
| Affiliate Graduate Faculty .....               | 299                             |
| <b>SUMMARY OF ENROLLMENT FOR 1963-64</b> ..... | 303                             |
| <b>INDEX</b> .....                             | 305                             |
| <b>CAMPUS MAP</b> .....                        | 311                             |



# GENERAL INFORMATION

THE UNIVERSITY OF HAWAII is the principal public institution of higher learning in the newest of the United States. Its aim is to provide high-caliber instruction, research, and service to Hawaii, the nation, and the world community, especially in the Pacific basin.

In carrying out this aim, the University conducts a wide variety of activities, many of them comparable with those offered by other state universities and land-grant colleges throughout the country. In addition, the University has instituted and developed programs which take special advantage of Hawaii's subtropical mid-Pacific location and its multiracial composition: programs such as those in tropical agriculture, marine biology, geophysics, sociology, and cultural and technical interchange among students, scholars, and technicians from Asia, the Pacific, and the Americas.

**Campus Locations.** The main (Manoa Valley) campus of the University is a 268-acre tract on the island of Oahu. It lies three miles from the downtown business and government center of Honolulu, the state capital of Hawaii, and two miles from the Wakiki Beach resort area.

In addition, the University maintains a second campus in Hilo, on the island of Hawaii, and holds tracts of land on the islands of Kauai, Maui, and Molokai. Agricultural experiment stations are located on Oahu, Hawaii, Kauai, and Maui, and there is a demonstration farm on Molokai. University holdings throughout the State total 1,528 acres.

The Manoa Valley campus has grown from one building in 1912 to more than 50 today. New facilities include the first increment of the East-West Center. A campus map (on last page) indicates the location of major buildings.

**Organization.** Established by the Hawaii Territorial Legislature in 1907 as the College of Agriculture and Mechanic Arts, the University assumed its present name in 1920. Its administrative units now comprise seven undergraduate colleges, the Graduate School, the Office of Research Administration, the Gregg M. Sinclair Library, the Summer Session, the Hilo Campus, the Office of Student Personnel, and the Legislative Reference Bureau. The Center for Cultural and Technical Interchange between East and West, popularly called the East-West Center, is a closely integrated agency.

The seven undergraduate colleges are: Arts and Sciences, Business Administration, Education, Engineering, General Studies, Nursing, and

**Tropical Agriculture.** Included in the College of Tropical Agriculture are the Cooperative Extension Service and the Hawaii Agricultural Experiment Station.

Graduate work in all departments is organized under the Graduate School, which includes the School of Social Work, the Overseas Operations Program, and several other graduate curricula and programs of study.

With the exception of the Agricultural Experiment Station in the College of Tropical Agriculture, the Engineering Experiment Station in the College of Engineering, and the Legislative Reference Bureau, all research is organized under the Office of Research Administration.

The Office of Student Personnel administers the work of admissions and registration, and, through its Counseling and Testing Center, offers educational, vocational, and personal counseling, and gives aptitude, interest, and other psychological tests.

The deans of the several colleges are directly responsible to the Vice-President for Academic Affairs, who reports to the President. The President is responsible to the Board of Regents, of which he is an ex-officio member. Other members are appointed by the Governor of the State for four-year terms.

Academic departments are units of the colleges, and are responsible to the dean of the college on matters of finance and personnel. Coordination of the departments and the colleges in instructional matters is obtained through the Vice-President for Academic Affairs and the Council of Deans, of which he is chairman.

The University Senate acts as an advisory body to the President on matters of instruction and related problems.

The University is a federal land-grant institution, founded under the provisions of the Morrill Act of 1862 and subsequent legislation. In 1960, the school received \$6,000,000 from the U.S. government, in lieu of a grant of land, and income from this source will provide a continuing source of revenue for the University. The major portion of its regular financial support, however, comes from the State of Hawaii.

**Colors and Seal.** University of Hawaii colors are green and white. The rainbow, a frequent sight in Manoa Valley, is the popular campus symbol, and University teams traditionally are nicknamed "The Rainbows." The University seal contains a torch and book titled *Ma Lama Lama* (The Light of Knowledge) in the center of a circular map of the Pacific, surrounded by the state motto, *Ua Mau Ke Ea o Ka Aina i Ka Pono* (The Life of the Land Is Preserved in Righteousness).

**Accreditation.** The University is accredited by the Western Association of Schools and Colleges. Established professional programs in the curriculum are individually accredited by appropriate agencies.

Students may transfer to other American or to foreign universities on the same basis as students of other accredited American universities.

Classes are open to all academically qualified men and women. Students in 1963-64 included individuals from all 50 states and from 54 foreign countries.

**Academic Year.** The academic year is divided into two 18-week semesters and a six-week summer session (see calendar). In addition, summer programs include offerings in two five-week terms and a three-week postsession.

**Inquiries.** Prospective students should address inquiries to the Office of Admissions and Records, University of Hawaii, Honolulu, Hawaii 96822. Summer Session information may be obtained by writing the Dean of the Summer Session. Information concerning the Hilo Campus should be addressed to the Director, University of Hawaii, Hilo Campus, Hilo, Hawaii.

### **Research and Service Operations**

In addition to the instructional program, the University conducts organized research in several fields and offers other forms of public service. The most important of these operations are described below. The Cooperative Extension Service and the Agricultural Experiment Station are discussed under the College of Tropical Agriculture. The Engineering Experiment Station is discussed under the College of Engineering.

The **Aquarium** at Waikiki is operated as a place of education and entertainment.

The **Bureau of Educational Research** was established for the purpose of inquiring into the fundamental problems of teaching and learning. It also conducts research in various applied areas, such as school personnel selection, administration, and management. The Bureau provides research training for graduate assistants assigned to its staff.

The **Communications Center** provides television, graphics, audiovisual, and related services in support of instructional programs.

The **Economic Research Center** is designed to promote an understanding of the economy of the State of Hawaii. It evaluates economic effects of legislation and performs basic economic research, particularly statistical research relating to Hawaii. In cooperation with the Department of Economics and the College of Business Administration, the Center offers research training to advanced students.

The **Gregg M. Sinclair Library** is the main library of the University. The East-West Center maintains a rapidly growing collection on Asia which is open to University faculty and students. Access to the Sinclair Library's services and to its open-stack collections is available to faculty, graduates, undergraduates, adult off-campus borrowers, and visiting scholars.

The main collection is organized in an open-stack arrangement for maximum ease of access. Three special subject collections are also housed in the Sinclair Library: the extensive Hawaiian and Pacific collection, the College of Education collection, and the Japan, China, and Korea collections administered by the East-West Center. Government documents (including United Nations, AEC, and some foreign publications) form a fourth separate collection, unclassified, but arranged according to document numbers.

The library's total collections (exclusive of East-West Center holdings) now number over 400,000 bound volumes and almost 1,000,000 unbound parts. Over 5,000 serial titles are received, and there are some 17,000 reels of microfilm, 38,000 maps, and 125,000 microcards and microprints.

Other local libraries which University students may use include the Library of Hawaii, the State Archives, and the libraries of the Hawaiian Historical Society, the Hawaiian Mission Children's Society, and the cooperating institutions (*see pp. 12-13*).

The **Harold L. Lyon Arboretum**, covering 124 acres in upper Manoa Valley, was donated in 1954 by the Hawaiian Sugar Planters' Association. Six thousand kinds of trees and plants are established.

The **Hawaii Institute of Geophysics** promotes geophysical research and, in cooperation with departments devoted to the physical and chemical sciences, provides advanced training in astrogeophysics, geochemistry, geography, geology, meteorology, oceanography, and physics. A new building houses the Institute and the Computing Center. The Institute also maintains a high-altitude observatory on the summit of Mount Haleakala on Maui, and a seismic vault in upper Manoa Valley.

The **Hawaii Marine Laboratory** branches are located on Coconut Island in windward Oahu and at the Aquarium in Waikiki. The first has facilities devoted primarily to advanced training and research; the latter is used for instruction in marine biology, including laboratory courses which make use of the wealth of tropical marine flora and fauna found on the nearby reefs.

The **Human Relations Area Files** is a research organization which collects, organizes, and distributes to 20 participating universities data on selected countries and tribal societies of the world. This material,

housed in Sinclair Library, facilitates basic research and comparative studies in human behavior, social life, and culture.

The **Industrial Relations Center** promotes understanding of personnel and industrial relations. Its library contains information on the basic services in the field, as well as current publications. The Center provides some reference service, and assists in conducting conferences, lectures, and group discussions, and in training of advanced students. The Center publishes research studies in basic industrial relations problems, as well as a monthly *Newsletter*, a bimonthly *Selected Acquisitions List*, reprints, reading materials, and bibliographies.

The **Land Study Bureau** develops, assembles, coordinates, and interprets data in the characteristics and utilization of land throughout the State of Hawaii to the end that the highest and best use of those lands may be ascertained. The primary program involves land classification of the entire State based on soil types, rainfall and climate, economics, and agricultural technology. Secondly, the Bureau provides the governor, the legislature, and other state and county agencies with data and impartial advice on land use.

The **Legislative Reference Bureau**, created by the legislature in 1943 to aid in legislative and governmental problems, is situated on the campus, where it maintains a reference library. It provides the legislature, governor, departments, institutions, and agencies of the State with information and reports. During sessions of the legislature the Bureau maintains an office in Iolani Palace, the capitol.

The **Office of Publications and Information** is a service agency of the University charged with issuing official University news releases and publications of general interest.

The **Pacific Biomedical Research Center** facilitates basic biomedical research. The Center building contains research laboratories for human genetics, microbiology, physiology, biochemistry, biophysics, pharmacology, parasitology, and psychology, as well as extensive animal quarters. These facilities are used in cooperation with related instructional departments to provide research opportunities for graduate students and resident and visiting faculty members.

The **Social Science Research Institute** facilitates the initiation of faculty research, and sponsors basic and applied programs of research in the social sciences.

The **Speech and Hearing Clinic**, through its staff members and supervised student clinicians, offers diagnostic and therapeutic services for children, University students, and other adults. A registration fee is charged for non-University cases.



The **Statistical and Computing Center** serves the University's research interests and provides training in modern computer techniques. Its facilities include an IBM 7040-1401 system.

The **University of Hawaii Press** publishes scholarly books and journals.

### **International Training**

Through its Overseas Operations Program, the University prepares selected graduate students for service in Asia with international organizations, agencies of the United States government, and private institutions and industries which operate in Asia.

The University maintains a Peace Corps training facility on the island of Hawaii. Operations are year-round.

Programs of training at the East-West Center, available under grants to selected students from Asia, the Pacific area, and the United States, are briefly described in the last section of this catalogue.

### **Cooperating Institutions**

Through cooperative agreements with institutions listed below, the University has increased its research facilities and expanded its services to the State. Bishop Museum, the Pacific and Asian Affairs Council, and the Academy of Arts offer student membership rates.

The **Bernice P. Bishop Museum**, a world-famous storehouse of information, contains an outstanding reference library as well as important biological and anthropological collections relating to Hawaii and other Pacific islands. In addition, this institution holds the combined herbaria of the University and the Museum, the most complete collection of Hawaiian plants in existence. The museum's research facilities are available to University students on a reciprocal basis.

The **Fruit Fly Laboratory** is maintained on the campus by the U.S. Bureau of Entomology for the study of fruit fly pests.

The **Hawaiian Sugar Planters' Association** in 1947 provided \$100,000 for a building on the campus to house the Agricultural Engineering Institute, with shop facilities for instruction and research.

The **Honolulu Academy of Arts**, built and endowed by Mrs. Charles M. Cooke, contains valuable collections of both Eastern and Western art. These are available for use by students and instructors.

The **Pacific and Asian Affairs Council** sponsors lectures, seminars, and meetings on international affairs, particularly on Asia and the Pacific. Its library offers research materials on world affairs.

The **Pineapple Research Institute of Hawaii**, supported by the pineapple industry, is affiliated with the University. Offices and laboratories are in Institute buildings on the campus. Field studies are carried on at a 100-acre experimental farm in Wahiawa, Oahu.

The **Honolulu Biological Laboratory of the U.S. Fish and Wildlife Service** has permanent headquarters on the campus. Senior staff members of the Laboratory cooperate with the departments of zoology, botany, meteorology, and oceanography in offering advanced courses and in directing research in marine biology and oceanography. Several fellowships are available to citizen students. Requests for information or application forms should be addressed to the Director, U.S. Fish and Wildlife Service, Honolulu Biological Laboratory, Box 3830, Honolulu, Hawaii.

The **U.S. Geological Survey Volcano Observatory**, located at Kilauea Crater on the island of Hawaii, conducts research relating to the Hawaiian volcanoes. Research facilities are made available on occasion to faculty and students of the University.

### **Student Activities**

Student activities are recognized as an important part of a university education. The Bureau of Student Activities is responsible for developing and maintaining a well-balanced program, in which student participation and leadership are encouraged.

Students registered for 12 or more credits (*see* p. 29, Tuition and Fees) are eligible to participate and hold positions in the approximately 80 student scholastic, honorary, professional, religious, social, departmental, special interest, and residence organizations, and in all student government and college union activities.

The two major organizations, of which every student who pays a student activities fee is automatically a member, are the Associated Students of the University of Hawaii (ASUH) and the Hemenway Union Board (HUB).

The ASUH promotes and directs, through its elected senate, undergraduate extracurricular activities and cooperates with the Administration in student affairs. Some of the activities in which it engages are athletics, debate, drama, music, and student publications. The campus newspaper, *Ka Leo*, and the student annual, *Ka Palapala*, are integral parts of the journalism program. (See course listings under English.)

Hemenway Union Building is the center of many of the campus activities, facilities, and services. Faculty, students, and alumni are represented on the Board of Governors, which administers the building and sponsors the programs. The Board is affiliated with the National Association of College Unions.

Tickets to all University Theatre plays are free to ASUH members, and all students of the University may participate in dramatic productions. The Great Plays Cycle, a unique program in the American educational theater, is a permanent repertory of eight plays, two of which are produced each year. Productions are presented in the new John F. Kennedy Theatre in the East-West Center.

ASUH members are likewise admitted free to varsity athletic events, and are encouraged to participate in intramural sports. The athletic plant, situated on the lower campus, has facilities for a wide variety of indoor and outdoor sports.

Besides the ASUH and HUB activities, a number of departments conduct activities related to their educational programs. The Music Department sponsors concerts and recitals in the Mae Zenke Orvis Music Auditorium, a hall of unique acoustical design. The Speech Department sponsors an annual series of solo and group readings. Lectures, panels, and broadcasts are sponsored by many departments and campus clubs.

## Student Housing

### Campus Housing

Admission to the University is made without reference to the availability of housing. Requests for residence hall accommodations should be made directly to the Student Housing Office. The halls are operated on the American plan. The contract is for the entire academic year or remainder thereof and is for room and board (10 meals per week—breakfast and dinner, Monday through Friday). Dining facilities for all residence hall students except Hale Kahawai are located in Gateway House. Dining facilities for Hale Kahawai are located in the East-West Center Administration Building.

There are no facilities on campus for temporary housing or for married students.

### Undergraduate Women

MARY DILLINGHAM FREAR HALL has double accommodations for 144 students. Room and board fee is \$310 per semester.

HALE KAHAWAI has double accommodations for 140 students. Room and board fee is \$310 per semester.

### Undergraduate Men

JOHN A. JOHNSON HALL has double accommodations for 192 men. Room and board fee is \$310 per semester.

### Graduate Students

GATEWAY HOUSE has double-room accommodations for 104 women and 104 men in two separate towers. Both men and women students

share common lounge, dining, and recreational facilities on the first floor. If space permits, selected upper-division undergraduate students will be accepted. Room and board fee is \$335 per semester.

Application-contracts must be accompanied by the deposit before consideration for space reservation can be made.

### **Off-Campus Housing**

The Student Housing Office maintains information files on rooming houses, rooms in private homes, a few apartments, and room and board jobs to supplement campus housing. The Housing Office gives all possible assistance in locating suitable accommodations after the student arrives; because of the rapid turnover the names of landlords cannot be sent through the mail. Negotiations with off-campus landlords must be handled directly by the student. Students arriving in Honolulu without housing reservations are invited to come to the Housing Office for general information and current listings of available accommodations.

For information on campus or off-campus housing write to: Director of Student Housing, Johnson Hall A, University of Hawaii, Honolulu, Hawaii 96822.

### **Food Services**

In addition to those in Gateway House mentioned above, dining facilities on the campus include:

**HEMENWAY HALL CAFETERIA.** Meals a la carte are served.

**EAST-WEST CENTER CAFETERIA.** A complete food service in the East-West Center Administration Building, including a cafeteria, a snack bar, and private dining rooms.

A new snack bar in the northeast section of the campus.

### **Expenses**

Minimum expenses are estimated at from \$1,350 to \$1,850 a year for board, room, tuition, registration, course fees, class and student body fees, and books. Off-campus housing may be higher. These estimates do not include the cost of clothing, laundry, transportation, and other personal items. Students from outside the State should add the cost of transportation to and from Hawaii and additional items for adjustment in a new community.

### **International Student Office**

The International Student Office helps students from other countries with their immigration requirements, financial problems, living arrangements, and other nonacademic matters. Special orientation pro-

grams for new students are held each semester prior to the beginning of classes. Foreign students who have been admitted to the University are notified of these programs by mail and are urged to arrive in time to attend them.

The Office also assists persons and groups interested in building international understanding through contact with foreign students. Further information may be obtained from the Foreign Student Advisor, Webster Hall 101.

Foreign students who are graduates of a university and are applying for admission, should write to the Dean of the Graduate School. Undergraduates should apply to the Director, Office of Admissions and Records. Other specific inquiries or requests for more detailed information may be addressed to the Foreign Student Adviser, University of Hawaii, Honolulu, Hawaii 96822.

### University Placement Office

The University Placement Office provides information and counsel in the area of career employment for graduating students and former students. Its chief responsibility is to assist students in the selection of career objectives and obtaining optimum employment. The Office cultivates the interest of prospective island and mainland employers and provides them with facilities to contact students and alumni who are available for employment. Credential files are also established for students and alumni who are interested in an academic career.

### Counseling and Testing Center

The Center's staff consists of professionally trained counselors, psychologists, psychometrists, and psychiatrists who as a team function on the campus in the areas of student service, graduate training, and academic research. Educational, vocational, and personal counseling is available to students. Various aptitude, interest, and other psychological tests are often used as an aid to the counseling process. The Center also maintains an educational and vocational library and administers a reading improvement program.

### Student Health Service

The Student Health Service seeks to maintain a state of optimum health, both physical and mental, among students and to indoctrinate each student with the proper understanding and habits of personal and community health.

The University expects every student to safeguard his health and

offers certain aids toward that end. Before admission, every new undergraduate student must have a medical examination by a licensed physician. The student makes his own arrangements and pays the physician. The University provides a form for reporting the examination to the Service. Yearly tuberculin or chest X-ray examinations are required of all students. Failure to comply with these requirements precludes registration for the following semester.

The Service offers a limited medical care program. A clinic provides outpatient physician and nursing care 8 A.M. to 5 P.M. Monday through Friday. A new infirmary is operated on a 24-hour basis, 7 days a week during regular sessions of the University. Bed care for minor illness and injury is provided. Medical care beyond the scope of the medical service provided by the Service is the financial responsibility of the student; supplemental insurance, at least equal to that offered by the University to support this care, is essential.

# ACADEMIC INFORMATION

**STUDENTS** (other than auditors) are classified as undergraduate and graduate.

Undergraduate students are designated as *regular* or *unclassified*.

*Regular* students follow organized programs of study and comply with regulations which lead to the bachelor's degree. They ordinarily carry full-time programs (12 semester hours or more), and for registration and classification purposes are divided as follows: freshmen, 1–24 credit hours completed; sophomores, 25–54; juniors, 55–88; seniors, 89 and above. Freshmen and sophomores are *lower division* students; juniors and seniors, *upper division* students.

*Unclassified* students are those who, although registered for credit, are not immediate candidates for a degree. No student may use the unclassified status to evade technical or scholastic graduation requirements of a college.

**Graduate** students (graduates of this University or of other institutions of approved standing) are designated as *degree candidates*, *five-year diploma candidates*, and *unclassified*.

*Degree candidates* are those who are pursuing programs of study leading to advanced degrees.

*Five-year diploma candidates* are graduate students following a curriculum leading to the diploma.

*Unclassified graduate* students are those who, although registered for credit, are not degree candidates. Some are working toward the professional certificate of the State Department of Education, and others later become candidates for advanced degrees.

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

Students taking fewer than 12 semester hours in any semester are considered “part-time” students. This classification, however, has significance only in determining fees. Both regular and unclassified students may be either part-time or full-time.

## Admission

Candidates for admission must present satisfactory evidence of ability to do university work. Prospective regular or unclassified students

who have not earned credits in an institution of higher learning apply to the Director, Office of Admissions and Records. A high school senior who plans to enter within a year should file his application during the final semester of his high school course. *Applications should be filed at least one month prior to the opening of the semester or summer session for which admission is requested.* Requests for application forms and questions about admission should be addressed to the Director, Office of Admissions and Records.

**Admission of Regular Students Entering for the First Time.** Admission to first-year standing depends upon performance in college aptitude tests, quality of high school work, and various ratings by the preparatory school. A high rating in one factor alone will not insure admission; nor will poor performance on one measure alone exclude an applicant if other evidence indicates he might be successful. Ordinarily a student should average *B* or better in his high school work, although an applicant with a *C* average who scores above average on the college aptitude test may be admitted. The quality of work done during the last two years in secondary school receives special consideration.

College aptitude tests are given for high schools each spring. These tests are also given at the University several times during the summer, and between semesters. Applicants should communicate with the Director, Office of Admissions and Records, as to dates.

Every applicant for admission as a regular student who has not previously completed a semester as a regular student in an institution of higher learning must take college aptitude examinations and submit evidence that he has satisfactorily completed at least 15 units of work in a four-year high school or at least 12 units of work in a three-year senior high school.

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

When authorized by the Office of Admissions and Records, candidates from continental United States and certain foreign countries may take the scholastic aptitude test given by the College Entrance Examination Board\* and submit a certificate covering the results of this examination along with a complete record of work done in preparatory school. Such candidates should meet all admission requirements and await notice of acceptance *before* coming to Hawaii.

---

\*For information consult a high school counselor or write the College Entrance Examination Board, c/o Educational Testing Service, Box 27896, Los Angeles 27, California, or Box 592, Princeton, New Jersey.



### Minimum Unit Requirements for Admission

| From a 4-Year High School | Subject  | From a 3-Year High School  |
|---------------------------|--|--|
| 3                         | ENGLISH  | 3  |
| 1                         | ALGEBRA  | 1<br>(Not required if the student has had elem. algebra in the ninth grade.) |
| 6                         | ENGLISH—In addition to the 3-unit minimum requirement in English.<br>SCIENCES—Physical, biological, and social.<br>MATHEMATICS—In addition to the 1-unit minimum requirement in mathematics.<br>FOREIGN LANGUAGES—Entrance credit in foreign language is not granted unless the total number of foreign language units offered includes at least 2 units in some one language. | 4<br>(If applicant offers elementary algebra this requirement is 5 units.)   |
| 5                         | Any other subjects (except physical education and ROTC) credited by the high school toward its diploma (no less than $\frac{1}{2}$ nor more than 2 units in any one subject) provided that these subjects have been pursued in accordance with regular classroom procedure involving a reasonable amount of preparation in addition to the time spent in class.                | 4  |
| 15                        | . . . . . TOTAL . . . . .  | 12   |

**Admission by Examination.** Veterans and other mature individuals may take entrance examinations covering preparatory school subjects. Successful performance on these and the College aptitude tests will admit these candidates. Such individuals, however, must meet all special requirements for admission to such curricula as engineering, agriculture, and nursing.

**Special Requirements for Certain Programs.** Candidates for admission to certain programs must meet special requirements. Each applicant should study the conditions set by the college he intends to enter and for the program he intends to pursue in that college. Special attention is directed to the following requirements.

Students who expect to study mathematics or to take subjects for which college mathematics is a prerequisite should have had plane geometry, two years of algebra, and trigonometry. Solid geometry is also recommended.

Prospective engineering students must have had plane geometry, two years of algebra, and trigonometry. It is strongly recommended that

they also have mechanical drawing and physics. Engineering students who have not completed trigonometry or mechanical drawing in high school should arrange to take these subjects at the University during the summer session preceding their freshman year.

Prospective students of nursing and dental hygiene should have completed two years of college preparatory mathematics. Prospective students of medical technology should have completed two years of algebra and plane geometry.

Prospective students of agriculture should have completed two years of algebra. Students with only one year must complete the second year by the end of the freshman year.

Prospective students of the College of Business Administration should have completed two years of algebra and plane geometry.

**Freshman Orientation.** Entering freshmen are expected to be on the campus for the Orientation Program, the dates of which are stated in the "University Calendar." This program is designed to give help to incoming freshmen and to acquaint them with the University. Examinations, conferences, introductory lectures, and social events occupy the period.

**Early Admission and Advanced Standing for Superior High School Students.** Upon recommendation of their schools and satisfaction of certain University entrance requirements, high school juniors with superior preparation may be admitted to the University for the summer session between their junior and senior years in high school and may carry one or two University courses during their senior year. Students desiring to take advantage of this program should ask their high schools to recommend them for early admission to the Office of Admissions and Records, should arrange to have high school transcripts sent to the Office of Admissions and Records, and should take the University's aptitude examinations. The continuance of these students in the early admission program is reviewable at the end of each term.

Upon demonstration of special achievement on examinations in the College Board's Advanced Placement Test program, freshman students at the University may be granted advanced-standing credit and/or advanced placement. Scores on these tests should be filed with the Office of Admissions and Records before the student enrolls at the University.

**Admission to Advanced Standing.** Applications should be filed at least one month prior to the semester or summer session for which admission is requested. Students who transfer from other accredited universities or colleges may be granted advanced standing. These students must have the institutions attended send to the Director, Office of

Admissions and Records, an official statement of the studies offered for admission at such institutions, of the studies pursued in college and the grade received in each, and of honorable dismissal. These transcripts become a permanent part of the University files. Credit toward graduation is given only in acceptable subjects in which grades of C or better are recorded. No more than 60 semester hours are accepted in transfer from a junior college. Candidates transferring with advanced standing are required to do a minimum of 30 semester hours at the University of Hawaii to qualify for a bachelor's degree.

Students transferring from other than accredited institutions must meet University of Hawaii standards of admission. Upon the completion of a minimum of 30 semester hours with an average grade of C or better, credit will be given for courses at the previous institution. Such credit, however, will not exceed 60 semester hours, and will be granted only for courses usually considered of lower division level.

**Admission of Mature Persons.** Mature persons may register as special students when their backgrounds qualify them for credit work. No such student, however, will be admitted to a degree-granting college or allowed to become a degree candidate until he has satisfied all admission requirements.

Admission as a special student in no case serves as a means of avoiding compliance with requirements laid down for regular students.

**Admission of Auditors.** Persons wishing to audit classes must have the written consent of the instructor of the course, the department chairman, and the Director of the Office of Admissions and Records. In general, auditors are not allowed in laboratory science, mathematics, language, English composition, speech, studio art courses, or in classes limited in size where credit students might thereby be excluded. By definition auditors are "listeners" and are not allowed to participate in class discussions or examinations.

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

### **Registration, Withdrawal, and Other Changes**

Registration dates are given in the "University Calendar." Entering students receive circulars telling them how to proceed in registering. Courses are described under "Courses of Instruction," and a schedule

stating the time and place of meeting of each course is issued by the Office of Admissions and Records in September for the first semester, and in January for the second semester. The summer session schedule is given in the summer session catalogue.

**Registration of Undergraduate Students.** Before they register, undergraduates must decide which college they wish to enter, and select one of the programs offered by the college. Each undergraduate is assigned at registration time to a faculty member who acts as his adviser in selecting courses. *Credit is given only for courses regularly entered upon the registration card.*

**Registration of Graduate Students.** Graduate students follow the same procedure in registration as do undergraduates.

**Registration of Auditors and Unclassified Students.** Auditors and unclassified students register after the period assigned to the registration of regular students, and in accordance with instructions issued at the beginning of each semester.

**Maximum Registration.** Regular students may not register as auditors or for courses in the College of General Studies in excess of the maximum registration allowed by the college in which they are enrolled.

**Arrangement of Credits in Advance.** The number of credits obtainable in most courses is stated in this catalogue and in the time schedule available shortly before registration. However, certain courses in which students carry on individual work are marked "credit by arrangement." Such statements do not signify that the credits are to be determined at the end of the semester. The student registers for a definite number of credits and may earn no more than that number.

**Late Registration.** Registration for credit after the announced registration days is permitted only in exceptional cases and for valid reasons. The following rules govern such late registration: (1) during the first five days following the last official day of registration, written approval must be obtained from the dean concerned; (2) subsequent to the fifth day, students may register only as auditors and must have the written approval of the dean and the instructor concerned. Corresponding restrictions apply to summer session registration and are stated in the summer session bulletin.

These same rules apply to students who wish to register for courses in addition to those signed for during the official registration period.

Auditors need not comply with these regulations, except that they cannot change to credit status after the above late registration periods.

**Withdrawal from Courses or from the University.** To withdraw

from a course an undergraduate must have the written consent of the dean of his college on a form available at the dean's office. Complete withdrawals must be applied for on a form available at the Office of Admissions and Records; signatures as indicated on the form must be obtained, and the completed application return to the Business Office.

During the first three weeks of a semester a formal withdrawal is marked *W* on the student's record. After the first three weeks a formal withdrawal is marked *W-F* if the work was failing; otherwise it is marked *W* (not failing). No withdrawals from individual courses are permitted during the last four weeks of instruction in a semester, but a dean may approve complete withdrawal for legitimate reasons. A student who ceases to attend a course without complying with the official procedure for withdrawing receives an *F* in the course. The effective date of withdrawal is the date recorded by the Business Office.

**Transfers Within the University.** A student 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 returned to the Office of Admissions and Records by July 15 for a first-semester transfer, and by December 1 for a second-semester transfer. No changes of college, curriculum, or major are permitted during registration.

### **Credits, Grades, Grade Points, Grade-Point Ratios**

Work accomplished by students is recognized in terms of *credits*, *grades*, *grade points*, *grade-point ratios*, and *honors*.

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

*Grades* given in all courses are *A*, *B*, *C*, *D*, *F*, and *I*, except for 800 (thesis research) in which grades of *S* (satisfactory), or *H* (honors), are given upon acceptance of the thesis. The lowest passing grade is *D*. An *I* is given to a student who has failed to complete a small but important part of a semester's work before the semester grades are determined, if the instructor believes that failure was caused by conditions beyond the student's control and not by carelessness or procrastination. To receive credit for a course in which an *I* has been reported, the student must make up the incomplete work before the Thanksgiving or Easter recess of the next semester in which the student is in residence. If the work is not thus completed, the *I* will be changed to *F* at the end of the semester. If the work is completed, the instructor will report a

semester grade, taking the completed work into consideration. Credit in a course for which an *F* is given may be obtained only by passing the course, or its equivalent, either at the University of Hawaii or at some other accredited institution of higher education.

At the end of each semester and the summer session, grades are sent to students by campus mail. Those desiring the report forwarded should leave a stamped self-addressed envelope at the campus mail office. Students in evening classes should leave stamped self-addressed envelopes at the office of the Dean of the College of General Studies.

Copies of the grade reports of all classified undergraduate students are sent to parents or guardians at the end of each semester. In addition, copies of mid-semester deficiency notices are sent to the parents or guardians of freshmen.

*Grade points* are given for all courses in which grades 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*, and 0 if *F*.

Students entering as undergraduates with advanced standing are not given grade points upon work done elsewhere; but on work done in the University of Hawaii such students must gain grade points in the same proportion to credit hours required for graduation as that demanded of other students.

*Grade-point ratios* are determined by dividing the total number of grade points by the total number of credits for which a student has been registered. Courses for which grades of *W* or *I* were recorded are not included in the computation of ratios. Grades of *F* or *W-F* are included until credit is subsequently obtained in the courses in which failures have been reported.

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

### **Requirements for Continued Registration**

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

Further registration is denied to the following undergraduate students:

1. Those who, at the end of any one semester, received failing grades

in 50 per cent or more of their registered credits (including courses in which they were failing at the time of withdrawal).

2. Those who have failed to achieve, after two semesters' attendance, a grade-point average of at least 1.7.

After the first two semesters' attendance, students who fail to establish and maintain a 2.0 grade-point ratio (a *C* average), either on an accumulative basis or in the work of any semester, will be placed on academic probation.

Whenever, in the opinion of the dean of a college, a student's work makes such action necessary, the dean may warn the student or place him on academic probation. A student who is readmitted following academic dismissal is also placed on probation.

Those on academic probation who during any semester fail to achieve a grade-point ratio of at least 2.0 for that semester (a *C* average) will be denied further registration.

Students who become ineligible for further registration at the close of the second semester may register for any part of the succeeding summer session.

Students who have been dropped for academic failure may apply for readmission, in writing, to the chairman of the Committee on Scholastic Standing by August 15 for the first semester, by January 5 for the second semester, and by May 15 for the summer session. Readmission normally will not be granted until at least one semester has elapsed since the student was dropped. Furthermore, such students should have demonstrated through professional counseling, organized high school classes, noncredit college work, or individual study that they have made a constructive effort to strengthen themselves in areas of weakness. Only in unusual circumstances will a student be readmitted after having been dropped for the second time.

Whenever, in the opinion of the dean of a college, a student's work makes such action necessary, the dean may warn the student or place him on academic probation. A student who is readmitted following academic dismissal is also placed on academic probation. A student on such probation must earn twice as many grade points as credits for which he is registered, or a *C* average.

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

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

If a student has been in attendance up to the time of the final examination but is absent from the examination, the instructor may give an "Incomplete" for the course. If within one week a legitimate excuse is presented, the Incomplete may be removed by special examination. If the special examination is not taken, the instructor must turn in a removal of the Incomplete, counting the final examination as zero.

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

Upon finding that a student is suffering from a physical or mental condition detrimental to the best interests of the student or the University, the Dean of Student Personnel will, on medical advice, recommend proper action to the appropriate college dean, who then may require that the student be officially withdrawn, without academic penalty, from the University. Readmission will be contingent on review and recommendation by both deans involved.

### **Student Conduct**

Students are expected to observe accepted University and community standards of conduct. Disciplinary authority is exercised by the Committee on Student Conduct, composed of the deans of the several colleges, faculty members and students appointed by the President of the University, and the Dean of Student Personnel.

**Financial Obligations to the University.** Students who have not adjusted their financial obligations (traffic violations, library fines, locker fees, laboratory breakage charges, transcript fees, loans past due, etc.) to the satisfaction of the Business Office may be denied graduation and further registration, and in the latter case their transcripts will be notated "Denied further registration. See discipline file."

**Intoxicating Beverages.** Intoxicating beverages are prohibited on the campus and in affiliated buildings, including all fraternities, sororities, and other dormitories.

**Lethal Weapons.** Firearms and spear guns are prohibited in dormitories and environs.

### **Undergraduate Degree Requirements**

**Credit and Grade-Point Requirements.** The minimum credit requirement for the baccalaureate (bachelor's) degree in all colleges is 130 except for the College of Business Administration, where 134 credits are required. In addition, the student must have earned at least twice as many grade points as the total of registered credits.

**Kinds of Baccalaureate Degrees.** Upon satisfactory completion of a regular program in the colleges of Tropical Agriculture, Engineering, or



Nursing, a candidate is granted the degree of bachelor of science (B.S.); the diploma designates the particular program that has been pursued.

The degrees of bachelor of arts (B.A.), bachelor of fine arts (B.F.A. in Art), bachelor of music (B.M.), and bachelor of science (B.S.) are granted upon the satisfactory completion of prescribed programs in the College of Arts and Sciences.

Satisfactory completion of a regular teacher training program in the College of Education leads to the award of the degree of bachelor of education (B.Ed.); the degree of bachelor of science (B.S.) is granted for the recreation leadership program. Holders of bachelor degrees who complete the five-year program are awarded diplomas.

The degree of bachelor of business administration (B.B.A.) is granted upon the satisfactory completion of a regular program in the College of Business Administration.

The degree of associate in science is granted to students satisfactorily completing the two-year program in nursing.

**Residence Requirements.** Baccalaureate degrees are granted only to those students who earn a minimum of 30 semester hours in residence (that is, in class or laboratory work at the University of Hawaii).

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 certain exceptional cases, by granting a leave of absence.

**Time Within Which Work Must Be Completed.** All graduation requirements for baccalaureate degrees must be completed within 10 years of the first registration. The college deans are empowered to extend this period in certain exceptional cases.

**Credit by Examination.** An enrolled student who has been in attendance for the semester with a grade-point average of 2.4 or better, and presents evidence to the dean that he has had the equivalent of a course through experience or training but has not received college credit for the course may apply for credit by examination. Application must be made within the first six-week period of a semester. Failure in the examination will be entered on the permanent record, and can be removed only by credit earned in a resident course. In no case will the grade received in such examination carry grade points. Graduate students may also obtain credit in this manner for certain undergraduate courses. A fee is charged for each examination. ( See p. 30.)

Such credit is limited to courses required in the applicant's curriculum or to prerequisites for such courses. In each case the examination must be prepared by the course instructor, must be more comprehensive than the usual "final examination," and must be designed to serve as the scholastic equivalent of the course.

**Course Examinations.** Final examinations are required in all undergraduate courses except directed reading, research, or seminar courses. No examinations (other than short quizzes) are allowed during the two weeks just prior to the final examination period.

**Tuition and Fees**

Students (including auditors) registered for 12 or more credit hours in any semester pay \$85.00 for tuition and \$10.00 for registration per semester. Students (including auditors) registered for fewer than 12 credit hours in regular day courses in any semester pay \$8.00 per credit hour. Summer session students pay \$10.00 per credit hour, \$10.00 for registration, and an activities and health fee of \$2.00. Students registered in the College of General Studies pay fees as indicated in the bulletins of that college.

*Out-of-state students pay the same fees as resident students.*

Persons who register or pay the fees after the announced days of registration pay a late registration fee of \$5.00 *Students who pay their fees by check will be assessed the late registration fee of \$5.00 if the check is not honored by the bank concerned.*

All students registered for daytime courses pay a "Student Health Fee" of \$4.50 each semester.

For registration to be official, all fees must be paid within twenty-four hours after the close of the final day of regular registration. Exceptions may be made by the Business Office only upon written permission by the Dean of Student Personnel.

Veterans, or orphans of veterans, registering for the first time under any of the various federal veterans' bills, should present a proper Certificate for Education and Training, or Certificate of Eligibility and Entitlement.

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

Tuition, laboratory, and student activities fees may be refunded to students who withdraw from courses, the percentage refunded to be in accordance with the following schedule:

Withdrawal during

|                                |     |                           |     |
|--------------------------------|-----|---------------------------|-----|
| first two weeks of instruction | 80% | fifth week of instruction | 20% |
| third week of instruction      | 60% | remainder of semester     | 0%  |
| fourth week of instruction     | 40% |                           |     |

Applications for refunds must be made at the Business Office, and approved by the dean concerned.

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

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

A fee of \$5.00 must be paid to the Business Office before any degree is awarded to a student. A fee of \$2.50 is charged for the five-year diploma awarded by the College of Education.

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

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

A student who requests the Office of Admissions and Records to send a transcript of his work to another institution is not required to pay for the first copy but is charged \$1.00 for each subsequent copy. Transcripts of students whose records indicate indebtedness to the University carry the following statement: "Denied further registration. See discipline file."

A fee of \$8.00 per credit is charged for "Credit by Examination," payable at the time of application for the examination.

A fee of \$10.00 is charged for any special examination in regularly constituted courses at other than the specified time except for make-up examinations.

Steel book lockers for student use are situated in Wist Hall. The use of a locker for the first and second semesters may be obtained at Room 9, Hawaii Hall. All keys must be returned before Commencement.

At the request of the Associated Students of the University of Hawaii (ASUH), the Governors of the Hemenway Union Building Board (HUB), and the Board of Athletic Control (BAC), as authorized by the Regents, the Business Office collects certain student activity and athletics fees at registration time. These fees total about \$13.00 each semester, of which approximately \$8.00 is used to cover membership in the ASUH and HUB for undergraduates taking 12 or more credit hours (if more than 6 are in the day program), class dues, the use of services and facilities in Hemenway Hall, and participation in the social, cultural, and recreational programs provided by the HUB and other student organizations. The remaining \$5.00 is used by the BAC for the promotion and support of varsity athletics.

For students other than those taking 12 or more credit hours, the fees are optional and the benefits limited. These fees are not collected for the summer session (*see* p. 29). Complete details are available at the Bureau of Student Activities.

## Scholarships and Fellowships

Prospective graduate students who need financial assistance should communicate with the Dean of the Graduate School.

**Grants and Other Aids.** The General Motors Corporation provides a grant for an entering freshman good for four years if a satisfactory record is maintained.

The United Airlines Foundation awards four \$500 William A. Patterson scholarships to freshmen from the State of Hawaii.

The Sears Roebuck Foundation grants four \$500 scholarships in general agriculture.

The John Fee Embree Scholarship of \$300 is awarded to an outstanding upper-division or graduate student in the social sciences, preferably anthropology or sociology.

The Charles R. Hemenway Scholarship Trust offers scholarships to undergraduate students.

The Matson Navigation Company offers four \$500 scholarships each year to juniors and seniors in the College of Business Administration.

The Ruby Ethel Kono Scholarship is awarded to a woman student majoring in Far Eastern art and culture or in voice.

Government Employees Mutual offers one four-year \$500 scholarship for entering freshmen.

Information on the above grants may be obtained from the Scholarship Committee.

The Kekaha Sugar Company offers a four-year scholarship of \$250 a year to a young man whose family is connected with the company. Information may be obtained from the company.

The Alumni Association provides tuition scholarships and loan grants for qualified junior, senior, and graduate students. Application should be made to the Association's committee through the Alumni Office.

**State Scholarships.** Sixty-four scholarships, 54 divided among the six senatorial districts and ten held at large. Awarded annually to freshmen. Held four years, provided the beneficiary maintains a satisfactory record.

**Board of Regents Scholarships.** Sixty tuition scholarships each year. Ten reserved for foreign students.

**Other Scholarships Administered by the Scholarship Committee.** Alonzo Gartley (in agriculture); ASUH Scholarship-Leadership grants; The Charles W. Atkinson Real Estate Scholarship; Chinese Community; Emma K. Mossman; Fushiminomiya Memorial Scholarship Endowment Fund; Harry H. Collins; Hawaii Newspaper Agency Scholarships

(Journalism); Hawaiian Airlines Scholarship; Hawaii Pharmaceutical Association (pre-pharmacy); Honolulu Civic Club; ILWU (Social Work); Kappa Iota Fraternity; Kazuo and Akiyo Totoki Scholarship; Kenji Yamaguma Memorial; Korean Foundation; Korean University Club; Leora Parmlee Dean (sponsored by the Women's Campus Club); Music Department Scholarship; Ruth C. Scudder Memorial (sponsored by the Women's League of Central Union Church); Stephen Spaulding; Theodore R. Rhea Hawaii Cancer Society Memorial.

**Scholarships Administered by Individuals and Private Organizations, with Assistance from the University Scholarship Committee.** AFL-CIO Union Scholarship; Alfred Apaka Memorial; Associated Chinese University Women; Chinese Women's Club; Dole Corporation; Dorothy and Harold Palmer Geology Scholarship Fund; Francis H. Kanahele Memorial; Fred Dailey Waikikian Scholarship; Hawaii Hotel Association Scholarship; HGEA, University Chapter; Hawaii Newspaper Agency Scholarships; Hung Wo and Elizabeth L. Ching; Leilehua High School Alumni Association; Leilehua Parent Teachers Association; Miles E. Cary Memorial; Pacific Concrete and Rock Co.; Palolo Lions Club; Ralston Purina; Society of American Military Engineers; Soroptimist Club; Wahiawa Lions Club; Wahiawa-Waialua Rotary Club; Waikiki Lions Club; West Honolulu Rotary; Women's Auxiliary of the Home Builders Association of Hawaii.

**Scholarships Administered Entirely by Private Organizations.** The Scholarship Committee has no direct information about the independent awards listed. Aiea Lions Club; Chinese University Club; "Chu" Baldwin Memorial (sponsored by Puunene Community Association); Civic Associates; Class of 1947, Hilo High School; General Henry Arnold Education Fund, U.S. Air Force Aid Society; Harold B. Turney-Dorothy K. Gillett Music Fund; Hawaii Veterans Memorial Scholarship Fund; Hawaiian Civic Club; Honolulu Community Chest; Honolulu Community Theatre; Hui Pookela Honorary; Kailua Hawaiian Civic Club; Kailua High School Scholarship; Kamehameha School Scholarships; Koko Head Lions Club; Lahainaluna P.T.A.; Leeward Oahu Lions Club; Maui AJA Veterans Club; McKinley High School; Pacific Fellowship (sponsored by the American Association of University Women); Peter H. Fukunaga Scholarship Foundation; Waialua Hawaiian Civic Club; Waialua High School P.T.A. Scholarship; Waialua Lions Club; Wallace Rider Farrington (for graduates of Wallace Rider Farrington High School, sponsored by the Honolulu Star-Bulletin); Wong Kong Har Tong Society Scholarship.

### Loan Funds

Through the generosity of various organizations and individuals, certain funds have been provided from which students may borrow—either in small amounts to meet emergencies or in larger sums to defer part of tuition costs. The University also participates in the National Defense Student Loan Program. A student wishing to make use of these funds should consult the financial aid officer. Loan funds include the following:

|  |  |
|--|--|
| Alumni Fund—Molokai Chapter                    | Louise S. Jessen Memorial Fund           |
| Andrew J. Salz Fund                            | Mary L. Kelsey Fund                      |
| Carey D. Miller Fund                           | Minnesota Club Fund                      |
| Chinese Students' Alliance Fund                | Moir-Ross Health Fund                    |
| Commerce Club Fund                             | National Defense Student Loan Program    |
| Edgar Wood Memorial Fund                       | N.G.B. Fund                              |
| Future Farmers of America, Uniwai Chapter Fund | Ruth Alexander, M.D., Student Fund       |
| George H. Lamy Fund                            | Representatives Club Fund                |
| Gruscidada Fund                                | Senior Class Fund                        |
| Hawaiian University Association Fund           | Student Fund of the College of Education |
| Helen Strong Carter Dental Fund                | Theodore T. Kawahara Memorial Fund       |
| Honolulu Civic Association Fund                | United Student Aid Loan Program          |
| Inez Wheeler Westgate Fund                     |  |
| Japanese Students' Alliance Fund               |  |

### Prizes and Awards

**Dean Prize for Undergraduate Research.** This prize fund, established in 1927 in honor of Dr. Arthur Lyman Dean, past President, is used to stimulate interest in undergraduate research. Any senior may compete for this prize of not less than \$25.00 nor more than \$50.00 each year by presenting to the Dean Prize Committee a thesis in which he reports fully upon his research in any field of intellectual endeavor. The committee selects the thesis which is the best example of originality, independence, logic, and form of presentation. This paper is placed in the Hawaiian Room of the Library.

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

**O. C. Magistad Award of the Hawaiian Section of the American Chemical Society.** A one-year student membership and subscriptions to several journals are awarded each year to the outstanding senior in chemistry. The name of the winner is engraved on a bronze plaque in Bilger Hall.

**Phi Beta Kappa Recognition Award.** Made in recognition of high scholastic standing among sophomores in Arts and Sciences.

**Phi Kappa Phi Prize.** A \$20.00 cash prize to the senior who graduates with the highest scholastic record in his class.

**Carl F. Knobloch Prize in Government.** Awarded to an outstanding student in government.

**Best Soldier Awards.** The Honolulu Star-Bulletin sponsors an annual award of two gold medals to cadets in first-year ROTC, one to the outstanding Army cadet and one to the outstanding Air Force cadet. Based on scholastic standing in military or air science as well as leadership.

**Real Dean Awards of Honor.** The ASUH annually awards medals to students who have given time and effort willingly, untiringly, and without thought of reward to the promotion of ASUH activities.

**Berndt Prizes for Extemporaneous Public Speaking.** Medals are annually awarded by the ASUH to the students judged best in an extemporaneous speaking contest.

**University Oratory Prizes.** The ASUH annually awards medals to the students judged best in an oratorical competition.

**Theatre Group Prizes.** An annual contest for undergraduates. Prizes of \$50.00, \$35.00, and \$15.00 are awarded for original one-act plays.

**Crown Prince Akihito Award.** Proceeds from a fund established in honor of H.I.H. Crown Prince Akihito of Japan.

**Warrior of the Pacific Trophy.** The Department of the Army supervises an annual rifle marksmanship competition among ROTC infantry units in universities for possession of a bronze statuette of a native Hawaiian soldier. Residents of Hawaii offer the trophy.

**Major D. M. Bartow Rifle Plaque.** Awarded to the cadet attaining the highest individual record with the M1 rifle at summer camp.

**American Society of Civil Engineers (Hawaii Section) Award.** A cash prize of \$50.00 and a year's membership in the Society are awarded each year to the outstanding senior in civil engineering.

**Danforth Summer Fellowship Awards.** Given by the Danforth Foundation and Ralston Purina Company of St. Louis, to an outstanding junior in agriculture and in home economics. Transportation from San Francisco to St. Louis. Representatives spend two weeks in classes at the Ralston plant and two weeks in leadership training at the American Youth Foundation, Shelby, Michigan.

**Major John A. Johnson Memorial Award.** Made to the Army ROTC student with the best scholastic record at the end of the sophomore year who is approved for advanced training.

**Captain H. Gaylord Dillingham Memorial Award.** Given to the Air Force ROTC student with the best scholastic record at the end of the sophomore year who is approved for advanced training.

**Hawaiian Botanical Society Award.** An annual award is made to the senior student with the outstanding undergraduate record in theoretical or applied botany.

**Das Prize in Asian History and Politics.** An annual cash prize of \$50.00, offered by the Taraknath Das Foundation, awarded to a senior selected by a faculty committee appointed by the President.

**Sigma Pi Sigma Recognition Award.** Made by the University chapter in recognition of high scholastic standing among sophomores in physics.

**Carey D. Miller Award.** Established by graduates in home economics for a senior who has shown outstanding leadership qualities in home economics.

**Hawaii Dietetics Association Award.** An annual monetary award to an outstanding senior graduating in dietetics and institutional management.

**Deans' List.** Shortly after the close of each semester the *Deans' List* gives the names of all full-time undergraduate students who achieved a grade-point average of 3.5 or above for the preceding semester.

**Honorary Societies.** In addition there are campus chapters of six national honorary societies—Phi Beta Kappa (founded at William and Mary in 1776, recognizes high scholastic attainment in liberal arts and sciences; to be eligible for election a student must have pursued a broad course of study, liberal in character including work in foreign languages and mathematics, leading to the bachelor of arts degree; election to Phi Beta Kappa is regarded as one of the highest undergraduate honors; Alpha Chapter was installed in 1952); Phi Kappa Phi (founded at University of Maine in 1897, recognizes scholarly achievement in all fields; eligibility is dependent upon exceptional achievement leading to a degree, and upon character; the Hawaii Chapter was established in 1930); Sigma Xi (sciences); Pi Gamma Mu (social sciences); Phi Delta Kappa (education); Sigma Pi Sigma (Physics); and Omicron Delta



Kappa (scholarship and leadership in activities); Chi Epsilon (national civil engineering honor fraternity).

## English Language Institute

Courses at the University of Hawaii as well as most textbooks and reference materials are in English. English is also the language of the community. An effective, practical control of both oral and written English is thus necessary for every student. The Institute, under the supervision of the Department of Linguistics, offers noncredit courses for all students and trainees whose native language is not English so that they may acquire as readily as possible the knowledge they seek.

Students whose native language is not English are required to take an examination one to three weeks before the beginning of each semester and the summer session. No student may register in an Institute course unless assigned by the Institute. Special fees are charged for these courses.

### English Language Institute Courses

*See p. 41 for a discussion of course descriptions.*

Associate Professor SITTLER; Assistant Professors DICKINSON, FRANK, McCABE, PLAISTER, TOPPING; Instructors COLLIER, DULLAGHAN, ELLIOTT, GOODMAN, MARK, MORALES, NARDIN, RICK, ROBERTS, SEGLEM, SOONG, STEINBERG, THIEL

#### **50 ENGLISH AS A SECOND LANGUAGE (0) I, II**

Intensive practice in the fundamentals, oral and written. Meets 4 hours daily, Monday through Friday; an additional hour of laboratory work daily is required. For full-time ELI students. Course fee \$70.00.

#### **60 INTERMEDIATE ENGLISH AS A SECOND LANGUAGE (0) I, II**

Practice in reading, writing, conversation. Review of pronunciation and grammar. Meets 2 hours daily, Monday through Friday; additional laboratory work required. For half-time ELI students. Course fee \$35.00.

#### **70 ADVANCED ENGLISH AS A SECOND LANGUAGE (0) I, II**

Advanced practice in the fundamentals, oral and written, with emphasis on oral and aural control. Meets 3 hours weekly; additional laboratory hours may be assigned. Course fee \$25.00.

#### **75 READING PROGRAM FOR FOREIGN STUDENTS (0) I, II**

Instruction in techniques for the development of efficient reading habits. Students in ELI 70 or 80 may enroll on approval of ELI, but may be recommended for the course by advisors or major professors. Two hours per week. Course fee \$20.00.

**80 WRITING PROGRAM FOR FOREIGN STUDENTS (0) I, II**

Practice in English composition for foreign graduate students; undergraduates by special permission. Students may enroll only by approval of ELI, but may be recommended for the course by advisors or major professors. Three hours a week. Course fee \$25.00.

**Selected Studies Program**

The Selected Studies Program is designed to provide a small group of academically promising freshmen and sophomores with the opportunity to take a greater than usual advantage of University facilities and resources. Each student in the program has his curriculum more nearly "tailor-made" to his own special interests and abilities. Special sections are made available in such freshman and sophomore courses as economics, English, mathematics, history, government, zoology, sociology, science, and foreign languages.

Admission to the Program is by invitation extended to freshmen and sophomores whose previous academic records as well as aptitude test scores and personal recommendations have shown them possess the qualities needed for success in this program.

**Honors**

Honors may be granted at graduation to undergraduates who have participated in the University Honors Program. Successful completion of a program of honors work in the upperclass years will entitle the candidate to a bachelor's degree with "honors," "high honors," or "highest honors." Application for admission to candidacy for honors may be made by any regularly registered undergraduate at the end of the sophomore year or at the beginning of the junior year.

Each honors student majors in a given department or curriculum of the University. During the junior year the nature of the honors work will be determined principally by the particular department. In the second half of his junior year and the first half of his senior year, each honors student will participate in an interdisciplinary colloquium held one evening a week. To receive an honors degree, the student must in his senior year (1) pursue a program of independent reading or research culminating in a senior thesis, and (2) pass a written comprehensive examination in his major field.

Full information about the Program may be obtained from the Coordinator of the Undergraduate Honors Program. Seniors who have not participated in the Program but who have a grade-point average of 3.4 or above will receive their degree "with academic commendation." At least 60 semester hours of such work must have been at the University of Hawaii during a period not exceeding six years prior to graduation.

## Honors Courses

*See p. 41 for a discussion of course descriptions.*

**[Major Subject] 394-395 SENIOR HONORS THESIS (4) Yr.**

Preparation of a research paper under individual faculty supervision. Required for graduation with honors.

**IS 397-398 HONORS COLLOQUIUM (2-2) Yr.**

Weekly meetings for the discussion of great issues and problems which are of an interdisciplinary nature. Required of, and limited to, senior candidates for the bachelor's degree with honors.

## Military Science and Air Science

Instruction is offered in military and air science in accordance with the requirements stipulated by Congress in legislation relating to land-grant colleges. In accordance with its contractual agreements, the University requires (as a prerequisite to graduation) successful completion of two years of the basic course by each male student who is an American citizen unless he:

- a) has physical defects which prohibit participation;
- b) has passed his 24th birthday at the time of initial enrollment at this or another collegiate institution having required ROTC training;
- c) has completed 55 credit hours prior to initial enrollment at the University of Hawaii or other collegiate institutions having compulsory ROTC training;
- d) is an unclassified student carrying less than 12 credit hours;
- e) is a veteran with more than one year of service.
- f) is a conscientious objector, so recognized under procedures required by the Selective Service Act.

Individuals who have participated in training in the junior division ROTC or who have had military service of less than one year may be exempt from a portion of the two-year requirement.

Students desiring to avail themselves of any of the above exemptions should present satisfactory evidence at the ROTC exemption desk at the time of their first registration.

Training in the advanced courses is optional for selected juniors and seniors but the number can not exceed the quotas authorized by the federal government. Students must be enrolled for 12 or more semester hours in order to take advanced military training. Completion of the advanced course leads to a Regular or Reserve commission in the Army or Air Force.

## Military Training Courses

*See p. 41 for a discussion of course descriptions.*

### AIR SCIENCE

Professor MEADVILLE; Associate Professor CRAIN; Assistant Professors BRITTON, HO, SNOW; Instructors HAMMERSTROM, CATHCART, REIS, SMOKOSKA, NOLL

*Leadership Laboratory required 1 hour per week for each course listed. Lab fee 75 cents each semester (not refundable). Political Science 360 required of all students in AS 251; Geography 360 required of all students in AS 252.*

#### 101-102 FIRST-YEAR AIR SCIENCE (1-1) Yr.

Introductory course exploring causes of present world conflict as they affect the security of the United States. Analysis of democracy and communism; U.S. power position in world affairs; the armed forces as an instrument of national policy; missions and functions of Air Force; the student's relation to U.S. world commitments.

#### 151-152 SECOND-YEAR AIR SCIENCE (1-1) Yr.

Comparative study of world military forces: Free World land and naval forces, Free World air forces, Communist military systems, and trends in the development and employment of military power.

#### 201-202 THIRD-YEAR AIR SCIENCE (3-3) Yr.

Survey course about the nature of war; development of U.S. airpower; mission and organization of Defense Department; Air Force concepts, doctrine, and employment; astronautics and space operations; future development of aerospace power. Includes U.S. space programs, vehicles, system, and problems in space exploration. One hour of supervised research.

#### 251-252 FOURTH-YEAR AIR SCIENCE (2-1) Yr.

Introduction to weather and navigation. Air Force officer career responsibilities. Preparation for active duty.

#### 230 SUMMER TRAINING (2)

Applications of academic work. Air operations problems; military aircraft and equipment. Physical training. Pre: AS 201.

### MILITARY SCIENCE

Professor RIPPLE; Associate Professor AUTREY; Assistant Professors LANGE, RISCASSI, SIMPSON, STEELMAN, WRIGHT; Instructors FONG, KIM, MEDLEY, NALUAI, SHUBERT, STACK, YAGI

*Leadership Laboratory required 1 hour per week for 4 years; fee, 75 cents each semester (not refundable).*

#### 101-102 FIRST-YEAR MILITARY SCIENCE (1-1) Yr.

Theory of Army organization; organization and function of infantry squad, platoon, and company; purpose and objectives of ROTC program; missions and responsibilities of the Army as a member of the national defense team and major problems confronting the Army in this role, emphasizing the One-Army Concept; evolution of firearms, stressing marksmanship training.

#### 151-152 SECOND-YEAR MILITARY SCIENCE (1-1) Yr.

Survey of American military history from origins of American Army to present

with emphasis on the factors which led to organizational, tactical, logistical, operational and strategical patterns found in present-day Army; organization, composition, and mission of infantry-tank teams in nuclear and non-nuclear warfare; map and aerial photograph reading.

**201-202 THIRD-YEAR MILITARY SCIENCE (2-2) Yr.**

Infantry organization, principles of offensive and defensive combat, and their application to units of infantry division battalion in nuclear and non-nuclear warfare; responsibilities and qualities of a leader; special problems of military leadership; role of various branches in over-all missions of the Army; educational psychology as pertains to stages of instructional technique and student preparation, presentation, and evaluation of instruction.

**251-252 FOURTH-YEAR MILITARY SCIENCE (2-2) Yr.**

Staff organization, purpose, and functions using division staff as model, stressing operations of battalion staff in combat theater by using examples from World War II and Korea; role of the United States in world affairs; uniform code of military justice; fundamentals of army administration; fundamental knowledge of supply and troop movements.

## **Physical Education and Sports**

The University offers instruction in health and conducts a program of recreation and sports. Freshman and sophomore men and women whose twenty-fourth birthday has not passed at the time of enrollment and who are registered for 12 or more semester hours and have fewer than 55 college credits must take health and physical education courses (HPE 101-107) as required by the individual colleges. Veterans with one year of military service meet all health and physical education requirements.

Students engaged in varsity sports may be exempted from the health and physical education requirement during the semester of such participation upon petition to the academic dean and substantiation of such participation by the Director of Athletics.

Intramural sports are planned to supplement the regular courses.

Varsity sports are conducted independently of the Department. They are governed by a Board of Athletic Control composed of 11 members: 5 faculty members appointed by the President; 2 alumni members appointed by the Governing Board of the Alumni Association; 2 students recommended by the ASUH President and Senate to the University President for appointment; the Comptroller of the University, ex officio; and the Director of Athletics, ex officio. The Board forms policies for intercollegiate athletics, drafts budgets, and makes contracts and other arrangements for contests between the University and other colleges and athletics groups.

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

## COURSE NUMBERS AND DESCRIPTIONS

Courses are listed alphabetically by department under each college. Consult the Table of Contents or the Index to locate a given department. Numbers lower than 100 indicate noncredit courses. Orientation courses carry the number 100. Lower division courses, intended for freshmen and sophomores, are numbered 100–199. Upper division courses are numbered 200 to 599, but only those from 400 to 599 give graduate credit. Graduate courses are numbered 600 to 799. In a few cases, qualified seniors may enroll in a graduate course with the consent of the instructor.

Heading each course description are the number and title of the course, the number of credits, and the semester in which the course is given. Credits and semesters are indicated as follows: (3) I means a 3-credit first-semester course; (3) II, a 3-credit second-semester course; (3) I, II, a 3-credit course repeated the second semester; (3–3) Yr., a year course carrying three credits each semester; (Ar.), that the credits are variable and must be arranged with the instructor. The following abbreviations also are used on the title line: Hr., hour; L, lecture(s); LB, laboratory or laboratories; L-Lb, lecture-laboratory combined. Abbreviations used in the descriptions are: Alt. yrs., alternate years; Lab, laboratory; Pre, prerequisite.

The faculty list heading each department indicates the members of the department and includes other instructors giving courses in the department. The rank and title of each instructor are given under "Faculty and Staff."

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

The numbering system was changed in 1959. For original numbers see the 1959–60 or earlier editions.

# COLLEGE OF ARTS AND SCIENCES

THE COLLEGE OF ARTS AND SCIENCES is dedicated to the task of giving a general education of breadth as well as depth. It moves in the liberal arts tradition and offers a comprehensive acquaintance with the thought and achievement basic to civilization. Its courses are directed toward the development of ideals, interests, and attitudes characteristic of cultured people, and the ability to think clearly and to act upon conviction.

Preprofessional training is provided by stipulated combinations of courses. The programs lead to the bachelor of arts, the bachelor of fine arts (in art), the bachelor of music, or the bachelor of science (in chemistry, geology, and meteorology only) degree.

Its geographical position midway between continental America and the Far East makes Hawaii more than ordinarily conscious of the increasing importance of the Orient. Therefore, more than usual attention is given to the history, languages, literature, art, institutions, and philosophy of the countries and peoples of Asia.

## Admission and Degree Requirements

Admission requirements are the same as those for the University (pp. 18-22).

To be entitled to a bachelor's degree a student must:

- 1) Complete certain basic subjects;
- 2) complete a major field of study as prescribed by the major department;
- 3) offer at least 50 semester hours of credit in other than introductory courses;
- 4) earn an aggregate of at least 130 semester hours of credit;
- 5) earn a 2.0 (a C average) grade-point ratio for all registered credits, and in the major field (*see* "Undergraduate Degree Requirements").

## Curricula

The bachelor of arts curriculum is built around major fields of concentration. All students must meet the basic requirements of the first two years. A major consists of 24 to 36 semester hours in one field of concentration; credits taken in excess of the latter figure cannot be applied toward a degree. Related courses (generally upper division) are

courses in other departments which are associated with and contribute to the major. They are not counted in the total number of hours required for the major. Twelve semester hours is the maximum which any department may require in related courses. *The major must be indicated by the beginning of the third year, and for certain preprofessional programs (prearchitecture, predentistry, premedicine, prepharmacy), for chemistry, physics, and zoology, and for the degrees of bachelor of fine arts, bachelor of science, and bachelor of music, it should be indicated at the beginning of the first year.*

## Bachelor of Arts Degree Programs

### Basic Requirements

#### FIRST YEAR

English 101-102 or 105  
Foreign language, elementary  
Health & Phys. Ed., 1 activ. course  
History 151-152  
AS 101-102 or MS 101-102  
Laboratory science  
Speech 140 or 150

#### SECOND YEAR

English 150-151 or 152-153  
Foreign language, intermediate  
Political Science 110  
Health & Phys. Ed. 130  
History 171  
AS 151-152 or MS 151-152  
Speech (as required)

In addition, six of the following must be completed: Anthropology 150; Art 101; Drama 140; Economics 140 or 150; Geography 102; Mathematics 102, 103, or 111; Music 160; Philosophy 100 or 150; Religion 150 or 151; Sociology 151 or 201.

Entering freshmen may satisfy the foreign language requirement in two ways: (1) the entire requirement, by having taken four years of a single language at the secondary level, or (2) a portion of the requirement, by taking the placement examination in a foreign language. Qualified students, upon reporting to the Admissions Office, may also take an examination in American history to satisfy the requirement of History 171.

The science requirement may be satisfied by 6 to 8 credits from the following courses: Botany 101; Chemistry 103-104 or 105-106; Entomology 161; Geography 101; Geology 150 or 151; Microbiology 151; Physics 160-161 or 170-175; Psychology 102; Zoology 101 or 111; or General Science 120-121.

### Majors (B.A. Degree)

The following list indicates the departments in which students may major and the requirements for the major, viz., the total number of semester hours and the specific courses required by the department. A 2.0 (C average) grade-point ratio in the major field is required for graduation.

**ANTHROPOLOGY.** *Major requirement: 27 semester hours. Required*



*courses:* 200, 201, 202; 300 or 301; 6 hours from the following: 250, 251, 252, 253, Asian Studies 301; 9 hours from the following: 350, 351, 352, 353, 354.

**ART.** *Major requirement:* 36 semester hours. *Required courses:* 12 hours of art history, including 171-181; additional courses as needed to complete one of the following: elective studio, with emphasis on one area (drawing and printmaking, painting, weaving and textiles, ceramics, or visual design); history of art, with major emphasis on Eastern or Western art; teaching major in art, meeting the requirements of the College of Education. For the BFA degree the major requirement is 64 semester hours (see p. 47).

**ASIAN STUDIES.** *Major requirement:* 36 semester hours. *Required courses:* 301-302 or equivalent; 6 hours of a third-year Asian language or equivalent; 15 hours from one of the following fields: anthropology, art, Asian literature, economics, geography, history, philosophy, political science, sociology; 9 hours of Asian courses outside this field of concentration from two or more departments in the humanities or social sciences.

**BIOLOGY.** *Major requirement:* 30 semester hours, including Botany 101, Genetics 451, Microbiology 151, Zoology 101, Botany 470 or Zoology 345, Botany 353 or Zoology 401. Additional nonintroductory courses to be selected from offerings in botany, genetics, microbiology, and zoology. As related courses, Geology 150 and Mathematics 103 are required.

**BOTANY.** *Major requirement:* 24 semester hours. *Required courses:* 101, 201; at least 15 semester hours in courses numbered above 300. Credit toward the major will be granted for Genetics 451.

**CHEMISTRY.** *Major requirement:* 34 semester hours. *Required courses:* 105-106, 143-144, 331-332, 551-552. A reading knowledge of scientific German is required.

**CHINESE.** *Major requirement:* 24 semester hours above the intermediate language level. *Related courses required:* A minimum of 6 hours from descriptive linguistics or courses dealing specially with China.

**DRAMA AND THEATRE.** *Major requirement:* 24 semester hours. *Required courses:* 150, 200, and 6 hours in dramatic literature.

**ECONOMICS.** *Major requirement:* 27 semester hours. *Required courses:* 150-151, 240, 300, 302, 304.

**ENGLISH.** *Major requirement:* 24 semester hours of upper division courses. *Required courses:* 9 hours in "periods" of English literature, 6 hours in single authors, 3 hours in American literature, 6 hours in the

English language, writing, and criticism. The language requirement should be met by an ancient or modern European language.

**FRENCH.** *Major requirement:* 24 semester hours, exclusive of 101–102, 151–152.

**GEOGRAPHY.** *Major requirement:* 25 semester hours. *Required courses:* 101, 102, 235, three regional and three systematic courses. Six additional nonintroductory credits to be selected, after consultation with department, from geology, mathematics, chemistry, physics, and history.

**GEOLOGY.** *Major requirement:* 26 semester hours. *Required courses:* 150, 151, 265, 275, 410, 415, 445, 460, 490. As related courses, Chemistry 103–104 and Mathematics 103 are required.

**GERMAN.** *Major requirement:* 24 semester hours exclusive of 101–102, 151–152, 153–154. Courses must include 159–160, 201–202, and 411–412 or 413–414.

**GREEK.** *Major requirement:* 24 semester hours exclusive of 151–152. *Required courses:* Latin 101–102; Greek 158.

**HISTORY.** *Major requirement:* 24 semester hours of upper-division courses. *Required courses:* 396, 397, or 398, and 9 hours from two of the three fields—United States, Pacific and Far East, European. Some courses may be applied to either of two of these groups.

**JAPANESE.** *Major requirement:* 24 semester hours above the intermediate language level. As related courses, a minimum of 6 hours from descriptive linguistics or courses dealing specifically with Japan.

**JOURNALISM.** *Major Requirement:* 36 semester hours. *Required courses:* 115, 116, 239, 315, 316, 385; 3 to 6 hours in nonintroductory courses offered by three of the following departments—anthropology, economics, political science, psychology, sociology; 3 to 6 hours likewise from three of these departments—art, English, history, philosophy, speech; as related courses, 12 hours in a listed department not selected above.

**LATIN.** *Major requirement:* 24 semester hours exclusive of 151–152. *Required courses:* Greek 101–102; Latin 157.

**MATHEMATICS.** *Major requirement:* 33 semester hours. *Required courses:* 15 semester hours in courses numbered above 400, not including 426, 427, 428, and 429.

**MICROBIOLOGY.** *Major requirement:* 24 semester hours. *Required courses:* 151, 361–362, 415. Additional work to consist of an integrated group of courses selected from appropriate offerings in biochemistry

and biophysics, botany, genetics, microbiology, and zoology. As related courses, Chemistry 331 and Physics 160-161 are required.

**MUSIC.** *Major requirement:* 34-36 semester hours. *Required courses:* 181-182, 183-184, 465-466, and 6 hours in applied music, including 235-236. For emphasis upon theory, in addition, 6 hours selected in upper-division theory courses, and one course in upper-division music literature courses, as advised. For emphasis upon music literature, in addition, 461, 462, 463, 464.

**PHILOSOPHY.** *Major requirement:* 24 semester hours. *Required courses:* 150, 155, 350, 400, 430.

**PHYSICS.** *Major requirement:* 35 semester hours. *Required courses:* 170-173, 174-175, 253, 310, 350, 460, 480-481, 530, 550. As related courses, Mathematics 401, and 402 are required.

**POLITICAL SCIENCE.** *Major requirement:* 27 semester hours. *Required courses:* 110 or 210, and at least one course from five of the following fields, including theory: political theory, American government, comparative government, international relations, politics, public administration, public law.

**PSYCHOLOGY.** *Major requirement:* 24 semester hours. *Required courses:* 102, 230. Further work in mathematics and science is recommended.

**RELIGION.** *Major requirement:* 24 semester hours. *Required courses:* 151, 200, 201, 382-383.

**RUSSIAN.** *Major requirement:* 24 semester hours exclusive of 101-102, 151-152.

**SOCIOLOGY.** *Major requirement:* 24 semester hours. *Required courses:* 151, and one course from each of the following five subdivision: (1) 410 to 430; (2) 434 to 460; (3) 462 to 518; (4) 520 to 558; (5) 560 to 600.

**SPANISH.** *Major requirement:* 24 semester hours, exclusive of 101-102, 151-152.

**SPEECH.** *Major requirement:* 27 semester hours. *Required courses:* 140 or 150, 130, 210, 220, 326, 370, plus 9 additional hours of upper-division speech courses. For students wishing to emphasize speech pathology and audiology, Speech 221, 222, 223, 320, 322, 325, and Psychology 250 and 280.

**ZOOLOGY.** *Major requirement:* 30 semester hours. *Required courses:* 101, 390. Credit toward the major will be granted for Genetics 451.

## Bachelor of Fine Arts Degree Program

This program is designed to provide basic preparation for a career in any one of several fields of art. Requirements include approximately twice as many semester hours in art as for the bachelor of arts degree with a consequent lessening of the credits to be taken outside the department. No foreign language is required. A major may be obtained in drawing, printmaking, and painting; weaving and textiles; ceramics; visual design. It is advisable for students anticipating a BFA program to take Art 111 and 131 in their first semester.

## Bachelor of Music Degree Program

**Basic Requirements:** Air Science or Military Science 101-102, 151-152; English 101-102, 150-151 or 152-153; French 101-102 (voice only); German 101-102 (voice only); Italian 101-102 (voice only); Health & Physical Education 101 or 102, 130; History 151-152; General Science 120-121; Political Science 110 or History 171; Speech 140 or 150.

### Music Requirements:

#### Major Performance Area:

\*OBI (24 sh) } 135-136, 137-138  
 \*P (24 sh) } 235-236, 237-238  
 \*V (24 sh) }

#### Secondary Performance Area:

OBI (4 sh) } 113-114, 115-116  
 P (2 sh) } 121, 131, 231  
 V (2 sh) } 113-114, 115-116

#### Theory:

OBI (8 sh) } 181, 182  
 P (8 sh) }  
 V (8 sh) }

#### Advanced Theory:

OBI (8 sh) }  
 P (8 sh) } 183, 184  
 V (8 sh) }

#### Conducting:

OBI (4 sh) } 257-258  
 V (4 sh) }

#### Form and Analysis:

OBI (4 sh) } 485-486  
 P (4 sh) }

#### Organization and Ensemble:

OBI (8 sh) } 400, 401,  
 P (6 sh) } 405, 409  
 V (9 sh) }

#### Orchestration:

OBI (4 sh) 281, 481

#### Music Literature:

OBI (3 sh) } 160  
 P (3 sh) }  
 V (3 sh) }

#### Music History:

OBI (6 sh) } 465-466  
 P (6 sh) }  
 V (6 sh) }

#### Piano Literature:

P (2 sh) 269

#### Piano Method:

P (2 sh) 259

**Music Electives:** OBI, 6 sh; P, 8 sh; V, 8 sh.

**Nonmusic Electives:** OBI, 18 sh; P, 18 sh; V, 10 sh.

---

\*OBI—Orchestral and Band Instrument; P—Piano, V—Voice.

## **Bachelor of Science Degree Programs**

(Chemistry, Geology, and Meteorology only)

### **Chemistry**

**Basic Requirements:** Basic Air or Military Science; English 101-102, 150-151 or 152-153; German 101-102 and 153-154; Mathematics 102, 140, 141, 142, 143; Physics 160-161; Speech 140; Health & Physical Education 130 and one activity course; and a minimum of 12 semester hours from the following: Anthropology 150; Art 101; Drama 140; Economics 140 or 150-151; History 151-152, 171; Music 160; Philosophy 100 or 150; Political Science 110; Psychology 102; Religion 150 or 151; Sociology 151.

**Chemistry Requirements:** 105-106, 143-144, 331-332, 421, 444, 551-552, and a minimum of 6 semester hours from the following: 399, 424, 441, 445, 651, 652, and Biochemistry 601-602.

**Recommended Electives:** Mathematics 401-402 or 431-432; Physics 174, Geology 150; one or more courses in biological science, and a minimum of 6 credits in nonscience electives.

### **Geology**

**Basic Requirements:** Basic Air or Military Science; Engineering GE 101, CE 111; Chemistry 105-106; English 101-102, 150-151 or 152-153, 210; foreign language, 2 years; Health & Physical Education, including 130; Mathematics 102, 103, 140, 141, 142; Physics 160-161 or 170-173; Speech 140, and 12 semester hours from the following: Anthropology 150; Art 101; Drama 140; Economics 140 or 150; History 151-152, 171; Mathematics 111; Music 160; Philosophy 100 or 150; Political Science 110 or 210; Psychology 102; Religion 150 or 151; Sociology 151.

**Geology Requirements:** 150, 151, 265, 275, 410, 415, 420, 445, 460, 480, 490.

**Recommended Electives:** Chemistry 580; Geography 430; Geology 200, 430, 454, 455, 456, 470, 495; mathematics beyond 142; Meteorology 160, 250; Physics 310, 350; Soil Science 481.

### **Meteorology**

**Basic Requirements:** Basic Air or Military Science; Chemistry 103-104 or 105-106; English 101-102, 150-151 or 152-153, 210; Geography 101; Geology 150; Health & Physical Education, including 130; Mathematics 143; Physics 110, 151, 170-175, 253, 310, 530; Speech 140 or 150; 12 semester hours from the following: Anthropology 150; Art 101; Drama 140; Economics 140 or 150-151; History 151-152, 171; Music 160; Phil-

osophy 100 or 150; Political Science 110; Psychology 102; Religion 150 or 151; Sociology 151.

*Meteorology Requirements:* 160, 202, 206, 422, 423, 425, 430, 431.

*Recommended Electives:* Botany 161, 181; Engineering CE 220, 325; Geography 430; German 101-102; Mathematics 401-402, 431, 432, 442, 471, 472; Oceanography 550.

### Preprofessional and Graduate Preparation

Because of its relatively small population, the state of Hawaii can absorb only a very limited number of professional people each year, and University authorities have felt that it would be unwise to attempt the development of costly postgraduate professional schools. However, by careful planning, students in the College of Arts and Sciences can prepare themselves adequately for admission to professional and graduate schools. This is especially true in view of the increasing emphasis upon a liberal arts background by most of the professions.

The College offers the necessary undergraduate courses to meet the entrance requirements of professional schools. Generally the recommendations of the appropriate national professional organizations should be followed. When the student has selected the graduate school which he desires to enter, he can elect the courses to fulfill the specific requirements of the school of his choice.

The College maintains a Life-Sciences Committee prepared to give specific aid to students preparing for schools of dentistry, medicine, osteopathy, or pharmacy. Information regarding the scholastic requirements of other professions is available at the office of the Dean of the College and at the Counseling and Testing Center.

### Premedical

The following are the combined requirements, in recommended sequence, of the University of Hawaii for graduation and of the most exacting medical schools for admission.

#### FIRST YEAR

| FIRST SEMESTER |         | SECOND SEMESTER |         |
|----------------|---------|-----------------|---------|
|                | CREDITS |                 | CREDITS |
| Eng. 101       | 3       | Eng. 102        | 3       |
| Language 101   | 3       | Language 102    | 3       |
| History 151    | 3       | History 152     | 3       |
| Chemistry 105  | 5       | Chemistry 106   | 5       |
| Speech 140     | 2       | Zoology 101     | 4       |
| HPE            | 1       | AS or MS        | 1       |
| AS or MS       | 1       |                 |         |
| Total          | 18      | Total           | 19      |

## SECOND YEAR

| FIRST SEMESTER        |         | SECOND SEMESTER |         |
|-----------------------|---------|-----------------|---------|
|                       | CREDITS |                 | CREDITS |
| Eng. 150 or 152       | 3       | Eng. 151 or 153 | 3       |
| Language              | 3       | Language        | 3       |
| Chemistry 143         | 4       | Chemistry 144   | 4       |
| Political Science 110 | 3       | Math 140        | 3       |
| Math 103              | 3       | History 171     | 3       |
| AS or MS              | 0       | AS or MS        | 1       |
| HPE                   | 1       |                 |         |
|                       | <hr/>   |                 | <hr/>   |
| Total                 | 17      | Total           | 17      |

## THIRD YEAR

|               |   |             |   |
|---------------|---|-------------|---|
| Physics 160   | 4 | Physics 161 | 4 |
| Zoology 206   | 3 | Zoology 301 | 3 |
| Chemistry 132 | 4 |             |   |

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) 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 degree from a college.

Schools of pharmacy usually require 1 year of college study for admission. This must include courses in English, chemistry, zoology, botany, trigonometry, and algebra.

Catalogues of individual schools of medicine, dentistry, and pharmacy with more specific admission requirements and information may be found in Sinclair Library. Interviews with the Premedical Advisor throughout the program are desirable.

## Special Programs

The University has authorized nondegree programs in the fields of prearchitecture, prepharmacy, and public administration. These are administered by the College Dean, at whose office detailed information is available.

## ARTS AND SCIENCES COURSES

*See p. 41 for a discussion of course descriptions.*

## Anthropology

Professors ELBERT, LUOMALA, MASON; Associate Professors JAY, LEBRA, MARETZKI; Assistant Professors CAMMACK, DEWEY, HOWARD, IKEDA, SOLHEIM; Instructor FORCE

**150 INTRODUCTION TO ANTHROPOLOGY (3) I, II**

Man's biological evolution; archeological history from the Stone Age to the Iron Age; patterned lifeways of tribal and folk societies throughout the world. Not open to juniors and seniors.

**200 CULTURAL ANTHROPOLOGY (3) I**

The nature of culture. Process of sharing and transmitting learned behavior patterns by which man in groups has met the problems of survival, social interaction, world view.

**201 BIOLOGICAL ANTHROPOLOGY (3) II**

Man's physical nature. Human evolution and racial variation. Comparative study of individual constitutions and its practical application.

**202 INTRODUCTION TO LINGUISTICS (3) I, II**

The nature and workings of language, and its role in culture and history.

**203 ANTHROPOLOGICAL STATISTICS (3) II**

Introduction to statistical methods and their use in the analysis of anthropological data.

**250 OCEANIA (3) I**

Survey of racial origins, languages, and cultural institutions of aboriginal Australia, Melanesia, Micronesia, Polynesia. Pre: 150 or 200.

**251 SUB-SAHARAN AFRICA (3) I**

Ethnic unity and diversity among the societies of Negro Africa. Problems arising from historical contacts with Europeans and Moslems. Pre: 150 or 200. (Not offered 1964-65.)

**252 EUROPE (3) II**

Selected studies to show regional differences in the customs of home and community. Importance of provincialism to national and international affairs. Pre: 150 or 200.

**253 THE AMERICAS (3) II**

Asiatic origin and New World settlement. Cultural diversity in pre-Columbian America, North and South. United States Indians as a minority group. Pre: 150 or 200.

**300 NEW WORLD ARCHEOLOGY (3) I**

Regional cultures and interrelationships as revealed by archeological studies. Emphasis on higher civilizations of Mexico, Central and South America. Pre: 150 or 200.

**301 OLD WORLD ARCHEOLOGY (3) II**

Rise of civilization in Europe, Africa, and Asia, from the Paleolithic to the historic period, as known from archeological research. Pre: 150 or 200.

**325 FOLKLORE (3) I**

Unwritten literature in preliterate and literate societies. Myth and legend in socialization and as sanctions for custom. Pre: 150 or 200.

**326 PRIMITIVE ART (3) II**

Art styles of Paleolithic Europe and of tribal societies in Africa, Oceania, the Americas. Influence of techniques, materials, cultural context. Pre: 150 or 200.

**350 COMPARATIVE SOCIAL SYSTEMS (3) I**

Comparison of organized group activity in societies of varying complexity. Kinship and association as bases for mutual action and social control. Pre: 200.



**351 ECONOMIC ANTHROPOLOGY (3) I**

Comparison of selected nonindustrial societies to illustrate the interactive influences of physical environment, economic skills, and cultural tradition. Pre: 200.

**352 COMPARATIVE RELIGION (3) II**

Origins and development of magical practices and religious systems among tribal and folk societies. Ritual and symbolism as aids to social integration. Pre: 200.

**353 PSYCHOLOGICAL ANTHROPOLOGY (3) I**

The role of culture in personality formation. Range of personality types in a culture. Cross-cultural comparisons. Analysis in terms of theoretical systems. Pre: 200.

**354 CULTURAL DYNAMICS (3) II**

Changing institutions as influenced by ecological setting, interpersonal group relations, contacts between alien peoples. Pre: 200.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in anthropology.

**400 HAWAII (3) I**

Hawaiian culture before Captain Cook, with emphasis on archeology, language, ecology, social structure, religion, arts. Present manifestations of old culture. Pre: 150 or 200.

**419 ISLAMIC CULTURE (3) I**

Traditional Muslim society. Growth and spread of Islamic culture in the ancient world. Contemporary community studies from selected countries to illustrate social and cultural change. Pre: 150 or 200. (Not offered 1964-65.)

**421 PHILIPPINES (3) II**

Setting of the Philippines in space and time. Cultural characteristics of the major lowland and upland groupings. Direction of institutional change to date. Pre: 200 or equivalent.

**501 THE AMERICAN IN FOREIGN CULTURES (3) I**

Americans of different subcultures and occupational groups overseas. Interaction and relationship with host societies. Their behavior, adjustments to the foreign scene, and attitudes toward non-American customs. Pre: 200 or equivalent.

**504 APPLIED ANTHROPOLOGY (3) I**

The relation of anthropology to community development and human resources conservation. Use of anthropology in prediction, planning, and control. Concepts and methods. Oriented to needs of administrators, educators, social workers, and other professionals who lack anthropological training. Pre: 200 or equivalent.

**515 ANTHROPOLOGY AND EDUCATION (3) II**

Education as a means of transmitting culture. Socialization in nonliterate societies; universal aspects of the process. Cross-cultural education. Pre: 200 or equivalent.

**549 FOLK LITERATURE OF JAPAN AND THE RYUKYUS (3) II**

Traditional tales, legends, and myths of Japan and the Ryukyus; their relationship to the national literature—historical epics, prose narratives, poetry, and drama. Problems of classification by types and motifs, and historical relationship to adjacent regions. Pre: 150, 200, or equivalent.

**600 POLYNESIA (3) II**

Early settlement, local adaptation, and racial and cultural history of Tahitians, Maoris, Hawaiians, Tongans, Samoans, and other Polynesians. Pre: 250.

**601 MICRONESIA (3) II**

Native custom in the Marshall, Caroline, Mariana, Gilbert islands. Cultural innovation during Spanish, German, Japanese, American, British administrations. Pre: 250.

**604 INDONESIA (3) II**

People of the Philippines and the Malayan archipelago. Growth and change in the folk and urban cultures of the area. Pre: 150 or 200. (Not offered 1964-65.)

**606 SEMINAR IN SOUTH ASIA (3) I**

New theoretical perspectives emerging from or applied to South Asian research. Pre: Asian Studies 525-526, or consent of instructor.

**610 ASIAN ARCHEOLOGY (3) I**

Prehistory of Asia and Oceania from the Stone Age to the present, presenting a background to modern cultures of the area. Pre: 300, 301 or Asian Studies 301.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor.

**700 HISTORY OF ANTHROPOLOGY (3) I**

The historical development of anthropology, emphasizing the unity of the diverse fields which constitute the study of man. Pre: consent of instructor.

**701 CULTURE, SOCIETY, AND PERSONALITY (3) II**

The theories, concepts, and analytical schemes of contemporary cultural anthropology, with emphasis on relation of anthropology to sociology and psychology. Pre: 700, or consent of instructor.

**710 METHODS I (3) I**

Analytical framework, theory construction, research design, data collection (objective, subjective, and projective techniques), data processing and evaluation. Pre: 701 and a course in statistics equivalent to 203.

**711 METHODS II (6) II**

Directed field research, laboratory procedures, preparation of materials for publication. Pre: 710.

**750 SEMINAR (3) I, II**

Reporting and discussion of current research. (1) Archeology, (2) linguistics, (3) ethnography, (4) social anthropology, (5) applied anthropology, (6) culture and personality, (7) biological anthropology. Pre: consent of instructor. May be repeated.

*Credit toward the major will be granted in the following courses:*

**Asian Studies 301**

**Genetics 321**

**Music 471**

## **Art**

Senior Professor CHARLOT; Professors COX, ECKE, HORAN, KINGREY, NORRIS, ROBINSON, TURNBULL; Associate Professors ANDERSON, ETHERINGTON, NEOGY, TSENG YU-HO; Assistant Professors EVERSON, KIMURA, McVAY, STASACK; Instructors AIDLIN, BUSHNELL, INGLESON, KOBAYASHI, NELSON, PREBLE

*For art majors Art 171 is prerequisite to other courses in history of Western art and Art 181 to those in Far Eastern art. Others may substitute History 152 or 162 for these prerequisites.*

*Certain courses may be repeated for credit with the consent of the instructor.*

*The University reserves the right to retain any student work which may be needed for exhibition or for the Art Department files.*

## ARCHITECTURE

### 116-117 ARCHITECTURAL GRAPHICS (2-2) Yr.

Graphic problems of points, lines, surfaces; projection of plans, sections, elevations; shades and shadows; perspective. Course fee \$1.00 each semester.

### 138-139 ARCHITECTURAL DESIGN (3-3) Yr.

Design of simple buildings in relation to environment; discussion, field trips, sketch problems. Pre: Art 132. Course fee \$1.00.

### 171-172 HISTORY OF ARCHITECTURE (3-3) Yr.

General survey of all periods; reference reading, illustrated lectures, discussions.

## ART

### 101 INTRODUCTION TO THE VISUAL ARTS (3) I, II

Nature of visual art and its expression in various forms. Lectures, demonstrations, museum visits. Course fee \$1.00.

### 102 STUDIO IN VISUAL ARTS (3) II

Elementary problems in various media as an introduction to the basic creative problems in the visual arts. Pre: Art 101. Course fee \$1.00.

### 103-104 ART FUNDAMENTALS (2-2) Yr.

Background material and studio practice to stimulate understanding of the arts. Lectures, museum visits, studio work. Course fee \$1.00 each semester.

### 111-112 DRAWING (2-2) Yr.

Basic principles of drawing in a variety of media. This course or its equivalent is prerequisite to all advanced studio courses. Course fee \$1.00 each semester.

### 131-132 VISUAL DESIGN (2-2) Yr.

Elements and principles of visual organization. This course or its equivalent is prerequisite to all advanced studio courses. Course fee \$1.00 each semester.

### 136 WEAVING (2) I, II

Creative processes of weaving. Warping and threading of simple hand looms and multiple harness looms. Course fee \$7.50.

### 137 WEAVING (2) I, II

Experimentation with techniques and study of pattern drafting. Designing for specific problems. Pre: Art 136. Course fee \$7.50.

### 141 CERAMICS (2) I, II

Methods and principles of creating pottery by hand. Course fee \$10.00.

### 142 CERAMICS (2) I, II

Emphasis on wheel throwing and experimentation with form and decorative techniques. Pre: Art 141. Course fee \$10.00.

**151 SCULPTURE (2) I, II**

Introductory study of sculptural form. Basic techniques and problems in clay. Lectures and studio work. Course fee \$10.00.

**152 SCULPTURE (2) I, II**

Continuation of 151. Emphasis on individual solutions to problems of sculptural form. Lectures and studio work. Pre: Art 151. Course fee \$10.00.

**171 COMPARATIVE ASPECTS OF WESTERN ART (3) I, II**

Historical relationships of the major styles in the visual arts of the Western traditions including Africa, Europe, and post-Colonial Americas. Course fee \$2.00.

**181 COMPARATIVE ASPECTS OF FAR EASTERN ART (3) I, II**

Historical relationships of the major visual art styles of Far Eastern traditions, including Asia, the Pacific, and pre-Colonial Americas. Course fee \$2.00.

**215 INTRODUCTION TO PRINTMAKING (2) I, II**

Introduction to studio practice in intaglio processes. Pre: Art 112, 132. Course fee \$3.00.

**235 TEXTILE DESIGN (2) I, II**

Execution of individual problems in design on fabrics, utilizing such media as the block print, stencil, silk screen. Pre: Art 132. Course fee \$7.50.

**263-264 LETTER FORMS (2-2) Yr.**

The letter as a visual element in design organization. Pre: Art 112, 132, or equivalent. Course fee \$1.00.

**270 THE LITERATURE OF ART HISTORY AND CRITICISM (3) II**

An historical introduction to the primary literary materials from the Eastern and Western traditions concerned with art theory and criticism. Course fee \$2.00. (Not offered 1964-65.)

**276 ART OF THE UNITED STATES (3) II**

An historical survey of the visual arts of the United States from colonial times to the present. Course fee \$2.00.

**281 ART OF ASIA MINOR, INDIA AND SOUTHEAST ASIA (3) I**

The development of the visual arts of Islam, India, Pakistan, and the spread of Indian Art to Southeast Asia. Course fee \$2.00.

**287 ART OF THE PACIFIC (3) II**

Stylistic and aesthetic characteristics of the arts of Oceania, including Australia, Indonesia, Melanesia, Micronesia and Polynesia. Course fee \$2.00.

**311 FIGURE DRAWING (2) I, II**

Basic principles of drawing the human figure, including study of anatomy and articulation as a foundation of knowledge and skill. Pre: Art 112. Course fee \$4.00.

**321-322 PAINTING (2-2) Yr.**

Problems in the creation of visual forms. Pre: Art 112, 132, or equivalent. Course fee \$6.00 second semester.

**323 WATERCOLOR PAINTING (2) I**

Technique of water color. Studio and outdoor painting. Pre: Art 112, 132. Desirable preparation: Art 322.

**331 THREE-DIMENSIONAL DESIGN (2) I, II**

Development of concepts of visual organization in three dimensions. Pre: Art 112, 132. Course fee \$5.00.

**335 TEXTILE DESIGN (2) I, II**

Originating ideas for fabrics. Printing and execution of individual or collaborative projects. Pre: Art 235. Course fee \$10.00.

**372 ANCIENT ART (3) I**

An historical survey of the visual arts of the Mediterranean Basin from pre-historic times to the Christian era. Course fee \$2.00.

**373 MEDIEVAL ART (3) II**

An historical survey of the visual arts within the Christian sphere from the early Christian era to the Renaissance. Course fee \$2.00.

**374 RENAISSANCE THROUGH ROCOCO (3) I**

An historical survey of the visual arts of Europe during the Renaissance, Mannerist, Baroque, and Rococo periods. Course fee \$2.00.

**375 MODERN ART (3) II**

An historical survey of the visual arts in the West from circa 1790 to contemporary times. Course fee \$2.00.

**382 ART OF CHINA (3) II**

The development of the visual arts in China from pre-historic times to the present. Course fee \$2.00.

**383 ART OF JAPAN AND KOREA (3) II**

The development of the visual arts in Japan and Korea from pre-historic times to the present. Course fee \$2.00.

**390 SENIOR SEMINAR (2) II**

Reports with group discussion to integrate studio practice, art history, theory. Pre: consent of chairman.

**399 DIRECTED WORK (Ar.) I, II**

Criticism and guidance in work of the advanced student's own choosing in the following fields: (1) drawing and printmaking, (2) painting, (3) weaving and textiles, (4) ceramics, (5) sculpture, (6) visual design, (7) Western art, (8) Far Eastern. Course fee \$10.00 for (3), (4), (5). Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in art.

**412 FIGURE DRAWING (2) I, II**

Drawing of the human figure as a foundation for its imaginative use. Pre: Art 311. Course fee \$4.00.

**415 PRINTMAKING (2) I, II**

Advanced studio practice in standard and experimental intaglio processes. Pre: Art 112, 132, 311 or equivalent. Course fee \$3.00.

**416 ILLUSTRATION (2) I**

Problems of illustration with emphasis on individual experimentation. Various media for reproduction. Pre: Art 112, 132, or equivalent. Course fee \$2.00.

**421-422 ADVANCED PAINTING (2-2) Yr.**

Continuation of 321-322. Course fee \$6.00 second semester.

**424 WATER-COLOR PAINTING (2) II**

Imaginative expression of form and idea in water color. Studio and outdoor painting. Pre: Art 323.

**425 MATERIALS AND TECHNIQUES OF PAINTING (2) II**

Methods emphasizing physical properties and characteristics of materials. Pre: consent of chairman. Course fee \$10.00.

**426-427 STUDIO, CHINESE PAINTING (2-2) Yr.**

Methods and principles of Chinese painting, landscape, figures, flowers and other subjects; calligraphy. Pre: Art 181. Course fee \$3.00.

**436 ADVANCED WEAVING (2) I, II**

Emphasis on individually designed problems. Pre: Art 137 or equivalent. Course fee \$10.00.

**442 ADVANCED CERAMICS (2) I, II**

Functional and production limitations. Continuation of exploratory work in field of student's choice. Pre: Art 142 or equivalent. Course fee \$10.00.

**443 CERAMIC GLAZE CALCULATIONS (2) I, II**

Molecular formulae for glaze experimentation; tests of raw materials. Care and operation of equipment. Pre: Art 141 or equivalent. Course fee \$10.00.

**463-464 ADVANCED VISUAL DESIGN (2-2) Yr.**

Investigation into the processes of visualization; its expression and control. Pre: Art 112, 132.

**476 ITALIAN RENAISSANCE PAINTING AND SCULPTURE (3) I**

The development of painting and sculpture in Italy during the period of the Renaissance. Course fee \$2.00.

**477 NORTHERN RENAISSANCE PAINTING AND SCULPTURE (3) II**

The development of painting and sculpture in the Netherlands, France, Germany and England during the period of the Renaissance. Course fee \$2.00.

**478 19th CENTURY PAINTING AND SCULPTURE (3) I**

The development of the 19th Century European schools of painting and sculpture. Course fee \$2.00.

**479 20th CENTURY PAINTING AND SCULPTURE (3) II**

The development of painting and sculpture in Europe and the Americas in the 20th Century. Course fee \$2.00.

**565 VISUAL COMMUNICATION (2) II**

Experimental projects of visual design which communicate. Creation of new images and symbols. Pre: Art 264, 464 or equivalent. Course fee \$1.00.

**585 CHINESE PAINTING (3) II**

Development of Chinese painting. Visits to Academy of Arts. Course fee \$2.00.

**612 FIGURE DRAWING (2) I, II**

Advanced individual problems. Projects in figure composition. Pre: consent of chairman and instructor. Course fee \$4.00.

**615-616 PRINTMAKING (2-2) Yr.**

Individual problems in intaglio, relief, and planographic processes. Pre: Art 415 or equivalent. Course fee \$3.00 per semester.

**621-622 PAINTING (2-2) Yr.**

Individual problems in advanced painting. Pre: consent of chairman and instructor.

**623 WATERCOLOR PAINTING (2) II**

Individual problems in advanced watercolor painting. Pre: consent of chairman and instructor.

**625 MATERIALS AND TECHNIQUES OF PAINTING (2) II**

Advanced problems and experiments in the physical properties of painting materials. Pre: consent of chairman and instructor. Course fee \$10.00.

**636-637 WEAVING (2-2) I, II**

Individual problems in advanced weaving. Pre: consent of chairman and instructor. Course fee \$10.00 per semester.

**641-642 CERAMICS (2-2) I, II**

Individual problems in advanced ceramics, using the potter's wheel and hand building techniques. Pre: consent of chairman and instructor. Course fee \$10.00 per semester.

**643-644 CERAMIC GLAZES AND CLAY BODIES (2-2) I, II**

Individual problems in glazes, clay bodies and firing techniques. Pre: consent of chairman and instructor. Course fee \$10.00 per semester.

**661-662 VISUAL DESIGN (2-2) Yr.**

Individual problems in advanced visual design. Pre: consent of chairman and instructor.

**683 APPLIED ARTS OF CHINA (3) I**

Ceramics, glyptic arts, metalwork, lacquer, textiles, architecture, furniture, interior design, landscaping. Visits to Academy of Arts. Course fee \$2.00.

**684 CHINESE PAINTING OF MING AND EARLY CHING (3) I**

Historical account of Chinese painting from the 15th to the 17th century. Course fee \$2.00.

**685 CHINESE PAINTING FROM CHING TO THE PRESENT (3) II**

Historical account of Chinese painting from the late 17th century on. Course fee \$2.00.

**689 SEMINAR IN ORIENTAL ART (2) I, II**

Survey of available literature and presentation of papers in fields of the student's choice. Pre: consent of chairman and instructor.

**690 GENERAL SEMINAR (3) I, II**

Historical and critical thought in the visual arts. Taken concurrently with Art 661, 642, 636, or 621. Pre: consent of chairman and instructor.

**699 DIRECTED WORK (Ar.) I, II**

(1) Drawing and printmaking, (2) painting, (3) weaving and textiles, (4) ceramics, (6) visual design, (8) Far Eastern. Course fee by arrangement.

**782 BUDDHIST AND HINDU ART OF INDIA (3) II**

Development of Buddhist and Hindu art in India and the diffusion of Indian art in Asia. Course fee \$2.00.

**784 EARLY CHINESE ART (3) I**

Developments in pottery, jade, bronze, and other arts to the end of Han. Visits to Academy of Arts. Course fee \$2.00.

**786 JAPANESE PAINTING AND SCULPTURE (3) II**

The development of Japanese painting and sculpture from prehistoric times to the present including printmaking. Course fee \$2.00.

**789 MUSEUM STUDIES IN FAR EASTERN ART (3) II**

Detailed critical consideration of the Far Eastern collections of the Academy of Arts. Pre: consent of instructor. Course fee \$2.00.

## **Asian and Pacific Languages**

Professors ELBERT, SHEN, UYEHARA, YOUNG; Associate Professor WINTERS; Assistant Professors ARTOLA, CHANG, DE QUELJOE, FUJIOKA, IKEDA, LEE, LIU, MAURER, MC-ELRATH, ROOSMAN THAWISOMBOON, YASUDA; Instructors FUJIKAWA, HENTHORN, HIRAI, KUROKAWA, MEINECKE, MIRIKITANI, MORALES, SAWADA, SPENCER, WAN, WELLINGTON

### **CHINESE**

**101-102 ELEMENTARY MANDARIN-CONVERSATION (3-3) Yr.**

Conversation and sentence patterns. Laboratory drill. May be taken concurrently with 103-104. Course fee \$3.00 per semester.

**103-104 ELEMENTARY MANDARIN-READING (3-3) Yr.**

Training in Pai-hua reading. May be taken concurrently with 101-102.

**107-108 INTENSIVE MANDARIN-CONVERSATION (6-6) Yr.**

Equivalent of Chinese 101-102, 151-152. Additional daily laboratory drill. Course fee \$6.00 per semester.

**109-110 INTENSIVE MANDARIN-READING (6-6) Yr.**

Equivalent of Chinese 103-104, 153-154. Classes meet daily Monday-Saturday. Recommended: this course be taken simultaneously with 107-108.

**151-152 INTERMEDIATE MANDARIN-CONVERSATION (3-3) Yr.**

Continuation of 102. Advanced conversation with laboratory drill. May be taken concurrently with 103-104 or 153-154. Pre: 102 or equivalent. Course fee \$3.00 per semester.

**153-154 INTERMEDIATE MANDARIN-READING (3-3) Yr.**

Continuation of 104. Selected reading of Pai-hua literature. May be taken concurrently with 101-102 or 151-152.

**201-202 ADVANCED CHINESE-CONVERSATION (3-3) Yr.**

Course conducted entirely in Chinese. Lectures, reports, discussions. Extensive use of taped samples of oral Chinese. May be taken concurrently with 209-210 or 211-212. Pre: 108 or 152. Course fee \$3.00 per semester.

**209-210 THIRD-YEAR CHINESE (MODERN) (3-3) Yr.**

Reading of materials related to social sciences. Pre: 154 or 110. May be taken concurrently with 211-212.

**211-212 THIRD-YEAR CHINESE-CLASSICAL (3-3) Yr.**

Introduction to classical and contemporary literary styles. May be taken concurrently with 209-210. Pre: 154 or 110.

**220 CHINESE COMPOSITION (2) I, II**

Training in modern Chinese composition. Pre: 154 or 110.



**401-402 CHINESE LITERATURE IN ENGLISH (3-3) Yr.**

Historical survey of classical Chinese literature (poetry and prose) in relation to Chinese culture before 1919. Pre: English 151 or 153.

**407 CONTEMPORARY CHINESE LITERATURE IN ENGLISH (2) I, II**

Survey of modern literary movements. Works of major poets, novelists, and playwrights. Pre: English 151 or 153. (Not offered 1964-65.)

**415-416 CHINESE GRAMMAR (3-3) Yr.**

A linguistic description of modern Chinese-Mandarin: 415—The Morphology of Mandarin Chinese; 416—The Syntax of Mandarin Chinese. Pre: 152, 154 or consent of instructor.

**417-418 FOURTH-YEAR CHINESE (3-3) Yr.**

Readings in advanced classical texts. Pre: 212 or equivalent.

**611-612 CONTEMPORARY CHINESE LITERATURE (3-3) Yr.**

Representative works of leading modern novelists, poets, and dramatists since 1919. Pre: 212 or equivalent.

**613-614 CHINESE POETRY (2-2) Yr.**

Critical study of classical Chinese poetry in various forms. Pre: 212 or equivalent.

**616 HISTORY OF CHINESE LITERARY CRITICISM (2) II**

Survey of Chinese literary criticism from Confucius to the twentieth century. Pre: 212 or equivalent.

**693-694 METHODS IN CHINESE STUDIES (3-3) Yr.**

Main fields of research, special methods evolved, and principal sources of bibliographical information. Pre: 212 or equivalent.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing.

**701-702 RESEARCH SEMINAR IN CHINESE (2-2) Yr.**

Specialization in (1) language, and (2) literature. Pre: consent of instructor.

## HAWAIIAN

**101-102 ELEMENTARY HAWAIIAN (3-3) Yr.**

Elements of the language; emphasis on conversation with some attention to Hawaiian songs; laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE HAWAIIAN (3-3) Yr.**

Reading of legends and traditional materials. Conversation with laboratory drill. Conducted in Hawaiian. Course fee \$3.00 per semester.

**211-212 HAWAIIAN TRANSLATION (3-3) Yr.**

Translation of legends, chants, songs, historical documents. English-Hawaiian translation. Pre: 152 or equivalent. (Not offered 1964-65.)

**413-414 HAWAIIAN TRADITIONAL POETRY (3-3) Yr.**

Translation of traditional poetry, including the Pele and Hiiaka cycle, and the Kumu Lipo creation chants. Pre: 152 or equivalent.

## HINDI

**101-102 ELEMENTARY HINDI (3-3) Yr.**

Conversation with laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE HINDI (3-3) Yr.**

Continuation of 102. Reading and conversation with laboratory drill. Course fee \$3.00 per semester.

**211-212 THIRD-YEAR HINDI (3-3) Yr.**

Conversation and advanced reading. Pre: 152 or equivalent.

## INDONESIAN

**101-102 ELEMENTARY INDONESIAN (3-3) Yr.**

Conversation with laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE INDONESIAN (3-3) Yr.**

Reading and conversation with laboratory drill. Course fee \$3.00 per semester.

**211-212 (411) THIRD-YEAR INDONESIAN (3-3) Yr.**

Conversation and advanced reading.

**417-418 FOURTH-YEAR INDONESIAN (3-3) Yr.**

Classical Malay literature and reading of Malay texts in Jawi script. Pre: 212.

## JAPANESE

**101-102 ELEMENTARY JAPANESE—CONVERSATION (3-3) Yr.**

Conversation and grammar with laboratory drill. Course fee \$3.00 per semester. May be taken concurrently with 103-104 or 153-154.

**103-104 ELEMENTARY JAPANESE—READING (3-3) Yr.**

*Katakana*, *hiragana*, and mastery of about 500 *kanji*. May be taken concurrently with 101-102 or 151-152.

**107-108 INTENSIVE JAPANESE—CONVERSATION (6-6) Yr.**

Intensive conversation. Equivalent to 101-102, 151-152. Additional laboratory drill. Course fee \$6.00 per semester.

**151-152 INTERMEDIATE JAPANESE—CONVERSATION (3-3) Yr.**

Continuation of 102. Conversation and drill. Pre: 102 or equivalent. May be taken concurrently with 103-104 or 153-154. Course fee \$3.00 per semester.

**153-154 INTERMEDIATE JAPANESE—READING (3-3) Yr.**

Continuation of 104. More difficult colloquial texts and additional *kanji*. Pre: 104 or equivalent. May be taken concurrently with 101-102 or 151-152.

**157-158 INTENSIVE JAPANESE—READING (6-6) Yr.**

Intensive reading. Equivalent to 103-104, 153-154. Recommended to be taken concurrently with 107-108.

**201-202 ADVANCED JAPANESE—CONVERSATION (3-3) Yr.**

Course conducted entirely in Japanese. Lectures, reports, discussions. Extensive use of taped samples of oral Japanese. Pre: 108 or 152. Course fee \$3.00 per semester.

**211-212 THIRD-YEAR JAPANESE (3-3) Yr.**

Mastery of the 1,850 standard *kanji*. Reading of selections from newspapers, magazines, contemporary fiction. Pre: 154 or equivalent.

**220 JAPANESE COMPOSITION (2) I, II**

Training in modern Japanese composition. Pre: 154 or 110.

**401-402 JAPANESE LITERATURE (2-2) Yr.**

Historical analysis of Japanese thought through literature. Classics and contemporary works in English translation. Pre: English 151 or equivalent.

**408 STRUCTURE OF JAPANESE (3) II**

Phonology, morphology, syntax of modern colloquial Japanese. Pre: a course in general linguistics. Knowledge of Japanese helpful but not required.

**413 JAPANESE FOLK LITERATURE (3) I**

Myths, folktales, legends. Emphasis on reading of texts in Japanese. Pre: 154 or equivalent.

**415-416 JAPANESE GRAMMAR-COLLOQUIAL (3-3) Yr.**

Detailed analysis of the modern colloquial language. Pre: 154, 158 or equivalent.

**417-418 FOURTH-YEAR JAPANESE (3-3) Yr.**

Selected readings in the modern literary, classical, and *kambun* styles. Pre: 212 or equivalent.

**421-422 JAPANESE GRAMMAR-CLASSICAL (3-3) Yr.**

Detailed analysis of the classical language. Pre: 212 or equivalent.

**499 ADVANCED STUDY AND SENIOR ESSAY (2) I, II**

Directed research in an area of Japanese literature, linguistics, or dialects. Paper required. Pre: 212 or equivalent.

**611-612 CONTEMPORARY JAPANESE LITERATURE (3-3) Yr.**

Literary movements and representative works since 1868. Pre: 212 or equivalent. (Not offered 1964-65.)

**613-614 JAPANESE POETRY (3-3) Yr.**

Historical survey of poetical types including *tanka*, *haiku*, *senryu*, *shi*, and folk songs. Pre: 212 or equivalent.

**615-616 CLASSICAL JAPANESE LITERATURE (3-3) Yr.**

Study of classical genres and selected readings in representative classical works. Pre: 416, 418 or equivalent.

**693-694 JAPANESE BIBLIOGRAPHY (3-3) Yr.**

Basic reference and bibliographic materials; their use and method in Japanese studies. Pre: 418 or equivalent.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing.

**701-702 RESEARCH SEMINAR IN JAPANESE (2-2) Yr.**

(1) Language, (2) literature. May be repeated. Pre: consent of instructor.

## JAVANESE

**101-102 ELEMENTARY JAVANESE (3-3) Yr.**

Conversation with laboratory drill. Course fee \$3.00 per semester.

## KOREAN

**101-102 ELEMENTARY KOREAN (3-3) Yr.**

Conversation, elements of grammar, reading; laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE KOREAN (3-3) Yr.**

Conversation, reading, writing. Some Chinese characters. Course fee \$3.00 per semester.

**211-212 THIRD-YEAR KOREAN (3-3) Yr.**

Advanced conversation, reading, and writing. More Chinese characters.

**401-402 KOREAN LITERATURE IN ENGLISH (3-3) Yr.**

Historical survey of Korean literature (prose and poetry). Comparative study of the literature of Korea, China, Japan, and the West to be made whenever necessary. Pre: English 151 or equivalent.

**417-418 FOURTH-YEAR KOREAN (3-3) Yr.**

Introduction to classical and contemporary literary styles. Pre: 212.

**693-694 KOREAN BIBLIOGRAPHY (3-3) Yr.**

Basic reference and bibliographic materials; their use and method in Korean studies. Pre: 418 or equivalent.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing.

**701-702 RESEARCH SEMINAR IN KOREAN (2-2) Yr.**

Specialization in (1) language, and (2) literature. Pre: consent of instructor.

## PALI

**101-102 ELEMENTARY PALI (3-3) Yr.**

Reading of basic texts from Pali Canon. Pre: Sanskrit 102.

## SANSKRIT

**101-102 ELEMENTARY SANSKRIT (3-3) Yr.**

Elements of grammar and reading.

**151-152 INTERMEDIATE SANSKRIT (3-3) Yr.**

Continuation of 102. Reading of classical texts, with a review of grammar.

**211-212 THIRD-YEAR SANSKRIT (3-3) Yr.**

Reading of Vedic or classical texts. Pre: 152.

### TAGALOG

**101-102 ELEMENTARY TAGALOG (3-3) Yr.**

Conversation and elements of grammar with laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE TAGALOG (3-3) Yr.**

Continuation of 102. Reading and conversation with laboratory drill. Course fee \$3.00 per semester.

### THAI

**101-102 ELEMENTARY THAI (3-3) Yr.**

Conversation with laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE THAI (3-3) Yr.**

Reading and conversation with laboratory drill. Course fee \$3.00 per semester.

**211-212 THIRD-YEAR THAI (3-3) Yr.**

Conversation and advanced reading.

### Asian Studies

Professors R. ANDERSON, KORNHAUSER, NUNN; Associate Professors JAY, ORANS,  
Assistant Professor UPPAL

**301 CIVILIZATION OF THE EAST (3) I**

The physical environment and cultural traditions of East, Southeast, and South Asia, before major Western contact.

**302 CIVILIZATIONS OF THE EAST (3) II**

The response of Asian culture to the West; movements of nationalism and modernization; Asia's role today.

**521 CIVILIZATIONS OF THE EAST: JAPAN, CHINA, AND KOREA (3) I**

The physical environment and cultural traditions of East Asia.

**522 CIVILIZATIONS OF THE EAST: JAPAN, CHINA, AND KOREA (3) II**

Contemporary East Asia with emphasis on nationalism, economic development, and socio-cultural change.

**523 CIVILIZATIONS OF THE EAST: SOUTHEAST ASIA (3) I**

The physical environment and cultural traditions of Southeast Asia.

**524 CIVILIZATIONS OF THE EAST: SOUTHEAST ASIA (3) II**

Contemporary Southeast Asia with emphasis on nationalism, economic development, and socio-cultural change.

**525 CIVILIZATIONS OF THE EAST: SOUTH ASIA (3) I**

An analysis of divisive and unifying factors in traditional Indian society, including race, religion, class, caste, and language; and an interdisciplinary inquiry into economic development.

**526 CIVILIZATIONS OF THE EAST: SOUTH ASIA (3) II**

Indian thought: great and little traditions; and emergent trends in South Asia.

**699 DIRECTED RESEARCH (Ar.) I, II**

Individual problems and research. Pre: consent of instructor.

**798 SEMINAR IN EAST ASIAN STUDIES (3) I**

Problems of modern Asian nations. Pre: 521-522, or 523-524, or 525-526, or the equivalent.

**880 THESIS RESEARCH**

## Botany

Professors BAKER, COOIL, DOTY; Associate Professors GILLETT, PUTMAN, J. LOCKHART; Assistant Professor LAMOUREUX

**101 GENERAL BOTANY (4) I, II (2 L, 2 Lb)**

Basic principles of plant biology. This course and Zoology 101 comprise an introduction to biology. Course fee \$5.00.

**105 ETHNOBOTANY (3) I**

Uses of plants and their influence upon man, with emphasis on plants of tropical areas.

**160 IDENTIFICATION OF TROPICAL PLANTS (2) II**

A nontechnical course in identification of common plants of the tropics. Not open to students who have had 460.

**201 THE PLANT KINGDOM (4) II (2 L, 2 Lb)**

Morphology, reproduction, systematics, and ecology of the botanical organisms. Pre: 101. Course fee \$5.00.

**353 ECOLOGY I (3) I (2 L, 1 Lb)**

Plant-environmental relations (autecology) with emphasis on tropical conditions. Pre: 201 or consent of instructor. Recommended: 360. Course fee \$3.00.

**360 TAXONOMY OF VASCULAR PLANTS I (3) I (1 L, 2 Lb)**

Identification and classification of vascular plants. This course provides an introduction to systematic botany. Pre: 101. Course fee \$3.00.

**399 BOTANICAL PROBLEMS (Ar.) I, II**

May be repeated. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in botany.

**410 PLANT ANATOMY (3) I (2 L, 1 Lb)**

Structure of vascular plants; origin and differentiation of tissues; relation of structure to function. Pre: 101. Course fee \$5.00.

**412 MICROTECHNIQUE (3) I, II (2 L, 1 Lb)**

Preparation of plant materials for histological and cytological study, photography. Pre: 410 or consent of instructor. Course fee \$8.00.

**418 CYTOLOGY (3) I (2 L, 1 Lb)**

Structure and function of cell components. Pre: 101 or Zoology 101. Course fee \$4.00.

**430 MYCOLOGY (3) I (1 L, 2 Lb)**

Structure; food relations; classification of fungi. Identification of common fungi. Pre: 101 or consent of instructor. Course fee \$4.00.

**436 MEDICAL MYCOLOGY (3) II (1 L, 2 Lb)**

Diagnostic morphology and cultural characteristics of fungi pathogenic to man. Pre: Microbiology 151 or Botany 430. Course fee \$4.00.

**454 ECOLOGY II (4) II (2 L, 2 Lb)**

Community ecology (synecology), ecological land classification, and experimental ecology. Field trips to develop local examples. Pre: 201 or consent of instructor. Recommended: 360. Course fee \$4.00.

**461 TAXONOMY OF VASCULAR PLANTS II (3) II (1 L, 2 Lb)**

Identification and classification of vascular plants. Field studies and herbarium methods. Pre: 360. Course fee \$3.00.

**470 PRINCIPLES OF PLANT PHYSIOLOGY (4) II (3 L, 1 Lb)**

Introduction to plant physiology. Pre: 101; Chemistry 104. 410 and Chemistry 144 recommended. Course fee \$6.00.

**480 PHYCOLOGY (3) II (1 L, 2 Lb)**

Morphology, taxonomy, and ecology of algae. Identification of common algae. Pre: 101 or consent of instructor. Course fee \$4.00.

**610 BOTANICAL SEMINAR (1) I, II**

Study and discussion of significant topics and problems in botany.

**612 ADVANCED BOTANICAL PROBLEMS (Ar.) I, II**

Investigation of any botanical problem; reading and laboratory work. May be repeated. Pre: consent of instructor. Course fee \$2.00.

**615 MORPHOLOGY SEMINAR (2) II**

Recent developments in morphology, anatomy, cytology. Pre: consent of instructor.

**620 EVOLUTION (2) I**

Discussion of principles of evolution with emphasis on plant evolution. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**650 PHYTOGEOGRAPHY (2) II**

Plant geography and general ecology with emphasis on tropical areas. Pre: 201 or consent of instructor. Recommended: 360.

**662 ADVANCED TAXONOMY (3) I (2 L, 1 Lb)**

Modern techniques in plant taxonomy with emphasis on methods utilizing cytogenetics, anatomy, morphology, and physiology. Pre: consent of instructor. Course fee \$3.00.

**665 NOMENCLATURE SEMINAR (2) II**

The code of botanical nomenclature and its application; determination of correct scientific names. Pre: 360. (Alt. yrs.; offered 1964-65.)

**670-671 ADVANCED PHYSIOLOGY (3-3) Yr.**

Biochemical and physical aspects of plant physiology. Pre: 470; Chemistry 144; Physics 161.

**672 TECHNIQUES IN PHYSIOLOGY (2) I (2 Lb)**

Nutrient absorption and composition; osmotic relations. Pre: 470; Chemistry 144; Physics 161; consent of instructor. Course fee \$5.00.

**673 TECHNIQUES IN PHYSIOLOGY-BIOCHEMISTRY (2) II (2 Lb)**

Determining substances of physiological significance in plant materials. Pre: 672; consent of instructor. Course fee \$5.00.

**675 PHYSIOLOGY SEMINAR (1) I, II**

Significant topics and problems in physiology. May be repeated. Pre: consent of instructor.

**681 PHYCOLOGY—CHLOROPHYTA (2) I (2 Lb)**

Systematics, function, and utilization considered at an advanced level. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**682 PHYCOLOGY—PHYTOPLANKTON (2) II (2 Lb)**

Systematics, functions, and utilization considered at an advanced level. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**683 PHYCOLOGY—MYXOPHYTA AND PHAEOPHYTA (2) I (2 Lb)**

Systematics, functions, and utilization considered at an advanced level. Pre: consent of instructor. (Alt. yrs.; offered 1964-65.)

**684 PHYCOLOGY—RHODOPHYTA (2) II (2 Lb)**

Systematics, functions, and utilization considered at an advanced level. Pre: consent of instructor. (Alt. yrs.; offered 1964-65.)

**686 BIOLOGICAL PRODUCTIVITY OF THE SEA (3) I**

Qualities and functions of the sea; relationships to marine organisms. Pre: consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. degree; consent of instructor. Course fee \$2.00.

**799 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the Ph.D. degree; consent of instructor. Course fee \$2.00.

## Chemistry

Professors NAUGHTON, SCHEUER; Associate Professors FRODYMA, IHRIG, INSKEEP, LARSON, WAUGH, ZETTLIN; Assistant Professors BARNES, KIEFER, MANN, SCHALEGER

**101-102 SURVEY OF CHEMISTRY (4-4) Yr. (3 L, 1 Lb)**

Survey of general and organic. Pre: high school algebra and plane geometry. Course fee \$10.00 each semester.

**103-104 GENERAL CHEMISTRY (4-4) Yr. (3 L, 1 Lb)**

Fundamental laws, principles, and methods. Pre: high school algebra and plane geometry. Course fee \$10.00 each semester.

**105-106 GENERAL CHEMISTRY—QUALITATIVE ANALYSIS (5-5) Yr. (3 L, 2 Lb)**

Principles, theories, and elementary analytical methods. Pre: high school algebra and plane geometry. Desirable preparation for all subsequent courses. Course fee \$12.00 each semester.

**141 ELEMENTS OF ORGANIC CHEMISTRY (4) I (3 L, 1 Lb)**

Intensive course. Chemistry of carbon compounds. Pre: 104 or 106. Course fee \$12.00.



**143-144 ORGANIC CHEMISTRY (4-4) Yr. (3 L, 1 4-Hr. Lb)**

Carbon compounds: Classification, structure, reactions. Laboratory techniques. Pre: 106. Course fee \$12.00 each semester.

**331 ELEMENTARY QUANTITATIVE ANALYSIS (4) I (2 L, 2 Lb)**

Beginning gravimetric and volumetric analysis. Pre: 106; Mathematics 103. Course fee \$11.00.

**332 INTERMEDIATE QUANTITATIVE ANALYSIS (4) II (2 L, 2 Lb)**

Analysis of inorganic mixtures; introductory instrumental analysis. Pre: 331. Course fee \$11.00.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio or 3.0 grade-point ratio in chemistry. Course fee \$5.00 per credit.

**421 INTERMEDIATE INORGANIC CHEMISTRY (3) I**

Classification, description, and fundamental theory. Pre: 552.

**424 PREPARATIVE INORGANIC CHEMISTRY (3) II (1 L, 2 Lb)**

Preparation, properties, selected reactions of representative inorganic compounds. Pre: 421. Course fee \$10.00.

**441 PREPARATIVE ORGANIC CHEMISTRY (3) II (1 L, 2 Lb)**

Techniques and reagents; their application in organic synthesis. Pre: 331, 144. Course fee \$15.00.

**444 QUALITATIVE ORGANIC ANALYSIS (4) I (2 L, 2 Lb)**

Identification and characterization of organic compounds and mixtures. Pre: 331, 144. Course fee \$10.00.

**445 INTERMEDIATE ORGANIC CHEMISTRY (3) I**

Organic reactions with emphasis on modern synthetic methods. Pre: 331, 144.

**551-552 PHYSICAL CHEMISTRY (4-4) Yr. (3 L, 1 Lb)**

Principles and theories; physicochemical procedures. Pre: 106; Mathematics 142; Physics 161. Course fee \$8.00 each semester.

**580 OCEANOGRAPHIC CHEMISTRY (3) II (2 L, 1 Lb)**

Chemistry of oceans. Analytical oceanographic methods. Pre: 331. Course fee \$8.00.

**582 CHEMICAL LITERATURE (2) II**

Use of literature. Library problems. One lecture, one library period. Open to chemistry seniors and graduates.

**621 ATOMIC STRUCTURE (3) I**

Electronic energy states in atoms; x-ray and line spectra, ionization potentials, wave mechanics. Pre: 421, 552.

**622 IONIC COMPOUNDS AND COMPLEXES (3) II**

Electrostatic bond theory; ionic crystals and complexes, crystal structure. Pre: 421, 552.

**623 ATOMIC AND MOLECULAR COMPOUNDS AND COMPLEXES (3) I**

Atomic bond theory; 1-electron, 2-electron and 3-center-electron pair bonds; atomic compounds and complexes. Pre: 421, 552. (Not offered 1964-65.)

**624 METALS AND INTERMETALLIC COMPOUNDS (3) II**

Theory of metals; nature and properties of intermetallic compounds. Pre: 421, 552.

**631 INSTRUMENTAL METHODS OF ANALYSIS (4) I (2 L, 2 Lb)**

Electrical methods, theory instrumentation, application. Pre: credit or registration in 551-552. Course fee \$10.00.

**632 INSTRUMENTAL METHODS OF ANALYSIS (4) II (2 L, 2 Lb)**

Optical methods, theory, instrumentation, applications. Pre: credit or registration in 551-552. Course fee \$10.00

**633 ADVANCED CHEMICAL ANALYSIS (4) I (2 L, 2 Lb)**

Theory and design of analytical determinations. Pre: 552. Course fee \$10.00.

**642 ORGANIC CHEMISTRY THEORY (3) II**

Structural theory; reaction mechanisms. Pre: 331, 445.

**646 QUANTITATIVE ORGANIC ANALYSIS (3) II (1 L, 2 Lb)**

Elemental and functional group analysis by semimicro and micro methods. Pre: 144, 332. Course fee \$10.00.

**651 INTERMEDIATE PHYSICAL CHEMISTRY (3) I**

Chemical thermodynamics. Pre: 522.

**652 INTERMEDIATE PHYSICAL CHEMISTRY (3) II**

Chemical reaction kinetics. Pre: 651.

**655 RADIOCHEMISTRY AND NUCLEAR REACTIONS (3)**

Isotopes, isobars, isotones, and nuclear isomers; nuclear radiations, their interactions and characteristics; nuclear phenomena. Pre: 552.

**656 RADIOCHEMICAL TECHNIQUES (3) (1 L, 2 Lb)**

Modern radiochemical practice; use of radioisotopes as tracers and in activation methods. Pre: 655. Course fee \$10.00.

**691-692 SEMINAR (1-1) Yr.**

Current topics in chemistry. Required of graduate students.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of department chairman. Course fee \$5.00 per credit.

**731-732 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (3-3) Yr.**

Theory, description, and application of modern analytical methods. Pre: 552.

**741 NATURAL PRODUCTS CHEMISTRY (3) I**

Recent developments in the field of alkaloids, steriods, terpenes, etc. Pre: 642. (Not offered 1964-65.)

**742 CHEMISTRY OF CYCLIC COMPOUNDS (3) II**

Recent developments in carbocyclic and heterocyclic compounds. Pre: 642.

**743 STEREOCHEMISTRY (3) I**

Classical concepts, conformational analysis, steric effects. Pre: 642.

**751 MOLECULAR STRUCTURE (3) I**

Experimental determination of molecular structure. Electric, magnetic, and spectroscopic methods. Pre: 552.

**753-754 QUANTUM CHEMISTRY (3-3)**

Presentation of the basic ideas of quantum mechanics along with the necessary mathematical tools. Applications to systems of chemical interest. Modern theories concerning the nature of the chemical bond. Pre: concurrent registration in Mathematics 401, 422 or 431 or permission of instructor; two years physical chemistry desirable.

**800 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. or Ph.D. degree; consent of thesis chairman. Course fee \$5.00 per credit.

## **Drama and Theatre**

Senior Professor ERNST; Professor TRAPIDO; Associate Professors BENTLEY, LANGHANS; Assistant Professor R. MASON; Instructor SOLLER; Assistant CALDEIRA

*140 or 150, or the equivalent, is prerequisite to all courses above 429 except as noted.*

**140 INTRODUCTION TO DRAMA AND THEATRE (3) II**

Representative plays from Miller's *Death of a Salesman* to Aeschylus' *Agamemnon*, studied as illustrative of changing forms in the theatre and dramatic literature.

**150 DRAMATIC PRODUCTION (3) I**

Introduction to basic theories and practices of the theatre.

**200 THEATRE PRACTICE (2) I, II**

Supervised work in one or two areas: stagecraft, lighting, costuming, make-up, business, publicity, acting (only after being cast). A paper is required. May be repeated.

**399 DIRECTED WORK (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in drama and theatre.

**405 PUPPETRY (3) I**

Survey of the history and scope of puppetry. Construction and presentation of puppets for adult and child audiences.

**410 CREATIVE DRAMATICS (3) II**

Intensive study of dramatic activities for children and young people. Designed for teachers, group workers, recreation majors, and others dealing with children.

**415 PLAYWRITING (3) II**

One-act plays; practice in writing in the dramatic form; possibility of production. May be repeated for credit. Pre: 3.0 grade-point or better in English composition.

**420 ACTING (3) I**

Individual exercises and group rehearsals. In addition to work in course, students must try out for productions and must play at least one role in public performance. May be repeated for credit.

**430 DIRECTION (3) I**

Readings, reports, discussion of the theory and practice of stage direction.

**435 DESIGN IN THE THEATRE (3) I**

Principles of design as related to scenery, costume, and lighting for the stage. Pre: consent of instructor.

**440 MODERN STAGECRAFT AND STAGE LIGHTING (3) II**

The basic principles applied, and the techniques used, in staging and lighting plays in modern theatres. (Alt. yrs.; not offered 1964-65.)

**445 COSTUME FOR THE STAGE (3) II**

A survey of historical costume with special emphasis on the translation of historical styles into theatrical form.

**540 ORIENTAL DRAMA AND THEATRE (3) I**

The principal forms of Oriental drama and the manner of production in the theatre. Pre: consent of instructor.

**550 HISTORY OF THE THEATRE (3) I**

Survey of the development of the theatre from the earliest times to the present.

**620 ADVANCED ACTING TECHNIQUES (3) II**

Individual and group exercises in stage movement and line reading. Research and reports on styles of acting. May be repeated for credit.

**630 PROBLEMS IN DIRECTION (3) II**

Directorial analysis of three plays of different styles and periods; exercises; preparation of prompt books.

**635 ADVANCED DESIGN (3) II**

Advanced study, analytical and creative, of the visual aspects of dramatic art. Pre: consent of instructor.

**640 PROBLEMS IN STAGECRAFT AND STAGE LIGHTING (3) II**

Special topics in the staging and lighting of plays, and in the planning and use of various types of modern theatres. (Alt. yrs.; offered 1964-65.)

**660 MODERN THEORIES OF STAGE PRESENTATION (3) I**

Theories of production from Antoine to Brecht. Reading, discussion, reports. (Alt. yrs.; not offered 1964-65.)

**670 AESTHETICS OF THE THEATRE (3) I**

Consideration of the theatre as an art form. Reading, discussion, reports. (Alt. yrs.; offered 1964-65.)

**700 ADVANCED THEATRE PRACTICE (2) I, II**

Special projects in one or two areas: stagecraft, lighting, costuming, make-up, business, publicity, acting (only after being cast). A term paper is required. May be repeated for credit.

**710 SEMINAR IN THEATRE RESEARCH (3) I**

Bibliography and research methods; fundamentals of thesis and dissertation writing. Required of all graduate students.

**720 SEMINAR IN DRAMA AND THEATRE (3) II**

Significant topics and problems in the field of drama. Pre: consent of instructor.

**750 SEMINAR IN ORIENTAL THEATRE (3) II**

Special topics in the drama and theatre of the Orient. Pre: consent of instructor.

**799 DIRECTED WORK (Ar.) I, II**

Reading or research in theatre theory or history; reading and practice in particular areas of dramatic production. Pre: consent of instructor.

## Economics

Visiting Professor WISE; Professors GORTER, ICE, KAMINS, MARK, OSHIMA; Associate Professors HENSLEY, HUNG; Assistant Professors CHUNG, HOFFMAN, LIM, SATO, UPPAL; Instructors NAYA, YEH

*Economics 150 is prerequisite to all other courses.*

### **150 PRINCIPLES OF ECONOMICS (3) I, II**

Analysis of functioning of economic systems with emphasis on forces determining levels and changes of national income and employment. Describes basic economics institutions, e.g., markets, money, banks, labor organizations, corporations.

### **151 PRINCIPLES OF ECONOMICS (3), I, II**

Analysis of how commodity and factor prices are determined. Discusses policies for efficient allocation of scarce resources. Required of all economics majors.

### **240 MONEY AND BANKING (3) I, II**

Study of relation of monetary system to price level, employment and income. Considers the nature and function of money and banking, the role of money in international trade, monetary theories, inflation.

### **290 LABOR ECONOMICS (3) I**

Economic analysis applied to the labor market; wages, hours, conditions of work, unemployment, etc.

### **300 INTERMEDIATE ECONOMIC THEORY: PRICE THEORY (3) I, II**

Price determination and resource allocation under competition, monopoly, oligopoly, monopolistic competition. Theories of demand, cost, partial, general equilibrium.

### **302 INTERMEDIATE ECONOMIC THEORY: NATIONAL INCOME (3), I, II**

Concepts; determination of income, employment, price levels; effects of fiscal, monetary, other policies.

### **304 HISTORY OF ECONOMIC THOUGHT (3) I**

Survey of economic thought from Adam Smith to the present with emphasis on the theory of value and distribution. Pre: senior standing.

### **399 DIRECTED READING (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in economics, on recommendation by department chairman only.

### **410 ASIAN ECONOMIC DEVELOPMENT (3) I**

A general overview of change and growth in economics of major Asian nations. Population and national income growth; savings, investment and consumption patterns. Role of government and private enterprise. Pre: 150.

### **416 ECONOMIC DEVELOPMENT OF EUROPE (3) I**

Study of economic growth and changes in economic institutions of Europe since the Industrial Revolution. Pre: 150; 151 highly desirable.

### **417 ECONOMIC DEVELOPMENT OF U.S. (3) II**

Emphasizes period since World War I, with growing importance to U.S. economy of international trade and finance. Consideration of changing patterns of investment, consumption and employment. Pre: 150; 151 highly desirable.

### **420 QUANTITATIVE METHODS IN ECONOMIC ANALYSIS (3) I**

Designed to give students working knowledge of elements of algebra and calcu-

lus, and to apply such mathematics to solution of economic problems. Includes matrix algebra, elements of differential and integral calculus, differential equations and economic model building. Pre: college algebra and 150-151.

**421 QUANTITATIVE METHODS IN ECONOMIC ANALYSIS (3) II**

Includes theory and operations in statistical inference, introduction to econometrics. Covers probability and distribution theory, tests of hypotheses, small sample methods, analyses of variance and regression, correlation analysis, Gauss-Doolittle method, times series and index numbers. Pre: 420 or permission of instructor.

**430 COMPARATIVE ECONOMIC SYSTEMS (3) I**

Analysis of the structure, institutions, operation, performance and growth of private enterprise, socialist, communist and mixed economies, with emphasis on the U.S., U.S.S.R. and underdeveloped economies.

**450 PUBLIC FINANCE (3) I, II**

Considers governmental expenditures, revenues and debt, both descriptively and theoretically. Fiscal policy is considered, as are budgeting and tax administration.

**452 SUBNATIONAL FINANCE (3) I**

Intensive study of fiscal institutions, operations and policy questions within state and local governments in U.S. Consideration of grant program and other links with central government. Pre: 450.

**460 INTERNATIONAL TRADE AND FINANCE (3) I**

Theoretical, institutional and historical aspects of international economic relations are considered, including foreign exchange rates, balance of payments adjustment, tariffs, quotas, and trading blocs.

**462 INTERNATIONAL ECONOMIC POLICY (3) II**

Discussion of problem areas of contemporary interest, such as causes and effects of recent U.S. gold losses, drive for trade liberalization, impact of Common Market, etc. Pre: 460.

**470 GOVERNMENT AND BUSINESS (3) I**

Consideration of economic aspects and consequences of regulation by government of business activity, with emphasis on regulatory boards. Economic analysis is related to policy issues.

**502 AMERICAN ECONOMIC POLICY (3) I**

Analytical techniques are applied to problems of contemporary interest, e.g. effects of automation, regional stagnation, stimulation of investment and consumption.

**600 THEORY OF PRICE AND DISTRIBUTION (3) I**

Develops theoretical apparatus of microeconomics. Pricing of products and of factors of production under partial and general equilibrium is studied, also under varying degrees of competition and monopoly. Pre: 300.

**601 SEMINAR IN PRICE AND DISTRIBUTION THEORY (3) II**

Discussion of selected topics in microeconomic theory, e.g. economics of household; firm and industry; market structure; income distribution; welfare economics; linear programming; decision theory; organization theory. Pre: 301.

**602 THEORY OF INCOME AND GROWTH (3) I**

Keynesian and post-Keynesian theories of aggregative economies, with special attention to factors determining levels of employment, and rates of growth. Also business cycle theories. Pre: 302.

**603 SEMINAR IN ECONOMIC GROWTH AND FLUCTUATIONS (3) II**

Analytical study of aggregate dynamic models of growth and fluctuations: consideration of current literature including the neo-classical and neo-Keynesian models of economic growth, dynamic Leontief models and activity analysis. Pre: 602.

**604 HISTORY OF ECONOMIC THOUGHT (3) II**

Study of the development of economic theories, including classical economics, marginal utility theory, socialism, neo-classical theory, welfare economics, Keynesian and post-Keynesian systems. Pre: 150-151 and 304, or consent of instructor.

**609 ASIAN ECONOMIC HISTORY (3) I**

Discussion of economic history of China, Japan, India and Southeast Asia, with emphasis upon the period after World War II. Consideration of changes in population, labor force, technology, investment, consumption, government. Pre: 410 or consent of instructor.

**619 REGIONAL ECONOMICS (3) II**

Application to problems of regional economics of input-output analysis, linear programming, econometric analysis. Problems include optimal location of economic functions, population and migration, regional income, regional cycle and multiplier analysis. Pre: 420-421, or consent of instructor.

**620 MATHEMATICAL ECONOMICS (3) I**

Application of mathematical methods to economic theory. Partial differentiation, integral calculus, series and expansion, vectors and matrices, determinants, systems of difference and differential equations, stability conditions, inter-industry relations, programming of activities and allocation of resources, aggregation problem, elementary theory of games. Pre: 420-421, or consent of instructor.

**624 ECONOMETRICS (3) II**

Mathematical models of economic behavior and use of advanced statistical methods for testing economic theories and estimating economic parameters. Includes general linear regression models, multivariate analysis, simultaneous equation models, least-square estimation, limited-information technique, identification, auto-correlation and time series analyses. Pre: 620, or consent of instructor.

**626 NATIONAL ECONOMIC ACCOUNTS (3) I**

Theory underlying construction of national economic accounts: methods of estimation of entries in accounts; uses of national accounting statistics. Pre: consent of instructor.

**627 ECONOMIC PROGRAMMING TECHNIQUES (3) II**

Application of input-output analysis, linear programming, and macro-economic models to problems of economic development and planning. Pre: 420, 421, or consent of instructor.

**640 SEMINAR IN MONEY AND BANKING (3)**

Analysis of selected problems in monetary economics, with emphasis on monetary and banking policy. Pre: 240, 302.

**650 SEMINAR IN FISCAL PROBLEMS (3)**

Considers role of public finance in national economy. Examines operation of fiscal devices available to policy makers. Pre: 300, 450.

**670 ECONOMIC DEVELOPMENT (3) I**

Theoretical analysis of factors underlying economic development, with reference

to underdeveloped nations. Consideration of policy issues underlying attempts to accelerate economic growth. Pre: 150; 151 or consent of instructor.

#### **671 ECONOMIC DEVELOPMENT OF JAPAN (3) II**

Analysis of growth from the Meiji period to the present. Problems of population change, capital formation, income distribution, industrial structure. Pre: 670 or consent of instructor.

#### **672 ECONOMIC DEVELOPMENT OF CHINA (3) II**

Analysis of development from Ch'ing period to present. Special focus on problems of industrialization, economic growth and structural change since 1949. Pre: 670 or consent of instructor.

#### **673 ECONOMIC DEVELOPMENT OF INDIA (3) I**

Study of recent Indian development, applying theories of development and statistical and analytical techniques. (Alt. yrs.; offered 1964-65.)

#### **690 SEMINAR IN CURRENT LABOR PROBLEMS (3) II**

Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

#### **699 DIRECTED RESEARCH (2-2) Yr.**

Pre: consent of department chairman.

#### **710 SEMINAR IN ECONOMIC DEVELOPMENT (3) II**

Case studies, emphasizing research approaches and techniques. Theories of economic development are applied to and checked against experience of certain Asian nations. Pre: 670 or consent of instructor.

#### **800 THESIS RESEARCH**

## **English**

Senior Professors DAY, STROVEN, WILSON; Professors BOUSLOG, FUJIMURA, HEISER, KORN, LOWERS, STEMPEL; Associate Professors FRIERSON, GEORGE, HUNTSBERRY, LEIB, SUMMERSGILL, WINTERS; Assistant Professors BACKUS, BROWN, CRYMES, FRANK, FRIEDSON, GRIFFING, HOLLINGSHEAD, KIRTLEY, LARSON, LEVY, MALTBY, MANEY, McCUTCHEON, SCOTT, SIMSON, SINCLAIR, STILLIANS, TEEVAN, THOMPSON, TOPHAM WELLEIN; Instructors ABRUMS, FOWLER, FRIEDLAND, GAVRELL, GLICK, GLISSMEYER, KRAUSE, LICHTY, LOUGEE, MAXWELL, MILLER, MINOR, NEWTON, NOLAN, M. SOLOMON, SUTLEFF, WORLEY, WYATT

#### **101-102 COMPOSITION (3-3) Yr.**

101: Training in analysis of expository essays; introduction and practice of principal expository procedures, including assertion, exemplification, definition, classification. 102: Study and practice of argument and persuasion; assembling and organizing research materials; analysis and evaluation of one or two works of imaginative literature; introduction to study of prose style.

#### **105 INTERMEDIATE COMPOSITION (3) I, II**

Intensive, one-semester course in the analysis and writing of expository essays, providing practice in different expository procedures, and opportunities for students to improve their prose style. Open only to freshmen in the Selected Studies Program.

#### **150-151 MAJOR WORKS OF BRITISH AND AMERICAN LITERATURE (3-3) Yr.**

150: Middle Ages to 1800; 151: 1800 to the present. This course or 152-153 or 155 is prerequisite to all advanced courses in English.



**152-153 WORLD LITERATURE (3-3) Yr.**

Major works of classical, Oriental, European, American literature. 152: classical times to the Renaissance. 153: 1600 to the present. May be substituted for 150-151.

**155 TYPES OF EUROPEAN AND AMERICAN LITERATURE (3) I, II**

Poetry, drama, essays, prose fiction; sixteenth century to the present. Open only to those in agriculture, business administration, engineering, recreational leadership.

**201 REVIEW OF COMPOSITION (3) I, II**

Supplemental course in fundamentals of expository writing, designed for students who need further training in introductory exposition after 102. May precede 209, 210, 215, but cannot be substituted therefor. May not be counted as one of non-introductory courses required for the degree.

**209 WRITTEN COMMUNICATION (3) I, II**

Practice in securing, organizing, and presenting information. Open only to students in Business Administration. Pre: 102, 155, or equivalents.

**210 TECHNICAL EXPOSITION (3) I, II**

Analysis of selected scientific prose; principles and practice of presenting technical information. Open to juniors and seniors in scientific fields.

**212 LITERARY WRITING (3) I, II**

Writing and criticism of essays, designed to develop effective expression, with emphasis on lively and individual style. Pre: consent of the instructor.

**213 NARRATIVE WRITING (3) I, II**

Analysis and writing of short fiction. Pre: consent of the instructor.

**215 ADVANCED EXPOSITORY WRITING (3) I, II**

The writing of essays from logical and rhetorical principles, especially modes of definition, assertion, and proof, in subjects drawn from the humanities and social sciences; emphasis on clarity, coherence, and style.

**220 CURRENT ENGLISH (3) I, II**

Methods of linguistic analysis; description of English structure; current usage.

**231 INTRODUCTION TO POETRY (3) I, II**

Analysis of selected English and American poems, emphasizing problems of communication and application.

**235 BACKGROUNDS OF WORLD LITERATURE (3) I**

The most important sources of European literary themes and allusions, including the King James Bible and Western European myth and legend.

**309-310 JUNIOR HONORS PROGRAM IN ENGLISH (3-3) Yr.**

Individual study of periods of English literature, from Anglo-Saxon times through the 16th century. Tutorial method. Consult departmental honors advisor.

**313 ADVANCED FICTION WRITING (3) II**

Study of modern fiction; application of principles of narrative craftsmanship. Pre: consent of instructor. (Alt yrs.; offered 1964-65.)

**329-330 SENIOR HONORS PROGRAM IN ENGLISH (3-3) Yr.**

Individual study of periods of English and American literature, from the 17th century through the 19th. Tutorial method. Consult departmental honors advisor.

**336 INTRODUCTION TO LITERARY PROBLEMS (3) I**

Critical evaluation of the genres of literature, of various modes of analysis, and of problems involved in literary perception.

**357 INTRODUCTION TO SHAKESPEARE (3) I, II**

Rapid reading, lectures, and discussion of about 15 representative plays, with emphasis on the play as poetry and drama and on the development of Shakespeare as dramatist. Not open to English majors in Arts and Sciences and Education.

**425 MODERN ENGLISH GRAMMAR (3) I**

Description and analysis of present-day American English, with emphasis upon the structure of the language.

**440 ENGLISH DRAMA TO 1642 (3) I**

Origins of English drama; medieval drama and theatre; contemporaries and successors of Shakespeare. (Alt. yrs.; not offered 1964-65.)

**443-444 MODERN DRAMATIC LITERATURE (3-3) Yr.**

443: European, Ibsen and Chekhov to Shaw, 1880-1920. 444: European and American, O'Casey to Miller, 1920 on.

**447 THE ENGLISH NOVEL TO 1832 (3) I**

Principal English novels and novelists from the beginnings to 1832. (Alt. yrs.; not offered 1964-65.)

**448 THE ENGLISH NOVEL, 1832-1900 (3) II**

Principal English novels and novelists. (Alt. yrs.; not offered 1964-65.)

**451 MEDIEVAL ENGLISH LITERATURE (3) I**

Representative Old and Middle English poetry, prose, exclusive of Chaucer, with continental backgrounds; chiefly in translation.

**452 CHAUCER (3) II**

A study of Chaucer's development from the early poems through *The Canterbury Tales*.

**455 SIXTEENTH-CENTURY ENGLISH LITERATURE (3) I**

Poetry and prose of the Tudor period, exclusive of the drama. (Alt. yrs.; offered 1964-65.)

**457-458 SHAKESPEARE (3-3) Yr.**

457: Shakespeare's plays from the beginning to *Hamlet*. 458: from *Hamlet* through the last plays.

**460 EARLY SEVENTEENTH-CENTURY ENGLISH LITERATURE (3) II**

Poetry and prose of the seventeenth century to 1660, exclusive of the drama. (Alt. yrs.; not offered 1964-65.)

**465 RESTORATION LITERATURE (3) I**

Poetry, prose, and drama from 1660 to 1700, exclusive of Milton. (Alt. yrs.; offered 1964-65.)

**466 MILTON (3) II**

Selected poetry and prose. (Alt. yrs.; offered 1964-65.)

**470 EARLY EIGHTEENTH-CENTURY ENGLISH LITERATURE (3) II**

Poetry, prose (exclusive of the novel), and drama from 1700 to 1740, with emphasis on the works of Pope and Swift. (Alt. yrs.; offered 1964-65.)

**471 LATE EIGHTEENTH-CENTURY ENGLISH LITERATURE (3) I**

Poetry, prose (exclusive of the novel), and drama from 1740 to 1780, with emphasis on the works of Johnson and his circle. (Alt. yrs.; offered 1964-65.)

**480 THE ROMANTIC MOVEMENT IN ENGLAND (3) I**

Poetry and prose from 1780 to 1832, exclusive of the novel.

**485 VICTORIAN LITERATURE (3) II**

Poetry and prose from 1832 to 1900, exclusive of the novel.

**490 TWENTIETH-CENTURY BRITISH NOVEL (3) I****571-572 AMERICAN LITERATURE (3-3) Yr.**

571: from the beginnings to the Civil War. 572: from the Civil War to the present.

**573 AMERICAN LITERATURE AND CULTURAL HISTORY (3) II**

Studies in the relations of American literature to American culture before 1900. Pre: 571 or the equivalent.

**585 LITERATURE OF THE PACIFIC (3) II**

Pacific islands, Australia: narratives of voyagers, translations of native literature, fiction by Melville, Stevenson, London, Becke, Nordhoff, Hall. (Alt. yrs.; offered 1964-65.)

**590 TWENTIETH-CENTURY AMERICAN NOVEL (3) II****592 TWENTIETH-CENTURY BRITISH AND AMERICAN POETRY (3) II****601 THE TEACHING OF ENGLISH COMPOSITION (3) I, II**

Analysis and writing of English prose. Emphasis on methods of teaching composition to students of English as a second language. For MATESL students.

**602 THE TEACHING OF ENGLISH LITERATURE (2) I**

Methods of teaching reading and literature to students of English as a second language. Brief survey of British and American literature. For MATESL students.

**603 TEACHING ENGLISH COMPOSITION AND TEXTBOOK WRITING (3) II**

Survey of methods, procedures, and theory of teaching English composition and introduction to the specialized skills of planning and writing textbooks for the teaching of English as a second language. For TIP only.

**620 SEMINAR IN TEACHING COMPOSITION (3) I**

Theory and observation of the teaching of composition at the college level. Pre: consent of instructor.

**621 STUDENT TEACHING OF COLLEGE COMPOSITION (3) I, II**

Supervised experience in teaching composition at the college level. Pre: 620 or the equivalent.

**622 TEACHING ENGLISH AS A SECOND LANGUAGE (3) II**

Identification and analysis of problems in language learning and language teaching. Practice in preparing and presenting lessons in pronunciation, grammar, and vocabulary with materials based on comparative linguistic analysis and using the oral approach. Survey of materials and teaching aids. For MATESL students.

**623 TEACHING ENGLISH AS A SECOND LANGUAGE AND LANGUAGE TEST CONSTRUCTION (3) II**

Introduction to planning and writing textbooks for teaching of English as a second language. Similar to 622, but for students in Teacher Interchange Program.

**625 HISTORY OF THE ENGLISH LANGUAGE (3) II**

Growth and development of the English language; sources, forms, mutations, and standards of usage.

**630 SEMINAR IN RESEARCH METHODS (3) I, II**

Kinds of research problems of bibliography; fundamentals of thesis writing. Required of all candidates for the M.A. degree in English.

**635 SEMINAR IN COMPARATIVE LITERATURE (3) II**

Introduction to comparative literature; relationship of English to other European literatures; sources and influences. Pre: consent of instructor.

**636 HISTORY OF LITERARY CRITICISM (3) I, II**

Chief theories of literary criticism, with readings (in English) from Plato to the present.

**640 OLD ENGLISH (3) I**

Structure of the language, relation to Present English; reading of selected prose and poetry. Pre: consent of instructor. (Alt. yrs.; offered 1964-65.)

**685 SEMINAR IN ENGLISH LITERATURE (3) I, II**

Study of problems, authors, or a period. Pre: consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Individual reading or research. Pre: consent of instructor.

**723 TEXTBOOK AND TEST CONSTRUCTION (3) II**

Introduction to specialized skills of planning and writing language textbooks and constructing language tests for specific native language backgrounds. For MATESL students. Pre: 622.

**780 SEMINAR IN AMERICAN LITERATURE (3) I, II**

Intensive study of one or two writers. Pre: consent of instructor.

**785 SEMINAR IN AMERICAN LITERATURE (3) I, II**

Study of a problem or a period. Pre: consent of instructor.

## JOURNALISM

**111 PUBLICATIONS WORKSHOP (1) I, II**

Reporting, copy editing, advertising copywriting, proofreading, and photography under supervision of publications executives and instructor.

**112 EDITORS WORKSHOP (2) I, II**

Restricted to and required of executives of student publications.

**115 NEWS WRITING (3) I, II**

Fundamentals of news style, reporting, ethics. Pre: Eng. 102.

**116 NEWS EDITING (2) I, II**

News and photo editing, headline writing, publications makeup; introduction to typography.

**239 MASS COMMUNICATIONS (3) I**

History of popular literature; mass media in modern society; principles of mass communications.

**315 INVESTIGATIVE REPORTING (2) I, II**

Preparing specialized material for mass media, with emphasis on the problems of objectivity, analysis, and interpretation. Pre: consent of instructor. May be repeated for credit.

**316 EDITING AND PUBLISHING (3) II**

Illustration and typographical design; printing processes; newspaper and magazine management; editorial responsibility; laws of libel and copyright. Pre: Journalism 116.

**385 DIRECTED WORK (3) I, II**

Internship in media operations under professional and faculty supervision. Pre: consent of instructor.

## European Languages

Professors ASPINWALL, MUELLER; Associate Professors BERTRAND, HOLTON, JACKSON, KNOWLTON, WISWELL; Assistant Professors BACIU, ELLIOTT, MICHALSKI; Instructors BURKETT, CHIROL, KELLER, MOORE, SERNA, THEUMA

### GENERAL

**630 SEMINAR IN RESEARCH METHODS (2) I**

A study of available source material in European languages with emphasis upon basic research tools and methods.

### FRENCH

**101-102 ELEMENTARY FRENCH (3-3) Yr.**

Conversation, laboratory drill, grammar, reading. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE FRENCH (3-3) Yr.**

Reading, conversation, laboratory drill, composition. Pre: 102 or the equivalent. Course fee \$3.00 per semester.

**211-212 CONVERSATION AND COMPOSITION (3-3) Yr.**

Reading and discussions to develop insight into French literature and culture with major emphasis on strengthening facility with the language; laboratory drill. Pre: 152. Course fee \$3.00 per semester.

**401 LITERATURE SINCE 1800 IN TRANSLATION (2) II**

Rapid reading in translation; lectures, discussion, and reports. Not open to French majors. Pre: English 151 or 153. (Alt. yrs.; not offered 1964-65.)

**411-412 LITERATURE OF THE GOLDEN AGE (3-3) Yr.**

Emphasis on Corneille, Descartes, La Fontaine, Moliere, Pascal, Racine. Conducted in French. (Alt. yrs.; offered 1964-65.)

**413-414 THE EIGHTEENTH CENTURY (2-2) Yr.**

Voltaire, Rousseau, Marivaux, Montesquieu, Diderot, Prevost, Beaumarchais. Conducted in French. Pre: 202. (Alternates with 415-416; not offered 1964-1965.)

**415-416 LITERATURE OF THE NINETEENTH CENTURY (2-2) Yr.**

Novels, plays, poetry representative of romanticism, realism, naturalism, symbolism. Conducted in French. Pre: 202. (Alternates with 413-414; offered 1964-65.)

**417-418 LITERATURE OF THE TWENTIETH CENTURY (3-3) Yr.**

Novels, plays, poetry. Conducted in French. (Alt. yrs.; not offered 1964-65.)

**601 SEMINAR IN MODERN FRENCH LITERATURE (2) II**

Study of authors and movements of the modern period. Pre: consent of instructor.

**609 FRENCH RENAISSANCE (3) II**

Poetry, theatre, prose. Emphasis on Montaigne and Rabelais. Lectures, discussions, reports. Conducted in French. Pre: consent of instructor.

**660 ADVANCED COMPOSITION AND STYLISTICS (2) I**

Designed to give mastery of structure and phrasing. Translation into French, discussion, composition. Pre: consent of instructor.

**671 HISTORY OF THE LANGUAGE (2) I**

Historical and cultural history of the development of the French language from the classical Latin roots to the present. Examples drawn from readings in pre-medieval literature. Pre: Latin 101 or equivalent.

**672 MEDIEVAL LITERATURE (2) II**

The beginnings of French literature through the fifteenth century. Emphasis on theatre, prose, satire, and didactic literature.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of chairman.

**800 THESIS RESEARCH (6)****GERMAN****101-102 ELEMENTARY GERMAN (3-3) Yr.**

Reading, conversation, laboratory drill, grammar. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE GERMAN (3-3) Yr.**

Reading, conversation, laboratory drill, composition. Pre: 102 or equivalent. Course fee \$3.00 per semester.

**153-154 INTERMEDIATE: SCIENCE GERMAN (3-3) Yr.**

Accurate reading over a wide range of subjects. Emphasis on sentence construction and vocabulary building. Pre: 102 or equivalent.

**201-202 INTRODUCTION TO GERMAN LITERATURE (3-3) Yr.**

Readings and discussions designed to develop the student's insight into German literature and culture and to strengthen his command of the language.

**205-206 COMPOSITION AND CONVERSATION (3-3) Yr.**

Designed to develop proficiency in German sentence structure and phrasing; conversation; laboratory drill; exact composition on literary subjects. Pre: 152. Course fee \$3.00 per semester.

**411-412 THE CLASSICAL PERIOD (3-3) Yr.**

Representative works of Lessing, Goethe, Schiller, interpreted within the literary framework of their time. Pre: 152. (Alternates with 413-414; offered 1964-65.)

**413-414 THE MODERN PERIOD (3-3) Yr.**

Poetic realism to naturalism; from New Functionalism to the present. Pre: 202 or equivalent. (Alternates with 411-412; not offered 1964-65.)

**416 RENAISSANCE AND BAROQUE LITERATURE (3) II**

Chief works of poetry and prose during the Renaissance and Baroque periods. Pre: 152. (Alternates with 418; not offered 1964-65.)

**417 THE GERMAN DRAMA (3) II**

Representatives from the chief literary periods. Pre: 202. (Alternates with 415; not offered 1964-65.)

**418 THE ROMANTIC MOVEMENT (3) I**

Chief works of poetry and prose during the Romantic Period. Pre: 202. (Alternates with 416; offered 1964-65.)

**601 HISTORY OF THE GERMAN LANGUAGE (3) I**

Development of the language from its beginnings to the present.

**602 COMPOSITION AND STYLISTICS (3) II**

Designed to develop a lucid German idiom and style.

**615 MIDDLE HIGH GERMAN MASTERPIECES (3) II**

Study of the chief works in their original and modern German versions.

**693 SEMINAR IN GERMAN LITERATURE (5) I, II**

Four cycles: (a) German Novel, 18th and 19th centuries; (b) Goethe's *Faust*; (c) German Lyric Poetry; (d) German Novel, 20th century.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of chairman.

**800 THESIS RESEARCH****GREEK****101-102 ELEMENTARY GREEK (3-3) Yr.**

Vocabulary and grammar with reading of simple Greek.

**151-152 INTERMEDIATE GREEK (3-3) Yr.**

Review of grammar; readings from selected prose and poetry. Pre: 102 or the equivalent.

**158 ADVANCED COMPOSITION (3) II**

A close study of the structure of the language with an opportunity for the student to write prose compositions in Greek. Pre: 152.

**301 NEW TESTAMENT (3) I**

Selections from St. John, St. Luke, St. Mark. Pre: 152. (Alternates with 410; offered 1964-65.)

**401 GREEK CIVILIZATION (3) I**

Study of the history, art, and culture of Greece. (Alt. yrs.; offered 1964-65.)

**403 GREEK LITERATURE (3) I**

Major writers of Greece in translation. Pre: 151 or 153. Not open to Greek majors. (Not offered 1964-65.)

**410 PLATO (3) I**

Selections from the *Apology*, *Crito*, *Phaedo*. Pre: 152. (Alternates with 301; not offered 1964-65.)

**421 HOMER (3) II**

Selections from the *Odyssey*. Pre: 152. (Alternates with 432; offered 1964-65.)

**432 DRAMA (3) II**

Translations of Sophocles' *Oedipous Tyrannos* and Euripides' *Andromache*. Pre: 152. (Alternates with 421; not offered 1964-65.)

**490 SEMINAR (2) I, II**

Four-year cycle:

- 1) Historians—selections from Herodotos, Thucydides.
  - 2) Lyric Poetry—Pindar, Alcaeus, Anacreon, etc.
  - 3) Aristophanes—*Clouds*, *Frogs*, *Lysistrata*.
  - 4) Pre-Socratics—study of the development of the Ionian and Eleatic schools of philosophy.
- Pre: 152. May be repeated for credit.

**ITALIAN****101-102 ELEMENTARY ITALIAN (3-3) Yr.**

Reading, conversation, laboratory drill, grammar. Course fee \$3.00 per semester. (Alternates with 151-152; not offered 1964-65.)

**151-152 INTERMEDIATE ITALIAN (3-3) Yr.**

Reading, conversation, laboratory drill, grammar, compositions. Pre: 102. Course fee \$3.00 per semester. (Alternates with 101-102; not offered 1964-65.)

**LATIN****101-102 ELEMENTARY LATIN (3-3) Yr.**

Vocabulary and grammar, with reading of simple Latin.

**151-152 INTERMEDIATE LATIN (3-3) Yr.**

Review of grammar, reading of selections from prose and poetry. Pre: 102 or the equivalent.

**157 ADVANCED COMPOSITION (3) I**

A close study of the structure of the language with an opportunity for the student to write prose compositions in Latin. Pre: 152.

**401 HISTORIANS (3) I**

Reading of Livy and Tacitus. Pre: 152. (Alternates with 410; not offered 1964-65.)

**402 ROMAN CIVILIZATION (3) II**

Study of the history, art, and culture of Rome. Pre: History 151 or 161. (Alt. yrs.; offered 1964-65.)

**404 ROMAN LITERATURE (3) II**

Major writers of Rome in translation. Pre: English 151 or 153. Not open to Latin majors. (Not offered 1964-65.)

**410 LYRIC POETS (3) I**

Selections from the foremost Latin lyricists, Horace, Catullus, Propertius, Tibullus. Pre: 152. (Alternates with 401; offered 1964-65.)



**421 SATIRE (3) II**

Selections from Horace, Juvenal, Martial. Pre: 152. (Alternates with 422; offered 1964-1965.)

**422 DRAMA (3) II**

Reading of Plautus and Terence. Pre: 152. (Alternates with 421; not offered 1964-65.)

**490 SEMINAR (2) I, II**

Three-year cycle:

- 1) Vergil—a literary study of the *Aeneid*.
  - 2) Cicero—*Tusculan Disputations*.
  - 3) Patristic Literature—Selections from the early Christian writers: Tertullian, Lactantius, Ambrose, Augustine, Jerome.
- Pre: 152. May be repeated for credit.

## PORTUGUESE

**101-102 ELEMENTARY PORTUGUESE (3-3) Yr.**

Reading, conversation, laboratory drill, grammar. Course fee \$3.00 per semester.

## RUSSIAN

**101-102 ELEMENTARY RUSSIAN (3-3) Yr.**

Reading, writing, grammar, conversation, laboratory drill. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE RUSSIAN (3-3) Yr.**

Reading, conversation, grammar review, laboratory drill, and composition. Pre: 102 or the equivalent. Course fee \$3.00 per semester.

**153-154 INTERMEDIATE: SCIENTIFIC RUSSIAN (3-3) Yr.**

Rapid reading and translation: sentence structure and vocabulary. Pre: 102 or the equivalent.

**158-159 CONVERSATION AND COMPOSITION (3-3) Yr.**

Further training in oral expression and composition; practice in writing; vocabulary building. Pre: 152 or 154.

**201-202 INTRODUCTION TO RUSSIAN LITERATURE (3-3) Yr.**

Reading and discussions to develop insight into Russian literature and culture with emphasis on strengthening facility with the language.

**402 19TH-CENTURY NOVEL (3) II**

Survey of important novelists in translation, particularly Gogol, Goncharov, Turgenev, Dostoevsky, and Tolstoi. Not open to Russian majors. Pre: English 151 or 153. (Alt. yrs.; offered 1964-65.)

**404 LITERATURE OF THE 18th CENTURY (3) II**

Representative reading and discussion of the more important writers before Pushkin. Pre: 202. (Alternates with 420; not offered 1964-65.)

**411-412 LITERATURE OF THE 19th CENTURY (3-3) Yr.**

Reading and discussion of representative writers beginning with Pushkin. Pre: 202. (Alternates with 413-414; not offered 1964-65.)

**413-414 LITERATURE OF THE 20th CENTURY (3-3) Yr.**

Representative writers before the revolution and contemporary Soviet writers. Pre: 202. (Alternates with 411-412; offered 1964-65.)

**415 RUSSIAN POETRY (2) I**

Reading and discussion of classical and contemporary Russian poets. Pre: 202 (Alternates with 417; offered 1964-65.)

**417 RUSSIAN DRAMA (2) I**

Representative plays of the 18th, 19th, and 20th centuries. Pre: 202. (Alt. with 415; not offered 1964-65.)

**420 HISTORY OF THE RUSSIAN LANGUAGE AND EARLY RUSSIAN LITERATURE (2) II**

Study of the development of the Russian language. Representative readings in Russian literature through the 17th century. Pre: 202. (Alternates with 404; offered 1964-65.)

**493 SEMINAR IN RUSSIAN LITERATURE (2) I**

Important literary movement. Pre: consent of instructor.

**699 DIRECTED READING (Ar.) I, II**

Pre: consent of instructor.

**SPANISH****101-102 ELEMENTARY SPANISH (3-3) Yr.**

Reading, conversation, laboratory drill, grammar. Course fee \$3.00 per semester.

**151-152 INTERMEDIATE SPANISH (3-3) Yr.**

Reading, conversation, laboratory drill, some grammar and composition. Pre: 102 or the equivalent. Course fee \$3.00 per semester.

**201-202 SPANISH AND LATIN-AMERICAN CIVILIZATION (3-3) Yr.**

Introduction through literature to the main currents of the cultural history of Spain (Sem. I) and of Latin America (Sem. II). Pre: 152 or the equivalent.

**258-259 ADVANCED CONVERSATION AND COMPOSITION (3-3) Yr.**

Designed to develop skill in oral expression and composition. Pre: 152 or the equivalent.

**402 HISPANO-PHILIPPINE LITERATURE (2) II**

Study of the important writers in Spanish from the Philippine Islands. (Alt. yrs.; not offered 1964-65.)

**404 INTRODUCTION TO LITERATURE OF MEXICO (2) II**

Cultural history and representative writers. Pre: 152 or the equivalent. (Alt. yrs., not offered 1964-65.)

**405 SPANISH LITERATURE OF THE MIDDLE AGES (2) I**

The major works and trends of the medieval period. The epic, poetry, and prose. (Alt. yrs.; offered 1964-65.)

**407 LITERATURE OF THE GOLDEN AGE (3) I**

Representative readings in poetry, drama, and prose of the sixteenth and seventeenth centuries. (Alt. yrs.; not offered 1964-65.)

**411 LITERATURE FROM 1700 TO 1898 (2) I**

Representative readings in poetry, drama, and prose. (Alt. yrs.; offered 1964-65.)

**413 CONTEMPORARY HISPANIC LITERATURE (3) I**

Readings in 20th century Spanish and Latin American authors. Studies of recent trends. (Alt. yrs.; not offered 1964-65.)

**420 LATIN AMERICAN NOVEL (3) II**

Major schools and novelists of South America. (Alt. yrs.; offered 1964-65.)

**417 HISTORY OF THE SPANISH LANGUAGE (2) I**

Pre: Spanish 152 or the equivalent; one semester of college Latin or the equivalent. (Alt. yrs.; not offered 1964-65.)

**476 CERVANTES (3) II**

The works of Cervantes. (Alt. yrs.; not offered 1964-65.)

**480 SEMINAR IN SPANISH LITERATURE (2) II**

Given in triennial cycles: 19th and 20th century drama; 19th and 20th century poetry; 19th and 20th century novel.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of chairman.

## General Science

Professor BERNATOWICZ; Associate Professor KAY; Instructors DANGLER, FORSTER, LEWIS

**120-121 INTRODUCTION TO SCIENCE (4-4) Yr.**

Characteristics of science and interactions of society with science, illustrated by topics from physical and biological science. Course fee \$1.50 each semester.

**520 CASE HISTORIES IN SCIENCE (3) II (2 L-Lb)**

Emphasis on relations between facts, laws, and theories, on innovations in methods and attitudes, and on historical importance. Pre: 2 semesters of biological science, 2 semesters of physical science. Course fee: \$2.00.

**530 HISTORY OF SCIENCE (3) II**

Man's changing ideas concerning the universe reflected against the historical setting. Pre: one year of natural science.

**620 NATURAL SCIENCE AS A HUMAN ACTIVITY (1) I, II**

Seminar. The scientist; productivity in science; comparisons of several fields; anatomy of science; science and society.

**650-651 SEMINAR IN SCIENCE FOR THE SECONDARY SCHOOL TEACHER (3-3) Yr.**

Selected topics in botany, entomology, geochemistry, geology, mathematics, meteorology, microbiology, physics, zoology, and the philosophy of science. Occasional laboratory sessions and field trips.

## Geography

Professors BOWERS, MANCHESTER; Associate Professor FUCHS; Assistant Professors PIRIE, STERNSTEIN, STREET; Lecturer PHANAIA

*A 100 level course, or consent of the instructor, is prerequisite to all courses numbered over 401.*

**101 ELEMENTS OF PHYSICAL GEOGRAPHY (3) I, II (2 L, 1 Lb)**

A survey of man's natural environment; distribution and interrelationships of climates, vegetation, soils and landforms. Laboratory problems in map interpretation.

**102 WORLD REGIONAL GEOGRAPHY (3) I, II**

The geography of the world's major cultural regions with emphasis on contemporary economic, social, and political conditions. Course fee \$1.00.

**151 ECONOMIC GEOGRAPHY (3) I, II**

Man's use of the earth. World patterns of physical resources, population, economic activity and development. Course fee \$1.00.

**235 MAP READING AND AIRPHOTO INTERPRETATION (2) I (1 L, 1 Lb)**

Map projections, topographic map reading, interpretation of physical and cultural features from maps and airphotos. Course fee \$1.50. Pre: 101.

**360 POLITICAL GEOGRAPHY (3) II**

Geographic background of international politics and national power. Course fee \$1.00.

**399 DIRECTED READING (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in geography.

**401 GEOGRAPHIC PATTERNS (4) (3 L, 1 2-Hr Lb)**

Physical character and human use of geographic regions. For prospective teachers. Course fee \$1.00.

**410 PHYSICAL GEOGRAPHY (3) I**

Nature and distribution of vegetation, soils, and landforms. Readings in recent literature. Course fee \$1.00.

**420 WEATHER AND CLIMATE (3) I**

World patterns of insolation, temperature evaporation, precipitation and atmospheric circulation. Climate description and climate classification.

**430 CARTOGRAPHY (3) I (2 L, 1 Lb)**

Study and laboratory practice in presenting geographic, statistical and other data on maps and charts for reproduction. Course fee \$5.00.

**450 URBAN GEOGRAPHY (3) I**

The functions, forms, internal structure, growth, and problems of the modern city and its tributary area. Course fee \$1.00.

**501 GEOGRAPHY OF UNITED STATES AND CANADA (3) I**

Regional differences in physical features and resources; evolution of settlement and economic activity. Emphasis on United States. Course fee \$1.00.

**507 CONSERVATION AND UTILIZATION OF NATURAL RESOURCES (3) II**

Conservation and utilization of soil, water, mineral, and biotic resources. Contemporary problems in United States (especially Hawaii) and underdeveloped areas. Course fee \$1.00.

**521 GEOGRAPHY OF EUROPE (3) II**

Physical and human geography. European geography as a background of present problems. Course fee \$1.00.

**526 GEOGRAPHY OF THE SOVIET UNION (3) I**

The land and its people. Regional differences in physical environment, resources, economic development. Elements of strength and weakness. Course fee \$1.00.

**541 GEOGRAPHY OF ASIA (3) I**

An analysis of the physical and cultural patterns of Asia on a regional basis. Emphasis on the geographic background of current Asian problems.

**552 GEOGRAPHY OF JAPAN (3) I**

A regional synthesis of the physical and cultural features which characterize the economic, social, and political geography of Japan. Emphasis on the origin of these patterns. Course fee \$1.00.

**553 GEOGRAPHY OF CHINA (3) II**

A regional survey of the physical and human environment. Emphasis on the development of contemporary China. Course fee \$1.00.

**554 GEOGRAPHY OF INDIA AND SOUTHEAST ASIA (3) II**

Physical and human-use regions; attention to geographic factors in the history, politics, and economics of the area. Course fee \$1.00.

**561 GEOGRAPHY OF AUSTRALIAN AND NEW ZEALAND (2) II**

Systematic and regional studies. Emphasis on the transformation of Australasia by European settlement. Course fee \$1.00.

**571 GEOGRAPHY OF THE PACIFIC ISLANDS (3) I**

Polynesia (except Hawaii); Micronesia, and Melanesia. Emphasis is given to the examples provided within the area of contemporary social, political, and economic problems. Course fee \$1.00.

**578 GEOGRAPHY OF HAWAII (3) II**

Regional, physical, and cultural geography. Detailed study of the people and resources. Course fee \$1.00.

**580 GEOGRAPHY OF THE TROPICS (3) II**

Distribution and interrelationship of the elements of physical environment in the tropics; their bearing on economic activity and human health. Course fee \$1.00.

**601 HISTORY OF GEOGRAPHY (3) I**

Development of geographic thought from early Greece to the present. Emphasis on the origin of current trends.

**605 HISTORICAL GEOGRAPHY (3) II**

A methodological approach to the reconstruction of the physical and cultural geography of an area at a specific time. Pre: consent of instructor, 601, and an adequate background in geology and history.

**620 STUDIES IN ECONOMIC GEOGRAPHY (3) I**

Readings and critical discussion of selected topics in agricultural, mineral, industrial, transportation, and resource geography.

**640 QUANTITATIVE METHODS IN GEOGRAPHY (3) II**

The application of quantitative techniques to geographic research. Pre: introductory course in statistics, and 430.

**645 FIELD METHODS (3) II**

Techniques for acquiring geographic data by means of traverses and instrument surveys, field observation, and interviews; presentation of data in field reports. Pre: 430 or consent of instructor. Course fee \$5.00.

**660 SEMINAR IN GEOGRAPHY OF JAPAN (3) II**

Pre: 552 and consent of instructor.

**665 SEMINAR IN GEOGRAPHY OF THE PACIFIC (3) II**

Investigation of geographic problems of Melanesia, Micronesia, and Polynesia.

**680 SEMINAR IN GEOGRAPHY (3) I**

Study and discussion of significant topics and problems. May be repeated.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor.

## Geology

Senior Professor MACDONALD; Professors ABBOTT, COX, WOOLLARD; Associate Professor MOBERLY; Assistant Professors FURUMOTO, PANKIWSKY; Lecturers MANGHANI, STRANGE

**150 PHYSICAL GEOLOGY (4) I, II (3 L, 3-Hr Lb)**

Work of oceans, glaciers, streams, wind; volcanoes, earthquakes, mountain building. Identification of rocks and minerals. Course fee \$1.00.

**151 HISTORICAL GEOLOGY (4) II (3 L, 1 3-Hr Lb)**

Introduction to biological and temporal geology. History of the earth and its life, emphasizing the evolution of man's ancestors. Pre: 150.

**200 GEOLOGY OF THE HAWAIIAN ISLANDS (2) II**

Survey of Hawaiian volcanism, rock types, engineering materials, ground water. (Alt. yrs.; not offered 1964-65.)

**265 STRUCTURAL GEOLOGY (2) I (1 L, 1 3-Hr Lb)**

Folds, faults, joints, thrusts, and tectonic processes. Problems. Pre: 151.

**275 GEOLOGIC FIELD METHODS (2) II (2 3-Hr Lb)**

Practice in geologic surveying with Brunton compass, plane table, altimeter; general field procedure; air photos. Pre: 265.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Limited to seniors with 2.7 grade-point ratio, or 3.0 grade-point ratio in geology.

**410 MINERALOGY (3) I (2 L, 1 3-Hr Lb)**

Origin, physical and chemical characteristics, economic value of minerals. Elementary crystallography. Pre: 150; Chemistry 105-106.

**415 PETROLOGY (3) II (2 L, 1 3-Hr Lb)**

Hand specimen identification and origin of igneous, sedimentary, metamorphic rocks. Pre: 150, 410, Chemistry 105-106.

**420 OPTICAL MINERALOGY (3) I (2 L, 3-Hr Lb)**

Introduction to petrographic microscope and to optical properties of minerals. Pre: 415 or consent of instructor.

**430 INTRODUCTION TO SOLID EARTH GEOPHYSICS (3) I**

A general study of gravitational, magnetic, seismic, and electrical properties of the earth. Pre: 150, Mathematics 141, Physics 161 or 172. (Alt yrs.; not offered 1964-65.)

**431 ELEMENTARY SEISMOLOGY (3) I**

The elastic properties of rocks, and behavior of earthquake waves; earthquake recording instruments; reading of seismograms. Pre: Mathematics 142, Physics 170. (Alt. yrs.; not offered 1964-65.)

**440 GEOLOGY OF FUELS (2) I**

Origin and occurrence of oil, gas, coal, and fissionable minerals. Pre: 265 or consent of instructor. (Alt. yrs.; offered 1964-65.)

**445 PALEONTOLOGY (3) II (1 L, 2 3-Hr Lb)**

Principles of paleozoology and paleobotany. Morphology and identification of fossils. Pre: 151 or Zoology 101.

**454 ECONOMIC GEOLOGY (2) II**

Distribution, nature, and origin of deposits of metallic and nonmetallic minerals. Pre: 150. (Alt. yrs.; not offered 1964-65.)

**455 GEOLOGY OF GROUND WATER (3) II**

Origin, circulation, recovery, quality of ground water; emphasis on fresh water problems of the Hawaiian Islands. Pre: 150, Physics 161 or 170. (Alt. yrs.; offered 1964-65.)

**456 ENGINEERING GEOLOGY (2) II**

Application of geology to engineering practice, with particular reference to building and highway foundations, dams, and reservoirs. Pre: 150, Mathematics 141. (Alt. yrs.; not offered 1964-65.)

**460 GEOMORPHOLOGY (3) II**

Study of landforms and their relation to geologic structure. Pre: 151 or consent of instructor.

**470 MARINE GEOLOGY (3) I**

A survey of marine geologic processes and forms. Field work involving marine geologic equipment and techniques. Pre: 150 or consent of instructor.

**480 PETROGRAPHY AND PETROLOGY (3) II (1 L, 2 3-Hr Lb)**

Microscopic study of minerals and rocks. Origin and alteration of the several types of rocks. Pre: 420.

**490 REGIONAL GEOLOGY (2) II**

Geologic synthesis through regional tectonic, stratigraphic, physiographic, and temporal studies, with examples from the evolution of North America. Pre: senior standing in geology.

**495 CHEMICAL GEOLOGY (3) I (2 L, 1 3-Hr Lb)**

Distribution of chemical elements in the earth's crust and oceans, and their relation to rock types and geologic processes. Pre: 415.

**500 ADVANCED GENERAL GEOLOGY (2) II**

Application of the specialized techniques and knowledge of the several branches of geology, geochemistry, and geophysics, to major geologic problems. Pre: senior standing in geology.

**550 INTERMEDIATE GEOPHYSICS (3) I (2 L, 1 3-Hr Lb)**

Potential Theory, theory and field work of gravity and magnetic methods of explorations, interpretation of data. Pre: 150, Mathematics 401.

**551 INTERMEDIATE GEOPHYSICS (3) II (2 L, 1 3-Hr Lb)**

Theory and field work of seismic, electric and electromagnetic methods of exploration, interpretation of data. Pre: 550.

**601 SEMINAR IN VOLCANOLOGY (2) II**

Volcanic products and processes; form and structure of volcanoes; nature and origin of volcanism. Pre: 415. (Alt. yrs.; not offered 1964-65.)

**602 SEMINAR IN IGNEOUS PETROLOGY (2) I**

Theories of origin of igneous rocks. Pre: 480. (Alt. yrs.; offered 1964-65.)

**603 SEMINAR IN METAMORPHIC GEOLOGY (2) II**

An examination of the composition and structures of metamorphic rocks and modern theories of metamorphism. Pre: 480, Chemistry 105-106. (Alt. yrs.; offered 1964-65.)

**605 SEMINAR IN HYDRO-GEOLOGY (3) II**

Infiltration, percolation, discharge, and development of ground water. Quantitative aspects. Pre: 265, 455; Chemistry 104 or 106. (Alt. yrs.; not offered 1964-65.)

**606 SEMINAR IN ENGINEERING GEOLOGY (3) II**

Consideration of special problems related to the engineering properties of geologic materials and the effects of geologic processes on man-made structures. Pre: 456, Mathematics 142 or consent of instructor. (Alt. yrs.; offered 1964-65.)

**610 SEMINAR IN SOLID EARTH GEOPHYSICS (3) II**

Discussions of the crust and internal structure of the earth from various geophysical evidences. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**612 PRINCIPLES OF THEORETICAL GEOPHYSICS (3) I**

Stress strain relations, seismic wave theory, submarine acoustics, tsunami generation and propagation. Pre: Physics 310, Mathematics 601.

**613 PRINCIPLES OF THEORETICAL GEOPHYSICS (3) II**

Analytical theory of tectonics, isostasy, deformation of the crust; physics of the interior of the earth. Pre: 612.

**615 SEISMOLOGY (3) II**

Body and surface wave propagation, travel time curves, source mechanism, structure of the earth from seismic data. Pre: 612.

**620 SEMINAR IN GRAVITY AND GEODESY (3) I**

Structure of the earth's interior from gravity data, potential field theory, physical geodesy. Pre: 613.

**621 SEMINAR IN GEOMAGNETISM (3) II**

Problems and interpretations related to the nature and origin of the earth's magnetic field. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**641 SEMINAR IN ORE DEPOSITS (2) II**

A consideration of the physical and chemical processes and structural controls in the formation of metalliferous ore deposits. Pre: 454, Chemistry 105-106. (Alt. yrs.; offered 1964-65.)

**651 SEMINAR IN GEOMORPHOLOGY (2) II**

A consideration of special problems and geologic processes in the development of land forms. Pre: 460. (Alt. yrs.; not offered 1964-65.)

**666 ADVANCED FIELD STUDY (Ar.) I, II**

Advanced field methods in geological sciences.

**671 NEAR-SHORE MARINE PROCESSES (2) II**

Waves, tides, currents, wind, and their effects upon beaches and near-shore sediments. Pre: consent of instructor. (Alt. yrs.; offered 1964-65.)

**672 SEMINAR IN GEOLOGY OF DEEP OCEAN BASINS (2) I**

Morphology, tectonics, sediments and stratigraphy, and history of the ocean basins and their islands. Pre: consent of instructor.



**673 PRINCIPLES OF SEDIMENTOLOGY (3) I (2 L, 2 3-Hr Lb)**

Physics of erosion, transportation, and deposition. Statistical and other analytical procedures applicable to sediments. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**674 SEDIMENTARY PETROGRAPHY AND STRATIGRAPHY (3) II (2 L, 1 3-Hr Lb)**

Composition of sediments and sedimentary rocks; their origin, distribution, and variation. Pre: 420; 673 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**690 SEMINAR IN GEOCHEMISTRY (3) II**

Behavior of chemical elements as related to geologic processes. Pre: consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor.

**800 THESIS RESEARCH**

## History

Professors HUNTER, D. JOHNSON, MURPHY, NUNN, SAKAMAKI, STALKER, J. WHITE;  
Associate Professors AKITA, COWING, GASIOROWSKI, MARGULIES, SHINODA, VELLA;  
Assistant Professors ERNEST, KWOCK, McCUTCHEON, SHARMA, VARLEY; Instructor  
DAWS

**151-152 WORLD CIVILIZATION (3-3) Yr.**

Development of civilization from the ancient Orient and classical Greece and Rome to the present; emphasis on Western civilizations. Prerequisite for advanced courses. (Freshmen and sophomores only.)

**161-162 WORLD CULTURES IN PERSPECTIVE (3-3) Yr.**

Problems in world history; development of ideas, institutions. Alternative for 151-152. Admission only by approval of the instructor.

**171 INTRODUCTION TO AMERICAN HISTORY (3) I, II**

An interpretive survey of United States history from the earliest settlements to the present. Prerequisite for advanced courses in American history.

**251-252 FOUNDATIONS OF WORLD CIVILIZATIONS (3-3) Yr.**

Evolution of Eastern and Western civilizations from ancient times to the present, emphasis on Western civilizations. Prerequisite for advanced courses. (Alternative for 151-152; juniors and seniors only.)

**341-342 HISTORY OF THE FAR EAST (3-3) Yr.**

Survey of the political, social and economic history of the Far East as a unit.

**377 ECONOMIC HISTORY OF THE UNITED STATES (3) I, II**

Emphasis on the role of techniques, agricultural developments, the entrepreneur and the rise of the labor movement. Economics 150-151 recommended as preparation.

**379 REPRESENTATIVE AMERICANS (3) I**

A series of biographical sketches of leading characters in American history from the Revolution to the present. (Not offered 1964-65.)

**395 SENIOR HONORS THESIS (3-3) Yr.**

Preparation of research paper under individual faculty supervision. Required for graduation with honors.

**396 SENIOR SEMINAR IN EUROPEAN HISTORY (3) II**

Selected problems; use of historic materials; form and content of historical writing.

**397 SENIOR SEMINAR IN UNITED STATES HISTORY (3) II**

Selected problems; use of historic materials; form and content of historical writing.

**398 SENIOR SEMINAR IN ASIAN-PACIFIC HISTORY (3) I, II**

Selected problems; use of historic materials; form and content of historical writing.

**399 DIRECTED READING (Ar.) I, II**

Individual projects in various fields. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in history.

*For Ancient History, see Greek 401, Greek Civilization, and Latin 402, Roman Civilization. Either of these courses will be accepted by the College of Arts and Sciences as partly fulfilling the World History requirement.*

**405-406 MEDIEVAL EUROPE, 300-1300 (3-3) Yr.**

Cultural, social, economic, and political changes in the development of the European community.

**409 RENAISSANCE AND REFORMATION, 1300-1600 (3) I**

Ideas and institutions in the early period of commercial and national development. (Alt. yrs.; offered 1964-65.)

**410 EARLY MODERN EUROPE, 1600-1800 (3) II**

Thought and culture of Europe in the age of expansion. (Alt. yrs.; offered 1964-65.)

**425 EUROPE IN THE NINETEENTH CENTURY (3) I**

Major political, social, economic, and intellectual trends in the evolution of Europe from Napoleon to the end of World War I.

**426 EUROPE SINCE VERSAILLES (3) II**

Problems of contemporary Europe and their historical background. (Alt. yrs.; not offered 1964-65.)

**431-432 HISTORY OF ENGLAND (3-3) Yr.**

Major trends in the development of English civilization from the origins to the contemporary period.

**435 CONSTITUTIONAL HISTORY OF ENGLAND (3) I**

Anglo-Saxon institutions; Norman innovations; legal, administrative, parliamentary development under Angevins; rise of cabinet system. (Alt. yrs.; not offered 1964-65.)

**439 AUSTRALIA AND NEW ZEALAND (3) I**

Major historical developments from colonization to independent nationhood; present problems and policies. (Alt. yrs.; not offered 1964-65.)

**441-442 EAST CENTRAL EUROPE (3-3) Yr.**

A general history of Poland, the Danubian region, and the Balkans from the Middle Ages to the present. (Alt. yrs.; not offered 1964-65.)

**451-452 HISTORY OF RUSSIA (3-) Yr.**

Survey of the development of Russian thought and institutions, and of territorial expansion. Impact of revolutionary changes.

**461-462 HISTORY OF THE UNITED STATES TO 1877 (3-3) Yr.**

Expansion of Europe into the Western Hemisphere; establishment of American independence; the Federal Union to the close of the Reconstruction Period.

**463-464 HISTORY OF THE UNITED STATES SINCE 1877 (3-3) Yr.**

A detailed political, economic, and social survey of the history of the American people, 1877 to the present.

**471-472 DIPLOMATIC HISTORY OF THE UNITED STATES (3-3) Yr.**

History of American foreign policy and diplomacy.

**475 CONSTITUTIONAL HISTORY OF THE UNITED STATES (3) II**

The origins and development of the constitution from colonial times to the present.

**481 AMERICAN THOUGHT AND CULTURE (3) I**

An advanced course in American social customs, institutions, and intellectual pursuits.

**491 THE WEST IN AMERICAN HISTORY (3) II**

Western expansion forces in the development of the economic, cultural, and political trends of the nation. (Alt. yrs.; not offered 1964-65.)

**492 THE SOUTH IN AMERICAN HISTORY (3) I**

Southern economic, social, intellectual, and political development, with special attention to race relations. (Alt. yrs.; offered 1964-65.)

**511-512 HISTORY OF LATIN AMERICA (3-3) Yr.**

Political, economic, and social development of the Latin-American republics from colonial times to the present. (Alt. yrs.; offered 1964-65.)

**527 RUSSIAN SIBERIA AND THE PACIFIC (3) I**

Russia's eastward expansion; dynamic role as a Far Eastern power; relations with China and Japan. Interchangeable credit: Asian or European. (Alt. yrs.; offered 1964-65.)

**529-530 HISTORY OF SOUTHEAST ASIA (3-3) Yr.**

Historical survey of southeast Asian civilizations and states, including Burma, Thailand, Laos, Cambodia, Vietnam, Malaysia, Indonesia, and the Philippines.

**531-532 HISTORY OF CHINA (3-3) Yr.**

The course of Chinese civilization from the earliest times.

**541-542 HISTORY OF JAPAN (3-3) Yr.**

Historical survey of Japanese culture, government, economics, institutions.

**551-552 HISTORY OF SOUTH ASIA (3-3) Yr.**

General historical survey of India, Pakistan, Ceylon, from the earliest times to the present.

**553 RUSSIAN CENTRAL ASIA AND THE CAUCASUS (3) I**

Russia's expansion; impact on Mohammedan and Christian peoples; relations with Middle East and India. Asian or European credit. (Alt. yrs.; not offered 1964-65.)

**571 HISTORY OF OCEANIA (3) I**

European impact and native response in the major groups from exploration to exploitation to trusteeship. (Alt. yrs.; offered 1964-65.)

**575 THE UNITED STATES IN THE PACIFIC (3) II**

Growth of economic and political interests and policies in the Pacific area. Interchangeable credit: Asian, Pacific, or American.

**577 HISTORY OF THE HAWAIIAN ISLANDS (3) II**

A general course with some detail. Emphasis on the period of the monarchy. Interchangeable credit: Asian, Pacific, or American.

**611 SEMINAR IN EUROPEAN HISTORY (3) I, II**

Selected problems for reading and research; alternating emphasis on medieval, modern, and British fields.

**633 AMERICAN SOCIAL REFORM MOVEMENTS SINCE 1865 (3) I**

A detailed survey of America's quest for social justice. (Alt. yrs; not offered 1964-65.)

**635 THE COLONIAL PERIOD IN AMERICAN HISTORY (3)**

A reading and research seminar in political, social and intellectual history. (Alt. yrs.; offered 1964-65.)

**637 THE PROGRESSIVE PERIOD IN AMERICAN HISTORY (3)**

Research in problems relating to the rise, character, and decline of the Progressive Movement, 1872 to 1924. (Not offered 1964-65.)

**641 SEMINAR IN AMERICAN DIPLOMATIC HISTORY (3) II**

Selected problems in the development of the United States foreign policy and its implementation.

**661 SEMINAR IN CHINESE HISTORY (3) I, II**

Problems and reading in the political, social, and cultural history of China.

**663 SEMINAR IN INDIAN HISTORY (3) I, II**

Selected problems and reading in history of India, and the influence of Indian culture in southern Asia. Individual reports.

**664 SEMINAR IN SOUTHEAST ASIAN HISTORY (3) I, II**

Studies in the histories of the peoples and states of southeast Asia. Selected topics and research papers.

**665 SEMINAR IN JAPANESE HISTORY (3) I, II**

Main fields of Japanese historical research; principal sources of bibliographical information; selected problems in modern Japanese history.

**671 SEMINAR IN RUSSIAN HISTORY (3) II****675 SEMINAR IN PACIFIC HISTORY (3) II**

Selected topics and research papers in the history of Oceania, with special emphasis on the British colonies.

**699 DIRECTED RESEARCH (Ar.) I, II**

Individual research topics in special fields.

**711 SEMINAR IN HISTORICAL METHOD (3) I**

Training in the evaluation of sources and the preparation of theses.

**712 SEMINAR IN HISTORIOGRAPHY (3) II**

The history of history and historians.

**713 RESEARCH MATERIALS AND METHODS IN ASIAN HISTORY (3) I**

Training in bibliography and research methods in Asian history. Discussions and special problems.

**731 ADVANCED PROBLEMS AND READING IN AMERICAN HISTORY (3) II**

Interpretations and literature of important problems of American history. (Not offered 1964-65.)

## Interdisciplinary Studies

**300 FIELD STUDY (Ar.) I, II**

Pre-arranged systematic investigation in the field of selected topics. Primarily for East-West grantees. Pre: permission of appropriate department chairman and dean.

## Mathematics

Professor GREGORY; Associate Professors MOKINI, ROGERS, YAMAUCHI; Assistant Professors APPLEBY, BORGES, CLARK, DAVIS, NAGY, SPILLER, STRAUSS, WHITE, WILSON, YEH; Instructors BENNET, GARCIA, IHA, KOEHLER, LINN, LOO, MIURA, SIU, WONG; Lecturers BELL, BOUSLOG

**101 INTERMEDIATE ALGEBRA (3) I, II****102 PLANE TRIGONOMETRY (3) I, II**

Pre: two years of high school algebra or 101; one year of plane geometry.

**103 COLLEGE ALGEBRA (3) I, II**

Pre: facility in trigonometry or concurrent registration in 102.

**111 INTRODUCTION TO MATHEMATICS (3) I, II**

To acquaint the nonspecialist with the position of mathematics in modern culture.

**112 ALGEBRA (3) I, II**

Deductive treatment of elementary and intermediate algebra, emphasizing the concepts of function, identity, and equation. Pre: 111 or equivalent.

**113 TRIGONOMETRY AND ANALYTIC GEOMETRY (3) I, II**

Periodicity, trigonometric functions, elementary identities; analytic geometry of the line, circle and parabola. Pre: 112 or equivalent.

**114 CALCULUS (3) I, II**

Intuitive introduction to the derivative, the definite integral, and their applications. Pre: 113 or equivalent.

**140 ANALYTIC GEOMETRY AND CALCULUS I (3) I, II**

Topics of analytic geometry and calculus which supplement each other. Pre: 103 or two years of high school algebra and trigonometry.

**141 ANALYTIC GEOMETRY AND CALCULUS II (3) I, II**

Continuation of 140 with emphasis on integral calculus. Pre: 140.

**142 CALCULUS III (3) I, II**

Techniques of integration with applications. Pre: 141.

**143 CALCULUS IV (3) I, II**

Partial differentiation, multiple integration, and elementary differential equations. Pre: 142.

**201 FINITE MATHEMATICS (3) I**

Symbolic logic of statements and sets, partitions, permutations, combinations and elementary probability. Pre: 114.

**202 SURVEY OF GEOMETRY AND MATHEMATICAL PHILOSOPHY (3) II**

The nature of mathematical truth as illustrated by a comparative study of type of geometries. Pre: 201.

**399 DIRECTED READING (Ar.) I, II**

Individual reading in advanced mathematics. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in mathematics.

**401 DIFFERENTIAL EQUATIONS I (3) I, II**

Theory and application of ordinary differential equations. Laplace transforms. Pre: 143.

**402 DIFFERENTIAL EQUATIONS II (3) I, II**

Bessel functions, Legendre functions, Fourier and other series. Theory and application of partial differential equations. Pre: 401.

**415 INTRODUCTION TO NUMERICAL ANALYSIS (3) I, II**

An introductory discussion of high-speed computing methods with applications in algebra and analysis. Pre: 143 and 401.

**421 INTRODUCTION TO MODERN ALGEBRA (3) I, II**

Matrices, determinants, groups, properties of number systems, and the theory of fields. Pre: 143.

**422 MATRICES AND THEORY OF EQUATIONS (3) I, II**

Algebra of matrices, linear equations, real vector spaces and transformations. Pre: 143.

**426 MODERN MATHEMATICS, PRIMARILY FOR TEACHERS I (3) I, II**

A study of the structure of elementary algebra (the field properties of the real number system), including an introduction to the algebra of sets and a study of the use of variables and quantifiers in mathematical discourse. Required of all College of Education secondary mathematics majors. (Credit not counted towards major in mathematics.) Pre: junior standing in the College of Education or consent of instructor.

**427 MODERN MATHEMATICS, PRIMARILY FOR TEACHERS II (3) II**

The set theory approach to functions. Definitions of relations as sets of ordered pairs with functions as subsets of relations. The algebra of set theory and the logical rules of reasoning are developed with a set theory approach to deductive Euclidean geometry. (Credit not counted towards major in mathematics.) Pre: 426 or consent of instructor.

**428 MODERN MATHEMATICS, PRIMARILY FOR TEACHERS III (3) I**

A study of mathematical induction and sequences, as related to newer approaches to secondary mathematics. The development of properties of positive numbers and integers from basic principles. A critical examination of such topics as recursive definitions, progressions, continued sums and products, divisibility, combinations and permutations, and the binomial theorem. (Credit not counted towards major in mathematics.) Pre: 427 or consent of instructor.

**429 MODERN MATHEMATICS, PRIMARILY FOR TEACHERS IV (3) II**

The structure of the real number system and a study of some elementary functions of analysis including exponents, logarithms, and trigonometric functions. (Credit not counted towards major in mathematics.) Pre: 428 or consent of instructor.

**431-432 ADVANCED CALCULUS (3-3) Yr.**

Limits and continuity, functions of several variables, multiple integrals, infinite series, calculus of variations. Pre: 143.

**442 VECTOR ANALYSIS (3) II**

Vector operations and their applications. Vector differential operators. Lines and surface integrals. Pre: 143.

**444 THEORY OF FUNCTIONS OF A COMPLEX VARIABLE (3) II**

Residue theory; contour integration; other topics of analysis. Pre: 143.

**471 PROBABILITY (3) I**

Probability laws, discrete and continuous probability distributions, expectations, moments, cumulants, generating functions. Pre: 143.

**472 STATISTICAL INFERENCE (3) II**

Sampling and parameter estimation, tests of hypotheses, correlation, regression, analysis of variance, sequential analysis, rank order statistics. Pre: 471.

**501-502 THEORY OF SETS AND METRIC SPACES (3-3) Yr.**

Sets, mappings, and metric spaces. Normed spaces, Hilbert spaces and the space of continuous functions. Pre: 143, 421, 422, 432.

**601-602 APPLIED MATHEMATICS (3-3) Yr.**

Ordinary and partial differential equations, orthogonal functions, vector analysis, complex variables. Pre: 143, 401, 402.

**611-612 MODERN ALGEBRA (3-3) Yr.**

Groups, vector spaces, matrices, fields, rings, ideals. Pre: 421, 422.

**621-622 TOPOLOGY (3-3) Yr.**

Homeomorphisms, complexes, homology and cohomology groups, manifolds. Pre: 421, 422, 432.

**631-632 THEORY OF FUNCTIONS OF A REAL VARIABLE (3-3) Yr.**

Point sets, function limits, differentiation, Riemann integral, convergence, Lebesgue and Stieltjes integral. Pre: 432.

**644-645 ANALYTIC FUNCTION THEORY (3-3) Yr.**

Infinite series, Cauchy theory, conformal mapping, analytic continuation, application to special functions. Pre: 432.

**650 SEMINAR (I) I, II**

Pre: consent of department chairman.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing in mathematics; consent of department chairman.

## Meteorology

Professors W. CHIU, ESTOQUE, RAMAGE; Assistant Professors ADAMS, LAVOIE, WAGNER

*Meteorology 160, or the equivalent, is prerequisite to all advanced courses.*

**160 INTRODUCTION TO METEOROLOGY (3) II**

Introductory discussion of various types of atmospheric phenomena; basic physical principles, structure, and behavior.

**202 METEOROLOGICAL INSTRUMENTS AND OBSERVATIONS (3) I (2 L, 1 3-Hr Lb)**

Principles of meteorological instruments and their care; instrumental and visual weather observation; coding.

**204 APPLIED TROPICAL METEOROLOGY (3) I**

Effects of the tropics on health, comfort, housing, hydrologic cycle, agriculture, industry. (Not offered 1964-65.)

**206 PHYSICAL CLIMATOLOGY (3) II**

Climates related to physical processes and their regional variations; synoptic climatology.

**422 THEORETICAL METEOROLOGY I (4) I**

Atmospheric statics; optical, acoustical, and electrical phenomena; condensation and precipitation; radiation and heat balance; thermodynamics; kinematics. Pre: Math 143, Phys 174; Phys 310, 530, concurrently, or consent of instructor.

**423 THEORETICAL METEOROLOGY II (4) II**

Basic concepts of fluid motion applied to the atmosphere. Equations of motion; special cases of balanced motion; principles of numerical weather prediction. Pre: 422.

**425 TROPICAL METEOROLOGY (3) II**

History; tropical clouds and hydrometeors; easterly waves and typhoons; monsoons; local and diurnal effects. Pre: 422.

**430 METEOROLOGICAL ANALYSIS LABORATORY (3) I**

Techniques of portraying and analyzing atmospheric structure and weather systems in middle and high latitudes; modern methods of forecasting extra-tropical systems. Pre: credit or registration in 422. (Not offered 1964-65.)

**431 TROPICAL ANALYSIS LABORATORY (2) II**

Techniques of portraying and analyzing atmospheric structure and weather systems in tropical and equatorial regions; modern methods of forecasting tropical systems. Pre: credit or registration in 423.

**575 ADVANCED TROPICAL METEOROLOGY (6)**

Modern methods of analysis and forecasting in the tropics. Pre: professional experience or graduate standing. Course fee \$12.00.

**624 ATMOSPHERIC TURBULENCE (3) I**

Equations of motion for turbulent flow; turbulent diffusion; atmospheric boundary layer processes. Pre: 423. (Not offered 1964-65.)

**673 CLOUD PHYSICS (3) I**

Physical processes attending formation and subsequent history of clouds and cloud particles.

**674 PHYSICAL METEOROLOGY (3) II**

Advanced treatment of radiation, atmospheric optics, acoustics, electricity, and visibility; radar meteorology. Pre: 422.



**675 NUMERICAL ANALYSIS AND PREDICTION (5) I (1 L, 4 3-Hr Lb)**

Theory and practice of objective analysis and numerical weather prediction; formulation of prediction equations, numerical integration procedures; programming of high-speed electronic computers. Course fee \$12.00.

**676 STATISTICAL METEOROLOGY (3) I**

Frequency distributions of atmospheric variables, probability; correlation and regression; time series analysis; statistical forecasting. Pre: Mathematics 143. (Not offered 1964-65.)

**680 ADVANCED THEORETICAL METEOROLOGY I (3) I**

The basic equations of meteorology in vector form and in various coordinate systems; circulation and vorticity theorems; classical hydrodynamics. Pre: 423 or equivalent; knowledge of ordinary and partial differential equations.

**681 ADVANCED THEORETICAL METEOROLOGY II (3) II**

Basic theories of the mechanics of compressible fluids; atmospheric waves and tides; stability problems. Pre: 680.

**682 SPECIAL TOPICS IN METEOROLOGY (3) II**

Concentrated studies on selected atmospheric problems. Pre: 681 or consent of instructor. (Not offered 1964-65.)

**683 ADVANCED TOPICS IN SYNOPTIC METEOROLOGY I (3) I**

Studies of the structure and development of weather systems.

**684 ADVANCED TOPICS IN SYNOPTIC METEOROLOGY II (3) I**

Recent developments in applied meteorology. Synoptic approach to atmospheric problems of industry, marine and aircraft operations; local forecast problems. (Not offered 1964-65.)

**685 SEMINAR I (1) I**

Discussions by staff members and students of recent meteorological articles as well as results of original investigations.

**686 SEMINAR II (1) II**

A continuation of Seminar I, but primarily intended for research results of staff members, students, and invited lecturers.

**687 PROBLEMS IN TROPICAL METEOROLOGY (2) II**

Group discussion and evaluation of selected topics in tropical meteorology.

**699 DIRECTED RESEARCH (Ar.) I, II**

## Microbiology

Professors BENEDICT, BUSHNELL, CHU; Associate Professor LOH; Assistant Professors BERGER, CONTOIS

*151 is prerequisite to all more advanced courses.*

**130 MICROBES AND MAN (2) I, II**

Microorganisms as they affect people and their possessions. Not open to those who have credit in 151.

**140 MICROBIOLOGY LABORATORY (2) I, II (2 Lb)**

For students in nursing and dental hygiene. Pre: credit or registration in 130. Course fee \$6.00.

**148 ENVIRONMENTAL SANITATION (2) II**

Microorganisms in foods, water, air, and sewage as hazards to health; principles and practices of sanitation. Not open to those who have credit in 151.

**151 GENERAL BACTERIOLOGY (4) I, II (3 L, 2 Lb)**

Fundamentals. Pre: Chem 104 or 106; 4 credits in biological or physical science. Recommended: Chem 141 or 144. Lectures only (3 credits) require instructor's approval. Course fee \$6.00.

**251 AGRICULTURAL MICROBIOLOGY (3) I (2 L, 1 Lb)**

Soil, sewage, water, milk, and dairy microbiology. Pre: Chem 141 or 144. Course fee \$3.00. (Alternates with 252; offered 1964-65.)

**252 INDUSTRIAL MICROBIOLOGY (3) I (2 L, 1 Lb)**

Role of microorganisms in food processing, fermentation, and production of important biologicals. Pre: Chemistry 141 or 144. Course fee \$3.00. (Alternates with 251; not offered 1964-65.)

**361-362 MEDICAL MICROBIOLOGY AND SEROLOGY (4-4) (3 L, 2 Lb)**

Infectious diseases of man and their diagnosis by laboratory methods. Pre: Chemistry 141 or 144. Course fee \$6.00.

**399 MICROBIOLOGICAL PROBLEMS (Ar.) I, II**

Directed reading and research. Limited to senior majors with 2.7 grade-point ratio, or 3.0 in microbiology. Course fee \$6.00.

**415 DESCRIPTIVE BACTERIOLOGY (3) II (2 L, 2 Lb)**

Isolation, description, and classification of selected groups of bacteria. Course fee \$6.00.

**620 ADVANCED GENERAL BACTERIOLOGY (3) I (2L, 2 Lb)**

Fundamental concepts and techniques of study of general bacteriology from an advanced standpoint, with emphasis on modern developments. Pre: Chemistry 141 or 144 and 6 credits in biological science or consent of instructor. Course fee \$6.00.

**625 IMMUNOLOGY (3) I (3 L)**

Concepts of the nature and mechanism of immunity and hypersensitivity. Pre: 362 and concurrent registration in 627; Chemistry 141 or 144; or consent of instructor.

**627 TECHNIQUES OF IMMUNOLOGY (3) I (3 Lb)**

Studies on the nature and mechanism of natural and acquired resistance and hypersensitivity, with emphasis on chemical, physical, and biological methods of characterizing antigens and antibodies. Pre: concurrent registration in 625. Course fee \$6.00.

**631 MICROBIAL PHYSIOLOGY (3) I (2 L, 2 Lb)**

Fundamentals of microbial physiology and metabolism, and basic techniques. Pre: Biochemistry 271 or 602; or consent of instructor. Course fee \$6.00.

**632 TECHNIQUES OF MICROBIAL PHYSIOLOGY (3) II (2 L, 2 Lb)**

Advanced techniques for the study of selected topics. Pre: 631 or consent of instructor. Course fee \$6.00.

**655 VIROLOGY (2) II (2 L)**

Concepts of growth, pathogenesis, and epidemiology of animal viruses. Pre: 362, 625; Biochemistry 271 or 602; and consent of instructor.

**657 VIRUS LABORATORY (3) II (2 Lb)**

Techniques used in the growth, purification, and identification of animal viruses. Pre: 362, 625; Biochemistry 271 or 602; and consent of instructor.

**690 SEMINAR (1) I, II**

Significant topics in microbiology. Required of graduate students. May be repeated.

**699 DIRECTED RESEARCH (Ar.) I, II**

Selected problems in microbiology. Pre: consent of instructor. Course fee \$6.00.

*Credit toward the major will be granted in the following courses:*

**Biochemistry 271, 601-602, 611-612**

**Botany 415, 418, 430, 436, 470, 570-571**

**Genetics 451, 518**

**Plant Pathology 310**

**Zoology 410, 425**

## Music

Professors RIAN, B. SMITH, R. VAUGHT, VINE; Assistant Professors HERAND, KERR, LANDSMAN, O. F. PAUL, RUSSELL, TRUBITT; Instructors BOLLINGER, GILLET, R. LUM, MUNDY, R. PFEIFFER, SACLAUSA, UCHIMA; Lecturers ARAI, CORBIN, DEMELLO, HARLING, HUHM, KOENNECKE, MIKAMI, MIYAMURA, L. RUSSELL, M. WILLIAMS

**109 UNIVERSITY FIELD BAND (1) I, II**

For ROTC band members but open to others. Two sessions weekly with an additional hour arranged. May be repeated for credit.

**111 GROUP VOICE INSTRUCTION (1) I, II**

Basic principles of voice production and elementary music skills in classes of twenty.

**112 GROUP VOICE INSTRUCTION (1) I, II**

Continuation of 111. Pre: 111 or consent of instructor.

**113-114 GROUP INSTRUCTION IN SECONDARY PIANO (1) I, II**

Basic instruction on the piano as a secondary instrument. Music majors and music minors only.

**115-116 GROUP INSTRUCTION IN SECONDARY PIANO (1) I, II**

Continuation of 113-114.

**117-118 INTRODUCTION TO MUSIC SKILLS (1-1) Yr.**

Experience in singing, reading, and playing of classroom instruments (including recorder and bell-type instruments, autoharp, and fretted instruments). Not open to those who have had 150.

**140 RECREATIONAL MUSIC (2) I**

Elementary music skills including instruction on the ukulele. Not open to those who have had 150 or 117-118. (Not offered 1964-65.)

**150 ELEMENTARY MUSICIANSHIP (3) I, II**

Basic instruction in singing and ukulele playing, covering terminology and notation. Not open to those who have had 140 or 117-118.

**151-152 STRING METHODS (2-2) Yr.**

Basic skills and teaching methods for stringed instruments. For students preparing to teach instrumental music.

**153 WOODWIND METHODS (2) I**

Similar to 151-152.

**154 BRASS METHODS (2) II**

Similar to 151-152.

**155 PERCUSSION METHODS (2) I**

Similar to 151-152, plus marching band techniques.

**160 INTRODUCTION TO MUSIC LITERATURE (3) I, II**

Styles and forms of Western music. From the listener's point of view. Lab section required. Course fee \$2.00.

**181-182 THEORY (4-4) Yr.**

Basic elements of eighteenth and nineteenth century music, including writing, analysis, keyboard application, sight-singing and ear training.

**183-184 ADVANCED THEORY (4-4) Yr.**

Continuation of 182. Altered chords; modulation. Pre: 182.

**200 UNIVERSITY CHORUS (1) I, II**

Three hours a week. May be repeated for credit.

**251-252 MUSIC, ELEMENTARY CURRICULUM (2-2) Yr.**

Organization and direction of music in childhood experience. Materials and procedures. Pre: 150; junior standing in education. 251 is prerequisite to 252.

**253 MUSIC, ELEMENTARY CURRICULUM (3) I, II**

Organization and direction of music in childhood experience. Materials and procedures. For elementary majors whose minor subject area is not music. Pre: Mus 150 or 118; junior standing in education.

**257-258 CONDUCTING (2-2) Yr.**

Preparation for school, community and church instrumental and choral conducting. Baton skills, group vocal technique and score reading. Pre: 152, 182.

**259 PIANO METHODS (2) I**

Methods and materials for class and private instruction in piano. Pre: 182 or consent of instructor.

**269 PIANO LITERATURE (2) I**

Survey of styles and forms of music for the piano and its forerunners. Pre: 138 (piano) or consent of instructor.

**281 ORCHESTRATION (2) I**

Arranging and composing for band, orchestra, and chamber groups. Pre: 152, 182, or consent of instructor.

**394-395 SENIOR HONORS THESIS (4) Yr.**

*Credit in 160 or 181 or consent of instructor, is necessary for 461, 462, 463, 464, 465, 466, 470, 471.*

**400 UNIVERSITY CONCERT CHOIR (1-1) Yr.**

Performance of a cappella literature and other major choral works including masses and cantatas. Three hours a week. May be repeated for credit. Pre: audition or consent of instructor.

**401 ENSEMBLE MUSIC (1) I, II**

Vocal (11, opera workshop; 12, University singers); 21, keyboard; 31, string; 41, woodwind; 51, brass; 52, stage band; 71, Asian and Pacific. May be repeated for credit. Pre: audition or consent of instructor.

**405 UNIVERSITY ORCHESTRA (1) I, II**

Performance of orchestra literature. May be repeated for credit. Pre: audition or consent of instructor.

**409 UNIVERSITY CONCERT BAND (1), I, II**

Performance of major band literature including works by contemporary composers. Pre: audition or consent of instructor. May be repeated for credit.

**450 MUSIC FOR ELEMENTARY TEACHERS (2) II**

Continuation of 150 with emphasis upon sight singing, melodic and rhythmic dictation, and basic harmony. Pre: 150 or equivalent. Not open to music majors.

**451 ADVANCED STRING METHODS (2) I**

Advanced playing, teaching technique, and materials and of string instruments. Pre: 152.

**452 ADVANCED WOODWIND METHODS (2) II**

Advanced playing, teaching technique, and materials of woodwind instruments. Pre: 153.

**453 ADVANCED BRASS METHODS (2) II**

Advanced playing, teaching technique, and materials of brass instruments. Pre: 154.

**461 MUSIC OF THE BAROQUE PERIOD (2) I**

Music literature 1580-1750, especially Bach and Handel. Oratorio, opera, and instrumental. Course fee \$2.00. (Not offered 1964-65.)

**462 MUSIC OF THE CLASSIC PERIOD (2) II**

Haydn, Mozart, and Beethoven. Opera, choral, and instrumental music. Course fee \$2.00. (Not offered 1964-65.)

**463 MUSIC OF THE ROMANTIC PERIOD (2) I**

Emergence of the romantic style of the nineteenth century. Major composers. Course fee \$2.00.

**464 CONTEMPORARY MUSIC (2) II**

From Debussy to the present. Schoenberg, Bartok, Hindemith, Stravinsky, and contemporary American composers. Course fee \$2.00.

**465-466 HISTORY OF WESTERN MUSIC (3-3) Yr.**

Development of music from its origins to the present. Nationalities, schools, and composers. Course fee \$2.00.

**470 MUSIC OF ASIA (3) I**

Folk and traditional music of Asia. Recordings, demonstrations, pictures, etc. Course fee \$3.00.

**471 MUSIC OF NONLITERATE PEOPLES (3) II**

Music of nonliterate people and changes in musical style resulting from contact with Western culture. Emphasis on Pacific islands. Recordings, demonstrations, pictures, etc. Course fee \$3.00.

**481 ADVANCED ORCHESTRATION (2) II**

Arranging and composing for band, orchestra and choral groups. Pre: 281.

**483-484 COUNTERPOINT (2-2) I, II**

Sixteenth and eighteenth century contrapuntal techniques and their implications for contemporary styles. Pre: 184.

**485-486 FORM AND ANALYSIS (2-2) Yr.**

Principles of structural designs and technique of analysis. Pre: 184.

**487-488 COMPOSITION (2-2) I, II**

Creative writing beginning with smaller forms. Pre: 184 or consent of instructor.

**600 SEMINAR (3) I, II**

Selected problems in (1) composition, (2) ethnomusicology, (3) musicology, (4) performance repertory, (5) music education. Pre: consent of instructor. May be repeated.

**650 PROBLEMS IN MUSIC EDUCATION (2) II**

Study of choral instrumental and general music at elementary and secondary school levels. Research, reports, and conferences. Pre: teaching experience.

**651 FOUNDATIONS IN MUSIC EDUCATION (2) I**

Discovery and organization of broad problems in music education. Relating basic concepts of music in the elementary and secondary schools to the total curriculum. Pre: teaching experience.

**654 PACIFIC AND ASIAN MUSIC IN EDUCATION (2) II**

Songs, dances, musical instruments of Hawaii and Asia, for grades 4, 5, 6. Pre: teaching experience or consent of instructor. Rehearsal hours arranged. (Not offered 1964-65.)

**657-658 ADVANCED CONDUCTING (2-2) I, II**

Practical experience with instrumental and choral groups, including public performance. Pre: 258.

**661 BIBLIOGRAPHY AND RESEARCH METHODS IN MUSIC (3) I**

The use of basic research material and techniques in ethnomusicology and historical musicology.

**699 DIRECTED WORK (Ar.) I, II**

Reading and research in ethnomusicology, musicology or music education; reading and practice in theory, composition or performance. Pre: candidacy for the M.A. or M.F.A. degree; consent of instructor.

### APPLIED MUSIC

Instruction is given in piano, organ, voice, and orchestral instruments in individual half-hour lessons either once or twice a week. Lessons are not made up unless the instructor is notified a reasonable time in advance of the absence. Lessons occurring on holidays are not made up.

Registration for lessons and choice of teachers must be approved by the department chairman.

One public appearance in both the junior and senior levels is required of all students majoring in music. This requirement is satisfied by successful participation in University student recitals.

Assignment to Applied Music courses is based on tests and auditions given by the department during the freshman Orientation Period. In order to receive credit in Applied Music courses 135-136 and above, the following minimum requirements must be met:

Satisfactory work in Music 181-182, or the equivalent.

*Piano and organ*—Play any major or minor scale in the octaves, at a moderate tempo; Bach Two-Part Invention or a dance from one of the suites; a sonata by Haydn or Mozart; a modern composition as difficult as the sonata.

*Voice*—Sing on pitch, with correct phasing and musical intelligence, standard songs in good English.

*Orchestral instruments*—Entrance requirements may be had by writing the Music Department.

#### FEES PER SEMESTER

|  |         |
|--|---------|
| One class lesson each week . . . . .             | \$10.00 |
| One lesson each week (half hour) . . . . .       | \$55.00 |
| Two lessons each week (half hour each) . . . . . | \$90.00 |

#### 121 CLASS INSTRUCTION (1-1) Yr.

Class instruction at the beginning level in voice and Asian instruments.

#### 122 CLASS PIANO INSTRUCTION (1-1) I, II

Class instruction at the beginning level in piano.

#### 123 INTERMEDIATE CLASS PIANO (1) II

Class instruction at the intermediate level in piano. Continuation of 122.

#### 131 INDIVIDUAL INSTRUCTION (Ar.) I, II

Voice, piano, organ, orchestral or Asian instruments. Nonmusic majors at freshman-sophomore level, or majors as a secondary medium. May be repeated for credit.

#### 135-136 INDIVIDUAL INSTRUCTION (Ar.) Yr.

Voice, piano, organ, or orchestral instruments at the freshman level. For prospective music majors. Pre: 131 or consent of instructor.

#### 137-138 INDIVIDUAL INSTRUCTION (Ar.) Yr.

Voice, piano, organ, or orchestral instruments at the sophomore level. For prospective music majors. Pre: 136 or consent of instructor.

#### 231 INDIVIDUAL INSTRUCTION (Ar.) I, II

Voice, piano, organ, orchestral, or Asian instruments. Nonmusic majors at junior-senior level, or majors as a secondary medium. May be repeated for credit.

**235-236 INDIVIDUAL INSTRUCTION (Ar.) Yr.**

Voice, piano, organ, or orchestral instruments at the junior level. Recital required second semester (236). For music majors. Pre: 138 or consent of instructor.

**237-238 INDIVIDUAL INSTRUCTION (Ar.) Yr.**

Voice, piano, organ, or orchestral instruments at the senior level. Recital for graduation (238-81). For music majors. Pre: 236 or consent of instructor.

**435 INDIVIDUAL INSTRUCTION (Ar.) I, II**

Voice, piano, organ, orchestral, or Asian instruments at the graduate level. May be repeated for credit. Pre: 238 or graduate standing.

**635 ADVANCED INDIVIDUAL INSTRUCTION (Ar.) Yr.**

Vocal or instrumental instruction for M.A. or M.F.A. candidates. Pre: 435 and consent of instructor. May be repeated for credit.

## Philosophy

Senior Professor MOORE; Professors MCCARTHY, NAGLEY, SAKSENA; Assistant Professors CHENG, GIMIGLIANO, HAYNES, INADA, RESNIK

*One of the following is generally a prerequisite to each advanced course: 100, 110, 150, 155, or the equivalent.*

**100 INTRODUCTION TO PHILOSOPHY (3) I, II**

Problems, methods, and fields of philosophy.

**110 INTRODUCTION TO ETHICS (3) I, II**

Major philosophies and typical theories of the nature of the good life.

**150 HISTORY OF PHILOSOPHY (3) I**

Western philosophy from the era of great Greek thinkers to the Renaissance. Pre: sophomore standing.

**155 MODERN PHILOSOPHY (3) II**

Western philosophy from the Renaissance to the present. Desirable preparation: 150.

### WESTERN

**350 ETHICS (3) I**

A comparative analysis of ethical theory in theological, legal, literary, scientific, social, as well as philosophical sources indicating the relevance of ethical theory to the process of decision making.

**400 CONTEMPORARY PHILOSOPHY (3) I**

Survey of recent developments in Western philosophy. Pre: one of the following, 100, 150, 155.

**410 AMERICAN PHILOSOPHY (3) I**

Major trends in the development of American philosophy in relation to socio-political background and influence.

**420 PROBLEMS OF PHILOSOPHY (3) I**

Persistent specific problems of philosophy, primarily those concerning nature, man, God.



**430 LOGIC (3) I, II**

Principles of deductive and inductive logic, traditional and modern.

**432 SYMBOLIC LOGIC (3) II**

Principles of mathematical logic. Pre: 430, or 12 credits of mathematics.

**433 PHILOSOPHY OF MATHEMATICS (3) II**

Philosophical problems concerning mathematics—mathematical truths, axioms and proof. Emphasis on contemporary research on foundations of mathematics. Pre: 432 or 12 credits in mathematics.

**434 PHILOSOPHY OF LANGUAGE (3) II**

Concepts of meaning, truth, existence, reference, predication, and quantification; analysis of analyticity and modalities, with applications to philosophy, science and art.

**435 BRITISH EMPIRICISM (3) II**

Analysis of the development of empiricism in the writings of Locke, Berkeley, and Hume. Special attention to the concepts of substance, sensation, self, nature, causation, mathematics, morality and religion.

**436 CONTINENTAL RATIONALISM (3) II**

Epistemological, metaphysical, and ethical problems in Continental Rationalism. Particular attention to Descartes and Spinoza. (Not offered 1964-65.)

**440 POLITICAL PHILOSOPHY (3) II**

A combined systematic and historical approach to the major problems of Western political philosophy. Special attention will be given to European political theory.

**475 PLATO (3) II**

Analysis of the theory of ideas, theory of knowledge, ethical and political ideas, and his view of the arts through examination of the Dialogues. (Not offered 1964-65.)

**476 ARISTOTLE (3) II**

Analysis of the fundamental ideas and works including his methodological, metaphysical, ethical, political, logical, and aesthetic theory.

**500 PHILOSOPHY OF ART (3) I**

Study of art from the points of view of creation, appreciation, criticism. Particular attention to painting, sculpture, music, poetry.

**505 PHILOSOPHY OF RELIGION (3) II**

Western religious philosophy: Thomism, Mysticism, Reformationism, Rationalism, Agnosticism, Romanticism, Humanism, Existentialism.

**510 PHILOSOPHY IN LITERATURE (3) II**

Literary expression of philosophical ideas. Consideration of such writers as Beckett, Camus, Hemingway, Kafka, Rilke, Sartre, T. S. Eliot.

**515 PHILOSOPHY OF HISTORY (3) II**

Occidental and Oriental conceptions of the meaning of historical processes. Particular attention to Augustine, Hegel, Marx-Engels.

**520 EXISTENTIAL PHILOSOPHY (3) II**

Survey of the main themes of European existential philosophy. Particular attention to Kierkegaard and Heidegger.

**550 THEORY OF SCIENCE (3) I**

A systematic study of the methods and procedures of reliable knowledge in the formal, natural, and social sciences.

**555 FOUNDATIONS OF SCIENCE (3) I**

Philosophical foundations and implications of modern physical science. Particular reference to Copernicus, Galileo, Newton, Einstein.

**EASTERN****445 PHILOSOPHICAL FOUNDATIONS OF INDIAN CULTURE (3) I**

Distinctive characteristics of the people of India; intellectual habits and emotions as expressed in art, literature, philosophy, politics, religion.

**450 INDIAN PHILOSOPHY (3) I**

Philosophical systems and movements: the Vedas, Upanishads, Six systems of Hinduism, Charvaka, Jainism, Buddhism.

**451 CONTEMPORARY INDIAN PHILOSOPHY (3) II**

Analysis of recent philosophical movements and tendencies and their significance in present day India.

**453 INDIAN SOCIAL PHILOSOPHY (3) II**

The basic codes of Indian moral and social philosophy (Dharmasastras) and their historical developments and their practical significance.

**454 INDIAN LOGIC (3) I**

A study of the outlines of India's logical concepts and their development.

**460 BUDDHIST PHILOSOPHY (3) I**

Survey of the basic schools and tenets of Buddhist philosophy.

**461 THERAVADA BUDDHIST PHILOSOPHY (3) II**

Analysis of early Buddhist conceptions of the nature of man. Pre: 460; consent of instructor.

**462 MAHAYANA BUDDHIST PHILOSOPHY (3) II**

Basic principles and major schools. Emphasis upon Indian, Chinese, and later Japanese developments. Pre: 460; consent of instructor. (Not offered 1964-65.)

**464 ZEN PHILOSOPHY (3) I**

Origin and development of Zen; influence on Oriental cultural traditions and contemporary scene. Pre: 460; consent of instructor.

**470 CHINESE PHILOSOPHY (3) I**

Historical survey of the important philosophical schools and tendencies in China, ancient and modern.

**471 CONFUCIANISM (3) I**

Doctrinal, ethical, social and institutional problems from Confucius to the present. Pre: 470; consent of instructor.

**472 NEO-CONFUCIANISM (3) II**

An examination of logic, theory of knowledge, metaphysics and ethics of the major Chinese Neo-Confucian philosophers in the period from the 11th to the 16th century.

## COMPARATIVE

**465 PHILOSOPHY, EAST AND WEST (3) I**

Basic systems and methods of Eastern and Western philosophy, with special attention to similarities and contrasts.

## FOR GRADUATES

*All seminars may be repeated.*

**601 SEMINAR IN GREEK PHILOSOPHY (3) I**

Pre: graduate standing; consent of instructor.

**610 SEMINAR IN MODERN PHILOSOPHY (3) I, II**

Pre: graduate standing; consent of instructor. (Not offered 1964-65.)

**620 SEMINAR IN CONTEMPORARY PHILOSOPHY (3) I**

Pre: graduate standing; consent of instructor.

**650 SEMINAR IN INDIAN PHILOSOPHY (3) I, II**

Pre: graduate standing; consent of instructor.

**660 SEMINAR IN BUDDHIST PHILOSOPHY (3) II**

Pre: graduate standing; consent of instructor.

**670 SEMINAR IN CHINESE PHILOSOPHY (3) II**

Pre: graduate standing; consent of instructor.

**690 SEMINAR IN COMPARATIVE PHILOSOPHY (3) II**

Pre: graduate standing; consent of instructor. (Not offered 1964-65.)

**699 DIRECTED RESEARCH (Ar.) I, II**

(1) Greek philosophy, (2) modern classical philosophy, (3) contemporary Western philosophy, (4) Indian philosophy, (5) Buddhist philosophy, (6) Chinese philosophy, (7) East-West philosophy. Available to advanced graduate students; may be repeated; consent of instructor and chairman required.

## Physics

Senior Professor WATANABE; Professors HOLMES, JEFFERIES, MIYAKE, ORRAL, PETERSON; Associate Professors CENCE, KUDAR, McALLISTER, PONG, STEIGER; Assistant Professors NOSE, STENGER; Instructor CHANG

*Mathematics 1-43 and Physics 160-161 or 170-173 are prerequisite to all courses numbered 300 or above.*

**110 ASTRONOMY (3) I**

Introduction to the nature of the astronomical universe; survey of observational methods and historical development. Pre: Math 102.

**140 ELEMENTARY PRINCIPLES OF SOUND (2) II**

A study of the physics of sound as related to music and speech, and related problems in acoustics. Pre: Math 112 or equivalent, or consent of instructor.

**151 INTRODUCTION TO ELECTRONIC CIRCUITS (3) I (2 L, 1 Lb)**

An electricity course covering DC and AC theory and applications; emphasis on vacuum tube circuits. Pre: Math 102. Course fee \$6.00.

**153 PRINCIPLES OF RADIO AND VACUUM TUBE CIRCUITS (3) II (2 L, 1 Lb)**

Introduction to theory, design, construction of vacuum tube circuits; emphasis on radio receivers, amplifiers. Pre: 151. Course fee \$6.00.

**160-161 COLLEGE PHYSICS (4-4) Yr. (3L, 1 Lb)**

Fundamental principles, theories, experimental methods. Pre: Math 102 and credit or registration in Math 103. Course fee \$6.00 each semester.

**170 GENERAL PHYSICS (3) I, II**

Mechanics of particles, rigid bodies, fluids; properties of matter; wave motion; sound. Pre: credit or registration in Math 141.

**171 GENERAL PHYSICS LABORATORY (1) I, II (1 3-Hr Lb)**

Experiments in statics, dynamics, properties of matter, periodic motion, sound. Pre: credit or registration in 170. Course fee \$6.00.

**172 GENERAL PHYSICS (3) I, II**

Fundamental laws of electricity and magnetism and their applications. Pre: 170, 171; credit or registration in Math 142.

**173 GENERAL PHYSICS LABORATORY (1) I, II (1 3-Hr Lb)**

Experiments in heat, electricity, and magnetism. Pre: credit or registration in 172. Course fee \$6.00.

**174 GENERAL PHYSICS (4) I, II**

Heat, light and modern physics. Pre: 172, 173, or concurrent registration, or 160-161; Math 142.

**175 GENERAL PHYSICS LABORATORY (1) I, II (1 3-Hr Lb)**

Experiments in light and modern physics. Pre: credit or registration in 161 or 174. Course fee \$6.00.

**253 ELECTRICAL MEASUREMENTS (1) II**

Experimental determination of fundamental electro-magnetic quantities and applications to high vacuum and microwaves. Pre: 173 or 161; Math 142. Course fee \$6.00.

**310 THEORETICAL MECHANICS (3) I**

Mechanics of particles, rigid bodies, and elastic media. Generalized methods.

**350 ELECTRICITY AND MAGNETISM (3) I**

Experimental laws, field theory, and mathematical application to special problems.

**399 INDIVIDUAL WORK IN ADVANCED PHYSICS (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 in physics.

**400 NUCLEAR SCIENCE LABORATORY (2) I (1 L, 1 Lb)**

Experiments concerned with nuclear instrumentation, radiation detection, dosimetry, induced radioactivity by neutron bombardment, neutron flux measurements, and the basic operation of a subcritical nuclear reactor. Pre: 175 or equivalent. Course fee \$6.00.

**420 SOUND (3) I**

Theory of sound and its application.

**440 PHYSICAL ELECTRONICS (3) I**

Theory of electronic phenomena and devices. Pre: credit or registration in 350.

**460 PHYSICAL OPTICS (3) II**

Geometrical and physical optics. Pre: 174, 350.

**461 OPTICS LABORATORY (1) II (1 Lb)**

Experiments in geometrical and physical optics. Pre: credit or registration in 460. Course fee \$6.00.

**480 ATOMIC AND NUCLEAR PHYSICS I (3) I**

Quantum mechanics, one-electron atom, many-electron atom, perturbation theory, the hydrogen molecule, quantum statistics, and the band theory of solids. Pre: 174 or equivalent; credit or registration in Math 402.

**481 ATOMIC AND NUCLEAR PHYSICS II (3) II**

Basic properties of nuclei, quantum-mechanical theories of alpha and beta decay, gamma emission, dynamics of nuclear reactions, fission and fusion processes, elementary particles. Pre: 480.

**530 THERMODYNAMICS AND STATISTICAL MECHANICS (3) I**

Laws of thermodynamics, heat transfer, kinetic theory, statistical mechanics.

**550 ELECTROMAGNETIC WAVES (3) II**

Field equations, plane and spherical waves, and guided waves. Pre: 350.

**600-601 METHODS OF THEORETICAL PHYSICS (3-3) Yr.**

A study of the mathematical tools of physics, including series, transcendental functions, Fourier and Laplace transforms, integral equations, Green's functions, Group theory. Emphasis is upon applications, with special attention to approximate methods of solution. Pre: 310, 350, 480; Math 402.

**610 ANALYTICAL MECHANICS I (3) I**

Dynamics of particles, systems of particles, and rigid bodies, Lagrangian and Hamiltonian equations, special theory of relativity. Pre: 310; Math 402.

**611 ANALYTICAL MECHANICS II (3) II**

Invariants, Hamilton-Jacobi equation, Huygen's principle, small oscillations, mechanics of elastic media. Pre: 610.

**620 PHYSICS OF THE UPPER ATMOSPHERE (3) II**

Basic parameters, experimental methods, absorption and recombination processes, intrusion of extra-terrestrial particles and fields. Pre: 310, 350, or consent of instructor.

**630 STATISTICAL MECHANICS (3) I**

Probability and statistics, classical and quantum-mechanical statistical mechanics, relation to thermo-dynamical variables, applications. Pre: 530, 610, 670. (Alt. years; not offered 1964-65.)

**650 ELECTRODYNAMICS I (3) II**

Potential theory, Maxwell's equations, electromagnetic waves, boundary value problems. Pre: 550; Math 402.

**651 ELECTRODYNAMICS II (3) I**

Relativistic electrodynamics, electron theory, radiation by charged particles, Lienard-Wiechert potential, stress-energy tensor, moving media. Pre: 650.

**660 ADVANCED OPTICS (3) I**

Wave motion, interference, diffraction, fundamentals of spectroscopy, optics from the point of view of electromagnetic theory, lasers. Pre: 460.

**670 QUANTUM MECHANICS I (3) I**

Physical basis and formulation, solution of Schrodinger's equation, angular momentum, scattering problems, atomic structure. Pre: 481; Math 402.

**671 QUANTUM MECHANICS II (3) II**

Matrix formulation, spin, approximation methods, relativistic wave equation, quantization of field. Pre: 670.

**677 NUCLEAR PHYSICS I (3) II**

Properties and structure of nuclei, reactions, and nuclear models. Pre: 481, 670.

**678 NUCLEAR PHYSICS II (3) I**

Elementary particles, nuclear forces, meson theory. Pre: 677, and consent of instructor.

**680 ATOMIC AND MOLECULAR SPECTRA (3) II**

Study of atomic and molecular structure by quantum mechanical interpretation of line, band, and continuous spectra. Pre: 670.

**685 SOLID STATE THEORY (3) I**

Crystalline state, lattice vibration, lattice defect, ferroelectrics, ionic crystals, theory of metals, band theory, semiconductors. Pre: 440, 630, 670. (Alt. yrs.; offered 1964-65.)

**690 SEMINAR (1) I, II**

Discussion and reports on physical theory and recent development. Pre: graduate standing or consent of the chairman.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor.

**700 SEMINAR ON ELEMENTARY PARTICLE PHYSICS (1) II**

Report and discussion of recent developments in the field of elementary particle physics. Pre: consent of instructor. (Can be repeated for credit for a maximum of 4 semesters.)

**710 QUANTUM THEORY OF FIELDS (3) II**

Quantization of the electromagnetic field; formal and phenomenological meson theories, with applications to elementary particle physics; general relativity. Pre: 610-611, 650-651, 670-671.

## Political Science

Senior Professors HAMILTON, SAUNDERS; Professors LEVI, MELLER, SPELLACY, STAUFFER; Associate Professors FRIEDMAN, KARIEL, KOSAKI, MIWA, TUTTLE; Assistant Professors BECKER, CAHILL, HAAQ, LEE, NEFF

*110, 210, or the equivalent, is prerequisite to all other courses except 215.*

**110 INTRODUCTION TO GOVERNMENT (3) I, II**

Role of government in modern society. Types and practices of government; processes of political change; citizen participation. Not open to juniors or seniors.

**210 MODERN GOVERNMENT AND POLITICS (3) I, II**

Role of government in modern society; governmental structures and political processes. Juniors and seniors only. Closed to those with credit in 110.

**215 CURRENT POLITICAL AFFAIRS (1)**

Survey of current political topics and problems.

**300 ELEMENTS OF POLITICAL THEORY (3)**

Analysis of some of the major concepts of political theory; their statement by the major political philosophers.

**301 DEMOCRACY (3) I**

Analysis of the concept of democracy.

**320 AMERICAN GOVERNMENT (3)**

Development, organization, and functioning of national, state, and local government.

**324 CIVIL RIGHTS (3)**

Study of the principal court decisions on freedom of speech, press, assembly, conscience, and other basic civil liberties.

**340 COMPARATIVE POLITICS: POLITICAL PATTERNS (3)**

Nature and types of political parties; party systems; relation to electoral systems.

**341 COMPARATIVE POLITICS: INSTITUTIONAL DEVELOPMENT (3)**

Classification of major structural types; levels, range, and "universe" of decision-making; patterns in executive-legislative relations.

**360 INTRODUCTION TO INTERNATIONAL RELATIONS (3)**

A survey of the major historical, political, and social forces which influence the relations among nations.

**362 UNITED NATIONS (3)**

Problems involved in the development and structure of international organizations, with special emphasis on the United Nations.

**382 CAMPAIGNS AND ELECTIONS (3)**

Management and conduct of elections, with attention to techniques employed by candidates for public office. Field investigations.

**384 THE LEGISLATIVE PROCESS (3)**

The lawmaking process in the United States. Role of the representative assemblies, the executive branch, interest groups, and the public.

**394 SENIOR HONORS THESIS****404 MODERN POLITICAL IDEOLOGIES (3) I**

Survey of political ideologies such as communism, fascism, socialism.

**405 AMERICAN POLITICAL THOUGHT (3) II**

Examination of American political ideas from colonial days to the present.

**420 STATE GOVERNMENT AND ADMINISTRATION (3) I**

Constitutions; historical evolution; structure with reference to judicial, legislative, and executive branches; limitations on authority.

**421 MUNICIPAL GOVERNMENT AND ADMINISTRATION (3) II**

The city as a political subdivision and as a municipal corporation; powers and liabilities; forms of government; the metropolitan problem; related matters.

**422 GOVERNMENT OF HAWAII (3)**

State and local government; consideration of the state constitution; formative political factors in Hawaii. (Alt. yrs.; not offered 1964-65.)

**423 CONSTITUTIONAL LAW (3) I**

Examination of principal cases concerned with state relations, due process of law, interstate commerce, and related subjects.

**443 GOVERNMENT AND POLITICS OF CHINA AND JAPAN (3) I**

Changing patterns of government; emphasis on problems faced and the institutional, ideological, and political answers created through time.

**444 GOVERNMENT AND POLITICS OF SOUTH AND SOUTHEAST ASIA (3) I**

Analysis of relevant colonial patterns that have conditioned the newly created governmental structures, followed by a study of present developments.

**446 GOVERNMENT AND POLITICS OF THE USSR (3) I**

Historical, social, political, and ideological factors in the development of political institutions in the Soviet Union.

**461 AMERICAN FOREIGN POLICY (3) I**

Historical, institutional, political, and economic influences on the formation and execution of American foreign policy. (Alt. yrs.; offered 1964-65.)

**462 INTERNATIONAL RELATIONS OF THE FAR EAST (3) I**

Rise and fall of eastern Asia and the re-emergence of this area as a pivotal factor in world politics.

**463 INTERNATIONAL RELATIONS OF SOUTH AND SOUTHEAST ASIA (3) II**

Emergence from colonialism of these new states. "Neutralism"; intra-regional struggles; cooperation; Afro-Asian bloc; United Nations activities.

**466 FOREIGN POLICY OF THE SOVIET UNION (3) II**

Historical, institutional, political, ideological and personal influences on the formation and execution of the foreign policy of the Soviet Union.

**467 PROBLEMS OF EUROPEAN ORGANIZATION (3) II**

A study of contemporary developments in intra-European relations and organization; changing role of key European states; Europe's position in world politics.

**469 PROBLEMS IN INTERNATIONAL RELATIONS (3)**

Intensive case studies of a limited number of substantive problem areas in international relations.

**481 AMERICAN POLITICAL PARTIES (3) II**

Organization, methods, and functions of political parties, with special attention to the electoral and organizational aspects of party behavior.

**483 PROPAGANDA AND PUBLIC OPINION (3) I**

Characteristics, methods, and results of propaganda and pressure group activity. Nature of public opinion; methods of influencing it; techniques for measuring political opinions.

**500 PUBLIC ADMINISTRATION (3) I**

Relationship of administration to policy-forming agencies and to the courts; structure of administration; devices for integration; related materials.

**501 PRINCIPLES OF MANAGEMENT (3) II**

Basic principles of management and techniques of application; human relations in management.

**502 PERSONNEL ADMINISTRATION (3) II**

Organization and administration of civil service systems; recruitment, classification, discipline, and status of civil servants. Pre: 500.

**600 CONTEMPORARY POLITICAL SCIENCE (3) I, II**

Analysis of the field, scope, and methods of political science, and its professional and academic status.



**602 ASIAN POLITICAL THOUGHT (3)**

A study of the major political and intellectual thought patterns as they reflect and influence governments in Asia.

**631 SEMINAR IN AMERICAN FOREIGN SERVICE (3) II**

Pre: consent of instructor.

**632 GOVERNMENT AGENCIES OVERSEAS (3) II**

The development of United States agencies in overseas areas, with particular attention to the role, function and procedures of such agencies and their relation to over-all U.S. foreign policy.

**640 POLITICS OF NATIONAL DEVELOPMENT (3)**

Processes in building new and larger forms of political association in "old" and "newly emergent" nations; techniques; role of political values.

**651 DEVELOPMENT ADMINISTRATION (3) II**

Pre: consent of instructor. (Alt. yrs.; offered 1964-65.)

**656 SEMINAR IN REGIONAL AND CITY PLANNING (3) I**

Pre: consent of instructor. (Not offered 1964-65.)

**670 INTERNATIONAL LAW (3)**

Historical and theoretical investigation of the development of an international legal order.

**673 ADMINISTRATIVE LAW (3)**

Laws relating to public officers, status, rights, and obligations; laws governing relations between government and the public, e.g., rights to notice and hearing, due process.

**680 POLITICAL BEHAVIOR (3)**

The theory and practice of "behavioral science" research in the study of politics.

**681 PUBLIC POLICY DEVELOPMENT (3)**

Comprehensive review and analysis of the process whereby public policies are formulated.

**699 DIRECTED READING AND RESEARCH (Ar.) I, II**

Individual problems. Pre: consent of instructor.

**700 SEMINAR: CLASSICAL WESTERN POLITICAL THOUGHT (3) I****701 SEMINAR: MODERN WESTERN POLITICAL THOUGHT (3) II****720 SEMINAR: AMERICAN NATIONAL GOVERNMENT (3)****721 SEMINAR: STATE AND LOCAL GOVERNMENT (3)****740 SEMINAR: FAR EASTERN POLITICS (3)****741 SEMINAR: SOUTH AND SOUTHEAST ASIA (3)****742 SEMINAR: COMPARATIVE POLITICS (3)****750 SEMINAR: PUBLIC ADMINISTRATION (3)****751 DEVELOPMENT ADMINISTRATION (3)****760 SEMINAR: INTERNATIONAL POLITICS (3) I**

**761 SEMINAR: INTERNATIONAL ORGANIZATIONS (3) II**

**771 SEMINAR: PUBLIC LAW (3)**

**780 SEMINAR: POLITICS (3)**

**781 SEMINAR: LEGISLATIVE PROCESS (3)**

**800 THESIS**

## Psychology

Professors BITNER, CROWELL, DIAMOND, HERRICK, WEAVER; Associate Professors ARKOFF, DIGMAN, DOLE, R. C. JOHNSON, OAKES; Assistant Professors INSKO, W. R. WILSON

*102 or 104 is prerequisite to all other courses. Qualified seniors may enroll in some graduate courses with consent of instructor.*

**102 GENERAL PSYCHOLOGY (4) I, II (3 L, 1 Lb)**

Principles of human behavior. Individual differences, motivation, emotion, perceiving, learning, etc. Course fee \$1.00. Not open to those who have had 104.

**104 INTRODUCTION TO PSYCHOLOGY (3) I, II**

Similar to 102 but without laboratory. Not open to those who have had 102, or Arts and Sciences majors.

**220 STATISTICAL TECHNIQUES (3) I, II**

Types of data; graphic methods; central tendency; variability; correlation; reliability; tests of significance. Pre: two years of high school algebra or Math 101.

**226 PSYCHOLOGICAL MEASUREMENTS (3) II**

Construction, validation, and administration of tests; interpretation of scores; familiarization with types of group tests. Pre: 220.

**230 INTRODUCTORY EXPERIMENTAL PSYCHOLOGY (3) I, II (2 L, 1 2-Hr Lb)**

Basic methodology and experimental literature. Sensation, perception, emotion, conditioning, learning, thinking, social phenomena.

**250 DEVELOPMENTAL PSYCHOLOGY (3) I, II**

Emotional, mental, physical, social development from infancy to adulthood; interests and abilities at different age levels.

**280 PSYCHOLOGY OF ADJUSTMENT (3) I, II**

Understanding and improving personal adjustment. Needs, frustrations, conflicts, anxiety, patterns of adjustment. Not open to majors.

**304 PSYCHOLOGY OF MOTIVATION (2) I**

Instinct, drive, motives, emotion, attitudes; their biological bases, modification, organization.

**306 PSYCHOLOGY OF LEARNING (3) I**

The major conditions influencing learning and forgetting; the role of motivation, rewards, practice; theoretical interpretations of the learning process.

**356 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3) II**

Evaluation of physical, emotional, and intellectual deviations and their effects upon the growth and development of children. Pre: 250.

**362 SOCIAL PSYCHOLOGY (3) II**

Psychology of human relations; psychological factors that determine the behavior of an individual in his social relationships.

**372 EDUCATIONAL PSYCHOLOGY (3) I, II**

Major factors of learning and mental health as they apply to the educative process. Pre: 250.

**374 INDUSTRIAL AND BUSINESS PSYCHOLOGY (3) II**

Job motivation, satisfaction, morale, leadership. Job analysis, selection, training, safety, fatigue, efficiency, human engineering. Consumer research.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**410 HISTORY OF PSYCHOLOGY (3) I**

The background of modern psychology. Origins and development of contemporary points of view. Relationship to Western thought.

**430 INTERMEDIATE EXPERIMENTAL PSYCHOLOGY (3) II**

Original experiments with emphasis upon laboratory techniques. Control of variables, apparatus design, and statistics in research.

**440 PHYSIOLOGICAL PSYCHOLOGY (3) I**

Physiological explanation of behavior in terms of sense organs, the nervous system, muscles and glands.

**450 SOCIAL DEVELOPMENT OF CHILDREN (3) I**

Survey of the socialization process and acquisition of social behavior. Pre: 250.

**460 PSYCHOLOGY OF PERSONALITY (3) I (2 L, 1 2-Hr. lb)**

Theory and methods in study of behavioral organization and continuity; case study. Course fee \$5.00.

**480 ABNORMAL PSYCHOLOGY (3) I**

Nature and causes of psychoneuroses and psychoses; abnormalities of intelligence; incipient abnormal traits manifested in everyday life; psychotherapy.

**512 COMPARATIVE PSYCHOLOGY (3) I (2 L, 1 2-Hr. lb)**

Significant literature of animal studies in learning and instinct, perception, motivation, physiological mechanisms. Pre: 230 or consent of instructor.

**574 PROBLEMS IN INDUSTRIAL AND BUSINESS PSYCHOLOGY (3) I**

Consideration of special problems in the area. Pre: 374.

**600 SEMINAR (3) I, II**

(1) General, (2) history and theory, (3) statistics and measurements, (4) experimental, (5) physiological, (6) personality, (7) social, (8) developmental, (9) applied-industrial, (10) clinical, (11) counseling, (12) learning. May be repeated.

**614 THEORY I (3) I**

An introduction to current theoretical systems. Special issues treated from various viewpoints, but with a central integrating theme, based on a major theoretical formulation.

**615 THEORY II (3) II**

Major theoretical problems in psychological science, treated from various viewpoints, but with a central integrating theme, based on a major theoretical formulation. Theory I is desirable preparation, but either course may be taken without the other.

**620 QUANTITATIVE METHODS I (3) I**

Basic concepts and techniques in psychological statistics and research design.

**621 QUANTITATIVE METHODS II (3) II**

Advanced statistical techniques, including analysis of variance. Pre: 620.

**626 QUANTITATIVE METHODS III (3) I**

Scaling theory, test theory, factor analysis. Pre: 420, 426 or consent of instructor.

**630 EXPERIMENTAL PSYCHOLOGY I (3) I**

Advanced techniques and research procedures, with a central focus on problems of learning, problem solving, etc.

**631 EXPERIMENTAL PSYCHOLOGY II (3) II**

Advanced techniques and research procedures, with a central focus on problems of perception, motivation, or other basic topics.

**650 DEVELOPMENTAL PSYCHOLOGY I (3) I**

Theoretical movements and research in child and adolescent psychology.

**652 DEVELOPMENTAL PSYCHOLOGY II (3) II**

Theoretical movements and research in the psychology of maturity and old age.

**660 PERSONALITY (3) II**

Theory and research in personality, with an emphasis upon primary sources, such as Freud, Jung, Adler, Rogers, Murray, Lewin, and Murphy. Pre: 460 or equivalent.

**662 SOCIAL PSYCHOLOGY (3) II**

Methods and objective verification of hypotheses; interpersonal relations, group structure and process, social conflict, propaganda, etc.

**670 APPLIED SOCIAL PSYCHOLOGY (3) II**

Survey of basic problems in the use of social psychological principles and techniques in the fields of human relations, business and industry, and communication.

**672 ADVANCED EDUCATIONAL PSYCHOLOGY (3) II**

Application of experimental evidence in psychology to major educational problems; the bearing of recent psychological theories upon education.

**678 PSYCHOLOGY OF OCCUPATIONS (3) II**

Vocational development, determinants of career choice, personality correlates, job requirements and human disabilities, vocational guidance.

**682 PSYCHOLOGICAL APPRAISAL (A) (3) I**

An introduction to the clinical study of the individual. Appraisal theory and practice. Emphasis on individual intelligence tests. Pre: 226; consent of instructor. Course fee 5.00.

**683 PSYCHOLOGICAL APPRAISAL (B) (3) II**

Advanced clinical study of individual. Emphasis on projective and other personality measures. Pre: 682; consent of instructor. Course fee 5.00.

**684 PSYCHOLOGICAL APPRAISAL (C) (3) I, II**

Field experience in appraisal. Pre: 682; consent of instructor. May be repeated. Course fee 5.00.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**730 RESEARCH IN EXPERIMENTAL PSYCHOLOGY (1-3) I, II**

Supervised reading, discussion, and research projects in areas of special interest. Open only to second-year graduate students. May be repeated.

**750 RESEARCH IN DEVELOPMENTAL PSYCHOLOGY (1-3) I, II**

Supervised reading, discussion, and research projects in areas of special interest. Open only to second-year graduate students. May be repeated.

**760 RESEARCH IN SOCIAL-PERSONALITY PSYCHOLOGY (1-3) I, II**

Supervised reading, discussion, and research projects in areas of special interest. Open only to second-year graduate students. May be repeated.

**779 PSYCHOLOGY OF REHABILITATION (3) II**

Research and theory. Psychological problems associated with disability. Counseling techniques in planning and rehabilitation. Case studies. Pre: consent of instructor.

**780 RESEARCH IN COUNSELING PSYCHOLOGY (1-3) I, II**

Supervised reading, discussion, and research projects in areas of special interest. Open only to second-year graduate students. May be repeated.

**782 PSYCHOLOGICAL COUNSELING (A) (3) I**

Theory and technique in psychological counseling. Pre: 226; consent of instructor.

**783 PSYCHOLOGICAL COUNSELING (B) (3) II**

Supervised experience in psychological counseling. Pre: 782; consent of instructor.

**784 PSYCHOLOGICAL COUNSELING (C) (3) I, II**

Intensive supervised experience with a variety of cases and in a variety of settings. Pre: 783; consent of instructor. May be repeated.

## Religion

Associate Professor AOKI; Assistant Professor SEIFERT

**150 INTRODUCTION TO THE STUDY OF RELIGION (3) I, II**

An introduction to the world's living religions—Hinduism, Buddhism, Shinto, Confucianism, Taoism, Judaism, Christianity, Islam.

**151 RELIGION AND THE MEANING OF EXISTENCE (3) I, II**

An introduction to the basic ideas and issues of contemporary religious thought as they are related to the question, "What is the meaning of existence?"

**200 UNDERSTANDING THE OLD TESTAMENT (3) I**

A study of the developing beliefs and practices of the Hebrew religion as set forth in the Old Testament. Emphasis on the meaning of its faith for the modern world.

**201 UNDERSTANDING THE NEW TESTAMENT (3) II**

The origin and development of the early Christian message as set forth in the New Testament, with special attention to Jesus and Paul.

**309 THE LIFE AND TEACHING OF JESUS (3) II**

A critical study of the life and teachings of Jesus. An interpretation of the meaning of Jesus Christ for Christian faith.

**310 THE PROPHETS AND SAGES OF THE OLD TESTAMENT (3) I**

The prophetic and wisdom literature of the Old Testament. (Not offered 1964-65.)

**321 GREAT PERSONALITIES IN CHRISTIANITY (3) II**

An examination of the lives and thought of some outstanding representatives. (Not offered 1964-65.)

**340 WESTERN RELIGIOUS THOUGHT TO 1492 (3) I**

Ideas of major religious thinkers and movements in the history of the Western world to 1492; an evaluation of Roman Catholicism. (Not offered 1964-65.)

**341 WESTERN RELIGIOUS THOUGHT FROM 1500 (3) II**

The period of the Protestant Reformation to the present, with an evaluation of the Protestant movement. (Not offered 1964-65.)

**351 EXISTENTIAL INTERPRETATION OF BIBLICAL FAITH (3) II**

An interpretation of Biblical faith on the basis of critical theological thought and existential analysis with reference to the visual arts and literature. (Not offered 1964-65.)

**361 THE NATURE AND DESTINY OF MAN (3) II**

Religious views of human nature in their bearing on man's activities in politics, education, law, economics, and literature. (Not offered 1964-65.)

**371 CHRISTIAN THOUGHT IN CONTEMPORARY ASIA (3) II**

A study of the Asian contributions in the field of Christian theology, with special emphasis on Indian and Japanese Christian thinkers. (Not offered 1964-65.)

**382-383 THE HISTORY OF LIVING RELIGIONS (3-3) Yr.**

382: Basic beliefs and practices of Hinduism, Confucianism, Taoism, Buddhism, Shintoism. 383: Judaism, Roman Catholicism, Protestantism, their history, beliefs, contributions. Semesters are independent.

**386 CHRISTIAN ETHICS (3) I**

A study of historical and contemporary types of Christian ethics.

**651 SELECTED PROBLEMS OF THEOLOGY (3) II**

Pre: graduate standing; consent of instructor.

## **Social Sciences**

Professors KAMINS, WEAVER

**300-301 MAN IN SOCIETY (3-3) Yr.**

Some basic problems and processes of contemporary society, jointly examined by the several social sciences. Pre: junior standing or consent of instructor.

## **Sociology**

Senior Professor LIND; Professors CHENG, GLICK, HORMANN, YAMAMURA, YANG; Associate Professor WITTERMANN; Assistant Professors BARTOS, KRAUSS, WON, YAMAMOTO; Instructor SAKUMOTO

*151 and 201 are equivalent introductory courses. 201 is specifically set up for juniors, seniors, or graduate students. Either course is a prerequisite to all advanced sociology courses.*

**151 INTRODUCTION TO THE STUDY OF SOCIETY (3) I, II**

Basic social relationships, norms, social structures, processes affecting social change. Not open to juniors or seniors.

**155 THE SOCIOLOGY OF SOCIAL PROBLEMS (2) I, II**

Nature of social problems, their relations to basic technological, institutional, and value structures.

**201 PRINCIPLES OF SOCIOLOGY (3) I, II**

Principles underlying the organization of social groups, communities, institutions, and ecological structures; basic processes of socialization, collective behavior, and social change. Equivalent to 151, and open to juniors, seniors, and graduates only.

**232 COMMUNITY FORCES IN HAWAII (3) I, II**

Basic factors and forces in contemporary society as exemplified in Hawaii. Course fee \$2.00.

**399 DIRECTED READING (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in sociology.

**410 POPULATION AND SOCIETY (3) II**

Society analyzed in terms of the quantitative and qualitative aspects of population. Sociological aspects of birth and death rates, natural increase, mobility.

**418 HUMAN MIGRATION (3) I**

Types, causes, and effects. Focuses. Development and administration of U.S. immigration policy. Displaced persons and world migration.

**420 HUMAN ECOLOGY (3) I**

Basic concepts, principles, and techniques. Factors affecting distribution of population, utilities, and social institutions.

**434 AMERICAN RURAL COMMUNITY (3) II**

Organization of life in the rural environment. A comparative study of rural community types.

**436 THE URBAN COMMUNITY (3) I**

Sociological principles applied to the modern city. Structure, growth, social and personal life organization.

**440 FOLK AND PEASANT SOCIETY (3) II**

Folk-peasant society in contrast to urban-industrial; world-wide transition; special reference to the peasant society in China and Japan.

**444 PEOPLE AND INSTITUTIONS OF CHINA (3) I, II**

Analysis of social philosophies and their influence on basic institutions and traits of the people. Impacts of Western culture and Communism. Social change under the People's Democratic Dictatorship.

**446 PEOPLE AND INSTITUTIONS OF JAPAN (3) I, II**

Social structure and social change in contemporary Japan. Special attention to the family, stratification, and mobility.

**450 RACE AND CULTURE CONTACTS IN HAWAII (3) I, II**

Dominant conceptions of race and race relations; analysis of factors affecting them. Problems in a commercial and plantation frontier.

**452 RACE RELATIONS IN THE PACIFIC (3) I**

Survey of typical situations of race and culture contacts in the Pacific area.

**458 RACE RELATIONS (3) I, II**

Race relations in world perspective; typical situations; conflict and accommodation; caste; race prejudice; miscegenation; effects upon personality.

**462 AMERICAN SOCIETY (3) I**

Technology, normative structure, value system, stratification, and major institutions. Their interaction and change.

**464 SOCIAL INSTITUTIONS (3) II**

Culture as a conceptual tool. Origin, structure, function, and growth of institutions. Interrelation and integration.

**472 THE FAMILY (3) I, II**

Culturally distinctive family types as background for analysis and interpretation of the American family.

**480 SOCIOLOGY OF RELIGION (3) I**

Structure, function, and dynamics of religion in various types of society.

**486 INDUSTRIAL SOCIOLOGY (3) I, II**

Status system in industry. Problems of group adjustment. Factors affecting industrial morale. Sociology of industrial conflict.

**490 SOCIAL STRATIFICATION (3) II**

Analysis of social class; local and national stratification patterns; social mobility in industrial and nonindustrial societies.

**500 SOCIAL DISORGANIZATION (3) II**

Factors in community, institution, and group disorganization; behavioral deviancy and social pathology. An integrated approach to social problems.

**504 JUVENILE DELINQUENCY (3) I, II**

Nature and extent of juvenile delinquency; theories and research; control and correction.

**506 CRIMINOLOGY (3) I, II**

Nature, causes, and treatment of crime. Apprehension, probation, prosecution, prison administration, parole. Correction and rehabilitation.

**520 SOCIAL CONTROL (3) I, II**

Analysis of the processes by which individuals become amenable to social and mass definitions of conduct and behavior.

**524 PERSONALITY AND CULTURE (3) I, II**

Origin and development of personality as the subjective aspect of culture; function of communication; human nature and the mores; personal life organization.

**530 SOCIOLOGY OF SMALL GROUPS (3) I**

Practical application of theories and research findings involving face-to-face relations: leadership, prestige, group morale.



**540 COLLECTIVE BEHAVIOR (3) I**

Elementary forms of collective behavior; social unrest; crowd, public, mass behavior; operation of publics in democratic societies.

**542 SOCIAL MOVEMENTS (3) II**

Sociology of reform movements, countermovements, and revolution; their development and relation to social change. Case studies of contemporary social movements.

**544 SOCIAL CHANGE (3) I, II**

Structural-functional organization. Impact of technology on institutions, value orientation, power structures, system of role and stratification.

**546 PUBLIC OPINION AND THE COMMUNITY (3) II**

Nature and functions of public opinion in the contemporary world. Formation and polling. Problems of interviewing, and sampling.

**560 METHODS OF SOCIAL RESEARCH (3) I, II**

Values and limitations of methods of research for various types of studies. Laboratory, field work. Pre: 9 credits in sociology or consent of instructor.

**570 SOCIAL STATISTICS (3) I, II**

Introduction to statistical methods and resources as applied to social research data.

**572 ADVANCED SOCIAL STATISTICS (3) II**

Treatment of sociological data; sampling procedures, test of hypotheses, analysis of variance, correlation and regression, scale analysis. Pre: 570 or equivalent.

**580 SOCIOLOGICAL THEORY (3) II**

History of sociology as reflected in writings ranging from early Greek thought to modern authors such as Durkheim, Pareto, Simmel, Parsons, Merton.

**602 GRADUATE SEMINAR (3) I, II**

(1) Human ecology and demography; (2) social organization; (3) social disorganization; (4) the group and the person; (5) collective behavior and social change. Pre: consent of instructor.

**628 SEMINAR IN RACE RELATIONS (3) I**

Major theoretical developments and research problems in the field of race relations. Pre: consent of instructor.

**652 SEMINAR IN SOCIAL CHANGE IN DEVELOPING AREAS (3) I**

Principles, processes, and problems of social change in non-Western societies undergoing industrialization and modernization. Pre: consent of instructor.

**654 SEMINAR IN COMMUNITY DEVELOPMENT (3) II**

Analysis and evaluation of the prevailing theories of community development in typical regions of folk or peasant culture undergoing industrialization and urbanization.

**656 CULTURE AND COMMUNICATIONS (3) I**

Theories of communication; interaction between oral traditions, the press, and audio-visual mass-media in cultural context. Pre: consent of instructor.

**660 SEMINAR IN METHODS OF RESEARCH (3) I**

Fundamentals of research and thesis preparation. Applications to specific problems. Pre: consent of instructor.

**680 SEMINAR IN SOCIOLOGICAL THEORY (3) I**

Survey of contemporary sociological theory; principles of theory construction, analysis, and criticism. Pre: consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing; consent of instructor.

## Speech

Senior Professor J. SMITH; Professors ANSBERRY, CARR, HOSHOR; Associate Professors BENTLEY, HIGHLANDER, KLOPF, LEFFORGE, NEWCOMER, H. WONG; Assistant Professors BILSBORROW, BRENNEMAN, M. GORDON, HERVEY, LARSON, LINN, RITTER, SLOAN; Instructors BURGESS, CHESSE, HAYNE, HOFFMAN, KOP, KRAUSE, OXFORD, PHIPPS, PIERSON, SANDERSON, WATSON

*140 or 150 is prerequisite to all other courses.*

**101 SOUNDS AND RHYTHMS OF SPOKEN ENGLISH (1) I, II**

Sounds and rhythms of General American speech; effective communication of ideas. International Phonetic Alphabet taught. Conferences required. Course fee \$2.00.

**102 DEVELOPMENT OF ORAL SKILL (1) I, II**

Sounds and rhythms in speaking situations. Idiom and grammar. Individual problems, using laboratory equipment. Conferences required. Course fee \$2.00.

**106-107 PRONUNCIATION AND GRAMMAR FOR PROSPECTIVE TEACHERS (1-1) Yr.**

106: Intensive work on sounds and rhythm; idiom and grammar. Conferences required. Pre: 110. Course fee \$1.00. 107: May be required by recommendation. Continued work on sounds and rhythm; idiom and grammar. Attention given to vocal variety and projection. Conferences required. Course fee \$1.00.

**110 SOUNDS OF ENGLISH FOR PROSPECTIVE TEACHERS (1) I, II**

Sounds and rhythms of General American speech. Techniques for correction of pronunciation and improvement of rhythm. Conferences for diagnosis required. Course fee \$1.00.

**130 READING ALOUD (3) I, II**

Study of the relationships between silent and oral reading with intensive practice in getting and giving the meaning from the printed page.

**135 READING TO CHILDREN (1) I, II**

Theory and techniques of interpreting poetry and prose to the preschool and elementary school child.

**140 FUNDAMENTALS OF ORAL COMMUNICATION (2) I, II**

Communication for social interaction. Speech production; organization of ideas; training for mastery of speech standards. Personal conferences.

**150 PUBLIC SPEAKING (3) I, II**

Basic principles of speech composition and delivery; preparation and delivery of speeches with attention to principles studied; special attention to individual problems.

**180 PRINCIPLES AND TYPES OF DISCUSSION (2) I, II**

Discussion of problems, using cooperative investigation, round table, panel, symposium, case and incident methods, parliamentary procedure.

**210 PHONETICS (3) I, II**

The phonology of American English; standards of pronunciation; dialects; teaching problems posed by Hawaii's particular linguistic background.

**214 VOICE TRAINING FOR SPEECH (2) I, II**

Physical and physiological bases of voice production; problems of nasality, inaudibility, monotony.

**220 INTRODUCTION TO SPEECH CORRECTION (3) I**

Survey of the field of speech correction; study of defective articulation, delayed speech, voice problems, cleft palate, cerebral palsy, stuttering, and language disorders.

**221 METHODOLOGY OF SPEECH CORRECTION (3) II**

Methods used in clinical procedures for organic and functional disorders of speech; observation of clinical procedures.

**220 INTRODUCTION TO AUDIOLOGY (3) I**

Basic principles of hearing rehabilitation; hearing problems and their treatment.

**223 TESTING OF HEARING (3) II**

Methods of administering screening testing programs; threshold determinations by routine methods and special tests of hearing; interpretation of results. Pre: 222.

**270 INTRODUCTION TO BROADCASTING (3) I**

Analysis and survey of radio and television as communications media and as industries.

**271 RADIO PRODUCTION (3) II**

Programs and analysis of techniques. Announcing and use of equipment; basic control; performance. Pre: 270 or consent of instructor.

**272 BROADCASTING ORGANIZATIONS IN OPERATION (2) I**

Structure and operation of radio and TV stations, networks, agencies, special interest groups; influences which shape the broadcast product.

**285 PUBLIC DISCUSSION AND DEBATE (1) I, II**

Training in debate and discussion; analysis of social, political, and economic problems. Public discussion and debate required. May be repeated for a total of 3 credits.

**320 SPEECH PATHOLOGY (3) I**

Etiology and symptomatology of speech disorders. Pre: 220, 221.

**322 PRACTICUM IN SPEECH PATHOLOGY (3) II**

Clinical experience in the use of diagnostic procedures and rehabilitation techniques with a variety of defects and disorders at various age levels. Pre: 220, 221.

**325 PRACTICUM IN AUDIOLOGY (3) I**

Clinical practice in testing of hearing, hearing conservation, auditory training, speech reading, and speech correction and conservation. Pre: 222, 223.

**326 SPEECH AND HEARING SCIENCE (3) II**

General introduction to the science of speech and hearing, including anatomy and physiology of the organs involved.

**335 STORYTELLING (2) I, II**

The oral story as a device for entertainment, for teaching, for occupational therapy, and for library programs.

**350 PERSUASION (3) I**

Factors influencing audience attitudes, beliefs, actions; logical, psychological, and semantic approaches to preparation and analysis of persuasive discourse.

**365 SPEECH FOR THE CLASSROOM TEACHER (3) I, II**

Pedagogy for the classroom teacher. Integration of speech improvement in the curriculum; speech problems of Hawaii.

**369 TECHNIQUES OF SPEECH IMPROVEMENT (3) I, II**

Principles of diagnosis; improvement of substandard speech; emphasis upon Island speech. Pre: 110, 210, or consent of instructor.

**370 RADIO-TELEVISION SPEECH (3) I, II**

The study of speech forms and principles as adapted for the broadcasting media. Preparation of radio and television program material; performance with emphasis on microphone and camera presentation.

**399 DIRECTED READING (Ar.) I, II**

The same fields as in 598. Limited to senior majors with at least a 2.7 grade-point ratio, or 3.0 grade-point ratio in speech.

**421 ORGANIC DISORDERS OF SPEECH (3) I**

Study of disorders resulting from organic anomalies; cleft palate, cerebral palsy, laryngectomy, and brain injury. Pre: 320.

**424 AUDITORY TRAINING AND SPEECH READING (3) I**

Principles and methods of development of maximum communication ability through training in the use of residual hearing and by observation of visible bodily clues. Pre: 222, 223.

**430 ADVANCED INTERPRETATIVE READING (3) I, II**

Interpretative reading based on textual analysis of literary forms and careful study of principles of effective reading. Pre: 130; English 151 or equivalent.

**440 SEMANTICS (3) II**

Understanding language; verbal meaning and implication; the roles of perception and assumption (inference and judgment) in human relationships.

**470 BROADCASTING AND THE PUBLIC (2) I, II**

Relationship and interaction between the broadcasting agent, government regulatory agencies, and the public. Development of bases for critical evaluation of educational, cultural, and economic significance and impact of broadcasting.

**475 TELEVISION PROGRAM PLANNING AND PRODUCTION (3) II**

Preparation and production of basic television forms; studio experience in staging and performance; creative and skills functions of the production team; standards for the critical evaluation of programs.

**480 GROUP LEADERSHIP AND DISCUSSION (3) I, II**

Principles and techniques of effective group leadership and human relations; semantic and psychological barriers to communication. Analysis and discussion of social problems.

**485 ARGUMENTATION AND DEBATE (3) I**

Evidence and forms of reasoning; analysis and synthesis of argument; fallacies and refutation; structuring arguments for clarity and force.

**550 SPEECH COMPOSITION (3) II**

Composition and delivery. Synthesis of rhetorical theory applied to proof, style, attention, and purpose of discourse. Pre: 150.

**598 SPECIAL PROBLEMS (Ar.) I, II**

(1) General speech education; (2) speech pathology; (3) phonetics; teaching spoken English as a second language; (4) interpretation; (5) forensics, public address; (6) radio-TV; (7) pedagogy; (8) audiology; (9) voice science. Pre: consent of instructor or of department chairman.

**610 SEMINAR IN ENGLISH PHONETICS AND PHONEMICS (3) I, II**

Problems in advanced phonetics and phonemics; contrastive analyses at the phonological level.

**615 PHONETICS AND PHONEMICS OF AMERICAN ENGLISH (3) I, II**

Theory and practice in the formation of segmental and suprasegmental phonemes of American English. (MATESL, TIP, and similar programs.)

**616 SPECIAL PROBLEMS IN PHONETICS AND PHONEMICS (3) II**

Contrastive analyses in phonology followed by experience in lesson-making with tape-recorded materials; use of the native speaker as model. (MATESL, TIP, and similar programs.)

**621 LANGUAGE DEVELOPMENT FOR CHILDREN WITH HEARING DEFICIENCIES (3) II**

Language acquisition by hard-of-hearing and deaf children; methods of stimulating growth. Pre: 222, 223.

**622 ADVANCED AUDIOLOGY (3) II**

Instrumentation; selection of hearing aids; special tests of hearing; functional vs. organic hearing loss; vocational problems of impaired hearing.

**623 ADVANCED PRACTICUM IN SPEECH PATHOLOGY (3) I**

Clinical practice in diagnostic and therapeutic procedures; emphasis placed upon complex problems such as delayed speech, language problems, aphasia, and stuttering.

**624 ADVANCED PRACTICUM IN AUDIOLOGY (3) II**

Clinical practice in administering special tests; interpretation of audiograms; counseling of individuals with impaired hearing; use of varied rehabilitation techniques.

**625 SEMINAR IN SPEECH PATHOLOGY (3) II**

Intensive study of special problems in diagnosis and therapeutic procedures in the field of speech pathology. May be repeated.

**626 SEMINAR IN AUDIOLOGY (3) II**

Review of research and literature in the field of hearing. May be repeated.

**630 SEMINAR IN INTERPRETATION (3) I, II**

Current literature in interpretation; reports; lecture recitals. Pre: consent of instructor.

**650 SEMINAR IN RHETORIC AND PUBLIC ADDRESS (3) I, II**

Review of studies; preparation of reports. Pre: consent of instructor.

**651 HISTORY AND CRITICISM OF BRITISH ORATORY (3) I**

The analytical and critical study of rhetorical elements in representative British oratory 1700 to the present. Pre: 450 or consent of instructor.

**652 HISTORY AND CRITICISM OF AMERICAN ORATORY (3) II**

The analytical and critical study of rhetorical elements in representative American oratory from the colonial period to the present. Pre: 450 or consent of instructor.

**653 CLASSICAL RHETORICAL THEORY (3) II**

Significant movements in the development of rhetorical theory and criticism. (Alt. yrs.; not offered 1964-65.)

**660 GENERAL SEMINAR (3) I, II**

Significant topics and problems in speech. May be repeated.

**670 SEMINAR IN BROADCAST PROGRAM CRITICISM AND SOCIAL EFFECTS (3) II**

Advanced study in the history, theory, and development of programming; critical analysis of social effects; research literature and original research projects.

**690 SEMINAR IN RESEARCH METHODS (3) I**

Research methods; analysis and reporting of data; bibliography; contemporary research.

**699 RESEARCH (Ar.) I, II**

The same fields as in 598. Four credits may be earned. Pre: recommendation of advisory committee; consent of instructor or of department chairman.

## Zoology

Senior Professors HIATT, TESTER; Professors BANNER, CHU, FRINGS, GOSLINE, HSIAO, MATTHEWS, TUTHILL, VAN WEEL; Associate Professor TOWNSLEY; Assistant Professors KAMEMOTO, MUIR, REESE

*101 is prerequisite to all advanced courses with the exception of 111 and 115.*

**101 GENERAL ZOOLOGY (4) I, II (2 L, 2 Lb)**

Zoological principles; studies of structure, development, relationships, and distribution of animals. Course fee \$6.00.

**111 PRINCIPLES OF HUMAN BIOLOGY (3) I**

Biological principles relating to man; man's place in nature; structure and function of the organ systems. Not open to students who have had 101.

**115-116 ELEMENTARY HUMAN ANATOMY AND PHYSIOLOGY (4-4) Yr. (3 L, 1 Lb)**

General survey of gross anatomy and physiology. Course fee \$3.00. Not open to students who have had 345.

**161 GENERAL ENTOMOLOGY (4) I, II (2 L, 2 Lb)**

Structure, habits, biology, and classification of insects; insects characteristic of Hawaii. Course fee \$3.00.

**205 INVERTEBRATE ZOOLOGY (3) I (2 L, Lb)**

Classification, general ecology, functional anatomy, and life history of invertebrates. Laboratory includes field work. Course fee \$6.00.

**206 VERTEBRATE ZOOLOGY (3) II (2 L, Lb)**

Classification, evolution, functional anatomy, and development of the vertebrates. Course fee \$6.00

**301 COMPARATIVE EMBRYOLOGY (3) I (2 L, 1b)**

Descriptive and experimental embryology of selected vertebrates and invertebrates. Pre: 205 or 206. Course fee \$6.00.

**317-318 JUNIOR HONORS SEMINAR (1-2) Yr.**

Survey of research areas, specialized reading and preliminary experimentation, definition of a specific research problem.

**345 ANIMAL PHYSIOLOGY (3) I (2 L, 2 Lb)**

Properties of protoplasm; functions of organ systems, fundamental principles. Pre: Chemistry 141; desirable: Chemistry 132; Physics 161. Course fee \$8.00.

**361 INSECT MORPHOLOGY (3) I (2 L-1b)**

Comparative and gross morphology; homologies of structures; anatomy; development in representative groups. Pre: 161. Course fee \$1.00.

**362 SYSTEMATIC ENTOMOLOGY (3) II (2 L-1b)**

Classification of insects; orders and families. Use of taxonomic tools. Pre: 361. Course fee \$2.00.

**390 GENERAL ZOOLOGY SEMINAR (1) I, II**

Reports on research or reviews of literature. Pre: senior standing. Required of students majoring in zoology or entomology.

**394-395 SENIOR HONORS THESIS (2-2) Yr.****399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Limited to senior majors with 2.7 grade-point ratio or 3.0 grade-point ratio in zoology.

**401 PRINCIPLES OF ECOLOGY (2) I**

Subject is introduced from the viewpoint of physical ecology, physiological ecology, population and community ecology, as related to the entire ecosystem.

**410 PARASITOLOGY (3) II (2 L, 2 Lb)**

Parasitology with reference to man and domestic animals; classification, comparative morphology, life history, control. Course fee \$5.00.

**416 HISTOLOGY (3) II (2 L, 2 Lb)**

Studies of tissues, principles of histology, and microscopic anatomy of a limited number of vertebrate animals. Pre: 301. Course fee \$6.00.

**425 MICROTECHNIQUE (3) I, II (2 L-1b)**

Fixing, staining, mounting of tissues, entire animals and organs. Course fee \$15.00.

**431 BIOMETRY (3) I (2 L-1b)**

Elementary statistical methods; confidence interval, chi-square, t-test, normal distributions, regression, correlation. Pre: Mathematics 103; desirable: Mathematics 140.

**432 ADVANCED BIOMETRY (3) II (2 L-1b)**

Analysis of variance and covariance, curvilinear regression, multiple correlation, design of experiments. Pre: 431; desirable: Mathematics 141.

**441 HISTORY OF ZOOLOGY (2) I**

Development of zoological science as a specialized field of human knowledge.

**504 ANIMAL EVOLUTION (2) II**

Processes of evolution; interaction between population genetics and natural selection in animals. Desirable preparation: Genetics 451.

**505 ENDOCRINOLOGY (2) II**

Anatomy and physiology of the organs of internal secretion; role of hormones in metabolism and development. Pre: 6 credits of zoology.

**525-526 GENERAL ICHTHYOLOGY (3-3) Yr.**

First semester: anatomy, physiology, ecology, distribution. Second semester: classification with reference to Hawaiian species. Course fee \$3.00.

**601 ZOOLOGICAL LITERATURE (1) I**

Survey of zoological literature with stress upon bibliographic tools. Required for advanced degrees in zoology or entomology.

**602 PREPARATION OF SCIENTIFIC MANUSCRIPTS (1) II**

Styles and methods of preparation for publication; proofreading and editing. Required for advanced degrees in zoology or entomology.

**603 ZOOGEOGRAPHY (2) I**

Animal distributions; physiographic, climatic, and historic factors. Desirable preparation: 401; Geology 151. (Alt. yrs.; offered 1964-65.)

**605 COMPARATIVE ENDOCRINOLOGY (4) I (3 L, 2 Lb)**

Biology of hormonal mechanisms, with emphasis on invertebrates and lower vertebrates. Lecture only may be taken for 3 credits. Pre: 345; desirable 505, or consent of instructor. Lab fee \$6.00.

**606 ANIMAL BEHAVIOR (3) I (2 L, 2 Lb)**

Main emphasis on the orientation of animals and the ethological approach to the study of animal behavior. The physiological basis of behavior and learning theory are also discussed. Pre: 345, 205 or 525. Course fee \$6.00.

**607 PHYSIOLOGICAL BASES OF ANIMAL BEHAVIOR (3) I (2 L, Lb)**

Sensory, neural, and endocrine determinants of animal behavior patterns and communication. Pre: 345, 606. Course fee \$10.00.

**611 PRINCIPLES OF SYSTEMATIC ZOOLOGY (3) I**

Taxonomic categories; processes of evolution in their development; taxonomic data; rules of nomenclature. (Alt. yrs.; not offered 1964-65.)

**615-616 ADVANCED INVERTEBRATE ZOOLOGY (3-3) Yr. (2 L, 2 Lb)**

Comparative morphology, development, taxonomy, and phylogeny of invertebrate animals. Identification and classification of reef and shore fauna. Desirable preparation: 205 or equivalent. Course fee \$6.00 per semester.

**620 MARINE ECOLOGY (3) II (2 L, 2 Lb)**

Natural history, behavior, and relation of invertebrates and fishes to environment. Desirable preparation: 616. Course fee \$6.00.

**621 PHYSIOLOGICAL ECOLOGY (3) I (2 L-Lb)**

Physiological adaptations to environmental, physical, and biotic features. Pre: 345, 616; desirable: 401 or 620. Lab fee \$8.00. (Alt. yrs.: not offered 1964-65.)

**622 ISOTOPIC TRACES IN BIOLOGY (3) II (2 L, 1 Lb)**

Chemical and physical features of radioactive isotopes used in biological work. Methods of detection; application to biological systems. Course fee \$10.00.



**629 METHODS OF FISHERIES INVESTIGATION (3) I**

Determining age, growth, spawning success, and life history of fish; emphasis on marine species of the Pacific. Pre: 431, 526; desirable: 432.

**631 POPULATION DYNAMICS (3) I**

Fundamentals of population growth, mortality and equilibrium. Consideration of mathematical models developed for various animal populations, including man. Pre: Mathematics 103; desirable: Mathematics 141.

**645 ADVANCED GENERAL PHYSIOLOGY (3) I (2 L-Lb)**

Major problems in general physiology and methods for their study. Pre: 345. Lab fee \$8.00. (Alt. yrs.; offered 1964-65.)

**646 COMPARATIVE INVERTEBRATE PHYSIOLOGY (3) II (2 L, Lb)**

Life processes, with emphasis on marine invertebrates. Pre: 345; Physics 161. Course fee \$8.00.

**691 SEMINAR IN ZOOLOGY (1) I, II**

Reports on research or reviews of literature. Graduate students are required to take this course or 692.

**692 SEMINAR IN FISHERIES BIOLOGY (1) II**

Investigations and literature pertaining to fisheries biology; stress on problems relating to pelagic fisheries of the Pacific.

**699 DIRECTED RESEARCH (Ar.) I, II**

Directed research and reading in various fields of zoology.

**732 FISHERIES MANAGEMENT (3) II**

Methods of estimating vital statistics of fish populations. Optimum sustainable yields and management problems, particularly of marine fisheries. Pre: 531; desirable: 631.

# **COLLEGE OF BUSINESS ADMINISTRATION**

THE COLLEGE OF BUSINESS ADMINISTRATION aims to provide an understanding of the structure, functions, and objectives of American business enterprise, and to train for active participation in business and industrial activities in Hawaii. The four-year program leads to the degree of bachelor of business administration.

A broad foundation of courses in liberal arts, humanities, and physical and social sciences serves as a base for an economics minor, a solid core of basic business subjects, and a specialized field of business activity selected by the individual student.

For the first two years, all students follow a common program of required basic courses. During the junior and senior years, provision is made for specialization in one of the following curricula: accounting, banking and finance, business economics, business research, foreign trade, insurance, management, marketing, personnel and industrial relations, and real estate. The Department of Hotel Management and Tourism offers a four-year program, which includes most of the basic requirements of the College as well as special requirements for a degree in this field.

## **Admission and Degree Requirements**

Admission requirements are the same as those for the University (pp. 18–22), except that as of September 1, 1964, entering freshmen must have had two years of algebra and one year of plane geometry in high school.

In order to qualify for the degree a student must:

- 1) Meet basic requirements of the first two years;
- 2) complete one of the eleven curricula of the College;
- 3) earn an aggregate of at least 134 semester hours of credit;
- 4) earn a 2.0 grade-point ratio for all registered credits, and in the major field (*see* "Undergraduate Degree Requirements").

## Curricula

### FIRST YEAR

| FIRST SEMESTER                       | CREDITS | SECOND SEMESTER                      | CREDITS |
|--------------------------------------|---------|--------------------------------------|---------|
| English 101                          | 3       | English 102                          | 3       |
| Mathematics 103 or<br>Philosophy 110 | 3       | Philosophy 110 or<br>Mathematics 103 | 3       |
| History 151                          | 3       | History 152                          | 3       |
| Science 120                          | 4       | Science 121                          | 4       |
| Health and Phys. Ed.*                | 1       | Health and Phys. Ed.*                | 1       |
| AS 101 or MS 101                     | 1       | AS 102 or MS 102                     | 1       |
| Total                                | 15      | Total                                | 15      |

### SECOND YEAR

|                                     |    |                                     |    |
|-------------------------------------|----|-------------------------------------|----|
| English 155 or<br>Psychology 104    | 3  | Psychology 104 or<br>English 155    | 3  |
| BAS 110 or<br>Political Science 110 | 3  | Political Science 110 or<br>BAS 110 | 3  |
| History 171 or<br>Speech 150        | 3  | Speech 150 or<br>History 171        | 3  |
| Accounting 100                      | 3  | Accounting 101                      | 3  |
| Business Economics 150              | 3  | Business Economics 151              | 3  |
| AS 151 or MS 151                    | 1  | AS 152 or MS 152                    | 1  |
| Total                               | 16 | Total                               | 16 |

## Majors

The third- and fourth-year programs are composed of (1) 9 hours of liberal arts; (2) an economics minor of 12 credit hours; (3) business core courses of 24 credit hours; (4) major subject courses of 24 credit hours.

**ACCOUNTING.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* Acc 200-201, 300, 315, 325, 330, Law 310, and one of Acc 310, 435, BAS 315.

**BANKING AND FINANCE.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* Acc 320, Fin 305, 340, Law 310, and four of Acc 325, BEc 361, 372, Econ 450, 452, Fin 310, Ins 300, 310, 330, RE 300, 320.

---

\*Two semester hours required in business program.

**BUSINESS ECONOMICS.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* Econ 302, 304, 430, and any economics courses except Econ 150-151, BEc 150-151, 240, 340. Six hours from BAS courses numbered 300, except BAS 300-301, or higher may be counted toward the major.

**BUSINESS RESEARCH.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 375, Econ 304, 430, 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* BAS 310, 396, BEc 305, Econ 302, and three of Acc 320, BAS 315, Mkt 315, 320, 380, 390, Mathematics 103, Psychology 230, Sociology 436, 544, 546.

**FOREIGN TRADE.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* Mkt 315, 380, BEc 360, 361, and four of Mkt 305, 310, 320, 340, 390, Geography 151, BEc 350, Econ 462, or 12 credit hours in any single foreign language may be substituted for three foreign trade electives and the Liberal Arts elective.

**HOTEL MANAGEMENT AND TOURISM.** (Specialized program.) *First Year:* HMT 101, English 101-102, Mathematics 103, BAS 110, Chemistry 101-102, Psychology 104, Geography 102, HPE and AS or MS as required. *Second Year:* HE 120, 126, Acc 100-101, BEc 150-151, English 155, Mirco 130, Speech 150, AS or MS as required. *Third Year:* HE 234, 235 (HE 238, 239, recommended to be taken concurrently), History 171, Mgt 300, PIR 350, BAS 300-301, Mkt 300, HMT 301, 320. *Fourth Year:* HMT 330, 350, 355, Political Science 210, Law 300, BEc 240, 340, Fin 300, Acc 320, Mgt 350 and 3 credit hours in music, art, drama.

**INSURANCE.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art or drama. *Economics:* BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core:* BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses:* Ins 300, 310, 320, 330, and four of Acc 320, 325, BAS 315, BEc 375, Fin 310, Law 310, RE 300, 330, PIR 360, Mkt 305, Psychology 362, Speech 285 (a unit course which may be repeated for a total of 3 credits).

**MANAGEMENT.** *Liberal Arts:* English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics:* BEc 240, 340, and two of AE

120, BEc 305, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300 (required elective in major). *Business Core*: BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses*: BEc 375, Mgt 320, 360, Speech 480, and four of Acc 320, 325, Fin 305, Ins 300, Mkt 315, PIR 320, 351, Psychology 374, Sociology 486, 530.

**MARKETING.** *Liberal Arts*: English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics*: BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core*: BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses*: Mkt 315, 320, 340, 390, at least two of Mkt 305, 310, 325, 330, 345, 380; other recommended electives: Acc 320, BEc 350, Ins 300, RE 300, HE 114, Psychology 304, 374, Art 131, English 215, Journalism 239, Speech 270, 271.

**PERSONNEL AND INDUSTRIAL RELATIONS.** *Liberal Arts*: English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics*: BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300 (required elective in major). *Business Core*: BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses*: BAS 396, PIR 320, 330, 351, 360, 380, and two of PIR 305, 310, Econ 419, 430, Political Science 405, Psychology 374.

**REAL ESTATE.** *Liberal Arts*: English 209, Sociology 201, and 3 credit hours in music, art, or drama. *Economics*: BEc 240, 340, and two of AE 120, BEc 305, 375, Econ 302, 304, 430, 450, 462, Geography 151, PIR 300. *Business Core*: BAS 300-301, Fin 300, Law 300, Mgt 300, 350, Mkt 300, PIR 350. *Major Courses*: Mkt 305, RE 300, 310, 320, 330, 340, 350, and one of Fin 310, Ins 310, Mkt 315, 320.

## BUSINESS ADMINISTRATION COURSES

*See p. 41 for a discussion of course descriptions.*

Senior Professor ROBERTS; Professors ADLER, ASCHER, BAILEY, BUCHELE, CORBIN, EVANS, FERGUSON, GILSON, GRAYSON, HOSLETT, LAU, LEONG, PENDLETON, R. TAUSSIG; Associate Professors DYMSZA, FIXLER, PRATT, SASAKI, THEODORE; Assistant Professors BELL, CARLSON, CONGDON, HEYE, HOPKINS, KIRKPATRICK, LEE, MOSELEY, PIERSON, SEO, STELLMACHER, B. TAUSSIG, TRINE, WALLENSTEIN; Instructors MARUTANI, MCARDLE, NAJITA; Lecturers ALDEN, BURNS, CANNELLORA, HIROKI, ITO, LUCAS, PRESCOTT

## Accounting

### Acc 100-101 ELEMENTARY ACCOUNTING (3-3) Yr.

Theory and practice of income determination and asset valuation. Preparation and analysis of statements; uses for decision making. Pre: sophomore standing.

**Acc 200-201 INTERMEDIATE ACCOUNTING (3-3) Yr.**

Critical examination of generally accepted accounting principles as applied to preparation and use of financial statements. Pre: Acc 101.

**Acc 300 ADVANCED ACCOUNTING (3) I**

More specialized phases of accounting; special reports, consolidated statements, installment sales, consignments, fiduciaries, branches. Pre: Acc 201.

**Acc 310 SYSTEMS AND PROCEDURES ANALYSIS (3) II**

Cost and value of business information; feasibility applications and equipment studies; analysis and design problems; programming; implications for audits. Pre: Acc 315.

**Acc 315 COST ACCOUNTING (3) I, II**

Cost determination and analysis as a tool of management in such areas as pricing, make, rent or buy decisions. Job order, process, direct, and standard costs. Pre: Acc 200.

**Acc 320 MANAGEMENT ACCOUNTING (3) I, II**

Use of accounting information for managerial decision making and profit planning. Budget, cost, and other financial analyses to control and measure efficiency of business. For non-accounting majors only. Pre: Acc 101

**Acc 325 INCOME TAX PROBLEMS (3) I**

Federal income tax laws and related accounting problems; individual, partnership and corporation returns. Pre: Acc 201 or 320.

**Acc 330 AUDITING (3) II**

Principles of conduct of a business audit. Practical aspects of auditing emphasized by means of problems. Pre: Acc 300 and 315.

**Acc 435 GOVERNMENTAL ACCOUNTING (3) II**

Account classification, budgetary procedure, fund accounting, revenues, operating costs. Pre: Acc 201.

**Acc 600 SEMINAR IN MANAGEMENT ACCOUNTING (3) II**

Case studies in the use of accounting reports for planning, policy making and control of business.

**Acc 605 SEMINAR IN ACCOUNTING HISTORY AND THEORY (3) I**

Historical development of accounting theory, emphasizing pronouncements of the American Institute of CPA's and the American Accounting Association.

**Acc 610 SEMINAR IN CONTEMPORARY ACCOUNTING THEORY (3) II**

A consideration of contemporary issues, with emphasis on recent journal literature.

**Acc 620 SEMINAR IN ADVANCED ACCOUNTING (3) I, II**

Special problems in professional accounting: systems, auditing, cost accounting, taxes, etc. Field considered varies and course may be repeated for credit.

## **Business Analysis and Statistics**

**BAS 110 APPLIED MATHEMATICS (3) I, II**

Interest, annuities, progression, theory of set and functions, differential and integral calculus, including partial differentiation, maxima and minima (including the Lagrange multiplier method), probability.

**BAS 200 CAREER PLACEMENT (1) I, II**

Preparation for effective career placement; personal inventory, selecting field of interest, the job market, preparation of resumes, employment interviews, employment decisions, initial career experience, and progress. Primarily for juniors and seniors.

**BAS 300-301 BUSINESS STATISTICS (3-3) Yr. (2 I, 1 2-Hr Ib)**

Principles of statistical inference including frequency distribution, averages, variation, testing hypotheses, estimation of population mean, index numbers, time series, correlation, probability, sampling, chi square and F distribution, analysis of variance. Utilization of statistical data as an aid to managerial decisions.

**BAS 310 SAMPLING METHODS (3) I**

The design and use of random, systematic, stratified, and sequential samples for the estimation of universe characteristics. Pre: BAS 301.

**BAS 315 ELECTRONIC DATA PROCESSING FOR BUSINESS (3) I, II**

Computers and their memories, inputs and outputs, punched card layouts, the possibilities for calculation and decision, program coding, and report writing.

**BAS 396 METHODS OF SCIENTIFIC RESEARCH APPLIED TO BUSINESS AND ECONOMIC PROBLEMS (3) I, II**

A study of the fundamentals of research methodology, including planning, organizing and executing a research project; techniques of gathering the data; the use of library facilities and other sources of information; the analysis and interpretation of the data; the art and strategy of presenting the findings.

**BAS 600 SEMINAR IN QUANTITATIVE ANALYSIS (3) I**

Development of skills in mathematical analysis with application to business problems. Topics covered include set theory; relation; matrix algebra; differential and integral calculus. Pre: BAS 301.

**BAS 610 SEMINAR IN STATISTICAL DECISION THEORY (3) II**

Modern statistical decision theory as applied to business decision making. Topics covered include probability theory, statistical decision problems including Bayes decision rules. Pre: BAS 301.

**BAS 620 SEMINAR IN OPERATIONS RESEARCH (3) II**

Methods of operation research from an executive or managerial viewpoint, with emphasis on the application of mathematical and statistical techniques to management decision making; linear and non-linear programming, game theory, queueing theory, replacement theory, etc.

**BAS 630 SEMINAR IN QUANTITATIVE METHODS OF BUSINESS AND ECONOMIC FORECASTING (3) I**

Projection and forecasting of Hawaii's and United States economies with time series and cross-section data using modern statistical and econometric techniques with some reference to the needs of long-range planning. Pre: BAS 301.

## **Business Economics**

**BEc 150-151 PRINCIPLES OF ECONOMICS (3) I, II**

Principles of production, income, prices, and distribution in the American economy.

**BEc 240 MONEY AND BANKING (3) I, II**

United States monetary system, principles of commercial and central banking; the Federal Reserve, the Treasury, and credit control; monetary theory.

**BEc 305 BUSINESS CYCLES (3) II**

Analysis of fluctuations of economic activity with emphasis on business cycle theories. Pre: BEc 240.

**BEc 340 MANAGERIAL ECONOMICS (3) I, II**

Economic analysis as it is applied to business decisions and policy for workable concepts of profit, demand, costs, market structure, and performance.

**BEc 350 ECONOMICS OF TRANSPORTATION (3) I**

Development of our major transportation systems and their marketing function in the American economy as an integral part of the process of physical distribution.

**BEc 360 FOREIGN TRADE (3) I**

Development of international trade including comparative costs, balance of international payments, international transfer payments, foreign exchange rates, and comparative economic systems.

**BEc 361 FOREIGN TRADE POLICY AND FINANCE (3) II**

Means and ends of foreign trade policy and business practices including tariffs, controls, free trade and protection, current United States foreign policy, and overseas investments. Pre: BEc 240.

**BEc 372 PUBLIC UTILITIES (3) I**

Economic nature and history of public utilities, critical discussion of their control by governments.

**BEc 375 BUSINESS AND GOVERNMENT (3) I, II**

Economic aspects and implications of public policy, taxation, and regulation of business activity.

**BEc 600 SEMINAR IN MANAGERIAL ECONOMICS (3) I**

Consideration in depth of the theory of decision making in the enterprise. The market environment measurement of the influence of policy and non-policy variables on sales and costs. Pre: BEc 340.

**BEc 690 SEMINAR IN CURRENT ECONOMIC PROBLEMS (3) II**

## Finance

**Fin 300 BUSINESS FINANCE (3) I, II**

A study of the forms and sources of financing business firms large and small, corporate and non-corporate. The emphasis is on financial planning and developing judgment in formulating decisions on financial problems. Financial policies are also considered in their social, legal, and economic effects. Pre: Acc 101, BEc 151.

**Fin 305 PROBLEMS OF BUSINESS FINANCE (3) II**

Application of principles of finance to the financial management of business enterprises with particular reference to corporate distributions, mergers, and reorganizations. Pre: Fin 300, BEc 240 or consent of the instructor.

**Fin 310 INVESTMENTS (3) II**

Mechanics of investment banking and markets, corporate and government securities, selection and security analysis, risk programming and establishment of investment policy for individuals and institutions. Pre: Fin 305.



**Fin 340 BANKING ADMINISTRATION AND POLICIES (3) I**

The internal operations of commercial banks with emphasis on organization, sources of bank funds, allocation of bank funds and supervision and regulation of commercial banks.

**Fin 600 SEMINAR IN FINANCIAL PROBLEMS (3) I**

Advanced study of the problems of financial management. Current literature and case studies are examined with particular emphasis on quantitative methods for making financial decision under uncertainty. Pre: Fin 305 or consent of instructor.

**Fin 610 RESEARCH IN FINANCIAL THEORY (3) II**

## **Hotel Management and Tourism**

**HMT 101 INTRODUCTION TO HOTEL MANAGEMENT AND TOURISM (2) I, II**

Introduction to the public housing, food service, and tourist service industries. Simplified case studies and guest lectures by industry leaders will be included.

**HMT 200-201 INTERNSHIP (0-0) Ar.**

800 hours of paid employment in the hotel or tourist industry. Employment for summer months arranged with department chairman.

**HMT 301 HOTEL MANAGEMENT PRINCIPLES (3) II**

Principles of management as applied to the science and art of hotel keeping.

**HMT 320 TOURISM PRINCIPLES (3) II**

Study and application of the basic components of tourism. Includes the philosophy and promotion of tourism, travel counselling, transportation, tours, entertainment, education, and satisfactions of travel achieved through skillful application of these principles.

**HMT 330 HOTEL DESIGN, ENGINEERING, AND MAINTENANCE (3) I**

Concepts of the manager's role in architectural design, engineering and maintenance problems in hotels and resorts, including food service facilities.

**HMT 350 STUDIES IN HOTEL MANAGEMENT (2) I**

Procedures, problems, policies, and planning involved in hotel management. Emphasis on individual research and creative thinking.

**HMT 355 STUDIES IN TOURISM (2) II**

Critical analysis of available concepts and generalizations concerning tourism on a world basis. Emphasis on individual research and creative thinking.

## **Insurance**

**Ins 300 PRINCIPLES OF INSURANCE (3) I**

What insurance buyers should know about protection of income against illness or premature death; protection of home and business against property losses; third-party liability.

**Ins 310 PROPERTY INSURANCE (3) I**

Protection against loss of personal and business property and income occasioned by fire and allied perils, crime, and transportation risks.

**Ins 320 CASUALTY INSURANCE (3) II**

Emphasis on third-party liability coverages: general liability, automobile insurance, and workmen's compensation.

**Ins 330 LIFE INSURANCE (3) II**

Policy forms; calculation of premiums, reserves, and nonforfeiture values; underwriting; regulation of policy provision; and related coverages.

**Ins 600 SEMINAR IN INSURANCE (3) II**

Pre: Ins 300.

## Law

**Law 300 PRINCIPLES OF BUSINESS LAW (3) I, II**

The American system of jurisprudence, elements of torts, criminal law, property, trusts and estates, law of contracts and agency.

**Law 310 INTERMEDIATE BUSINESS LAW (3) II**

The law of business organizations, with emphasis on partnerships and corporations, and the law of sales, bailments, and negotiable instruments; provisions of the Uniform Negotiable Instrument Law and Uniform Commercial Code. Pre: Law 300.

## Management

**Mgt 300 PRINCIPLES OF MANAGEMENT (3) I, II**

Basic management functions of planning, controlling, organizing, staffing and directing; emphasis on human factors and quantitative analysis in developing a sound philosophy of management. Critical evaluation of current practices in business firms. Primarily text-lecture; a few case studies.

**Mgt 320 OPERATIONS MANAGEMENT (3) I**

Principles and practice in the management of operations in manufacturing plants and in service-clerical types of businesses; emphasis on decision-making tools and techniques; plant and office layout, work methods and simplifications, value analysis, time study and data flow and production control systems.

**Mgt 350 BUSINESS POLICY (3) I, II**

Case studies in assessing alternative risks in solving policy problems; an interdisciplinary approach applying and integrating many of the subjects in the College of Business Administration. Pre: senior standing.

**Mgt 360 ADVANCED MANAGEMENT (3) II**

Critical review of key issues and emerging trends in the field of theory and practice of management and in the business manager's role in society. Pre: senior standing.

**Mgt 600 SEMINAR IN MANAGEMENT (3) I**

Critical evaluation of key current and classic writings in the field of management theory and practice. Development of an integrated, comprehensive philosophy of management. Pre: Mgt 300.

**Mgt 610 RESEARCH IN MANAGEMENT (3) II**

Study of research method; preparation of an individual, original research paper on some significant aspect of management theory and practice. Pre: Mgt 600.

**Mgt 640 SEMINAR IN BUSINESS POLICY (3) II**

An advanced case course, using comprehensive and complex cases, in solving key business operating and policy problems; some applications of techniques of quantitative analysis. Pre: Mgt 300, 350.

## Marketing

### **Mkt 300 PRINCIPLES OF MARKETING (3) I, II**

A broad survey course covering the consumer, retailing, wholesaling, functional analysis, marketing policies, and a critical appraisal of marketing in a governmental context. Pre: BEc 151.

### **Mkt 305 PERSUASION IN BUSINESS (3) I, II**

The applied psychology of persuasion and motivation; the pervasive role of the selling function in the American economy; some effective techniques of presentation as developed by master salesmen. (Not offered 1964-65.)

### **Mkt 310 PHYSICAL DISTRIBUTION (3) II**

The examination of physical supply methods and routes, traffic management, warehousing and storage alternatives and problems, and their coordination with the other functions of marketing. Pre: Mkt 300.

### **Mkt 315 MARKETING MANAGEMENT (3) I**

Policy and operational decisions of marketing executives; product decisions, distribution, pricing, marketing plans, sales programs, and organization and control of sales forces. Pre: Mkt 300.

### **Mkt 320 ADVERTISING (3) I, II**

The marketing function of advertising; visualization, copy, layout, production, media, selection, research, merchandising the complete program, organization and control, and the economic and social aspects of advertising.

### **Mkt 325 ADVERTISING COPY WRITING (3) II**

Principles underlying the preparation of effective copy. Practice in creative copy writing. (Not offered 1964-65.)

### **Mkt 330 ADVERTISING MANAGEMENT (3) II**

Advertising decision making, advertising's role in the marketing mix, primary demand stimulation, selective demand stimulation, building complete programs, and advertising agency relationships. Pre: Mkt 300, 320.

### **Mkt 340 RETAIL MERCHANDISING (3) I**

Retailing history, store organization and management, sales promotion, customer's buying habits.

### **Mkt 345 PROBLEMS IN RETAILING (3) II**

Problems and case approach; inter-relationship of major elements of the operation of a retail store, buying, pricing, stock control, planned stocks, merchandising, control, including expense accounting and financial management. Pre: Mkt 340.

### **Mkt 380 FOREIGN MARKETING (3) II**

Methods and organization peculiar to international marketing, with emphasis on practical and technical aspects. Pre: Mkt 300.

### **Mkt 390 MARKETING RESEARCH (3) I**

Specification of problem; data collection; tabulation, interpretation, and presentation of findings; applications. Pre: BAS 301, Mkt 300.

### **Mkt 600 SEMINAR IN MARKETING PROBLEMS (3) I**

Analysis of executive decisions and policies related to securing the optimum competitive position in the marketing structure. Pre: Mkt 300.

### **Mkt 610 RESEARCH IN MARKETING THEORY (3) II**

Pre: Mkt 600.

## Personnel and Industrial Relations

### PIR 300 LABOR PROBLEMS AND TRADE UNIONISM (3) I, II

Study of wages, hours and other conditions of employment. Development, internal structure and economic function of organized labor in the United States. Pre: BEc 150-151 or consent of instructor.

### PIR 305 EMPLOYMENT INTERVIEWING (3) I

Interviewing, promotion, transfer, discharge, practice in conducting board, stress, group oral, and other types of interviews. Pre: senior standing or consent of instructor.

### PIR 310 INDUSTRIAL SAFETY AND HEALTH (3) II

Principles of accident prevention; reporting, analyzing, and prescribing remedies for accident experience; staff organization and safety programs.

### PIR 320 COLLECTIVE BARGAINING (3) I

Principles and concepts of collective bargaining; analysis of sample contracts including union status, seniority, contract enforcement. Pre: PIR 300.

### PIR 330 WAGE AND SALARY ADMINISTRATION (3) II

Compensation systems. Wage, salary, and incentive plans. Wage surveys, job analysis and evaluation, including job breakdown, time studies, work simplification and standards of performance.

### PIR 350 PERSONNEL AND INDUSTRIAL RELATIONS—PRACTICES AND POLICIES (3) I, II

Survey of the field of Personnel and Industrial Relations.

### PIR 351 PERSONNEL MANAGEMENT (3) I

Effective programs of employee selection, training, coordination, and adjustment within the firm. Principles governing supervisory personnel, including training, direction, human relations.

### PIR 360 SOCIAL AND LABOR LEGISLATION (3) I

General principles of labor law; emphasis upon applicable statutes and their economic implications. Old age security, workmen's compensation, unemployment insurance.

### PIR 380 ARBITRATION OF GRIEVANCES (3) II

Purpose and functions of grievance procedure; background and procedure of arbitration; substance of arbitration; illustrative cases. Pre: PIR 300.

### PIR 690 SEMINAR IN CURRENT LABOR PROBLEMS (3) II

Pre: consent of instructor.

## Real Estate

### RE 300 REAL ESTATE FUNDAMENTALS (3) I

Principles of real estate for the customer and home owner, and as a business. Real estate law, brokerage, management, appraisal, finance.

### RE 310 ELEMENTS OF REAL ESTATE LAW AND PRACTICE (3) II

Fixtures, easements, land descriptions, titles, deeds, recording requirements, brokers, land contracts, escrows, closing of sale, abstracts, mortgages, mechanics' liens, co-ownership, descent, zoning, taxes, landlord and tenant, leasing. Pre: RE 300.

**RE 320 REAL ESTATE FINANCE (3) I**

A study of real estate financing and the American mortgage money market; sources of funds for first and second mortgage loans; agreements of sale; the effect of leasing on the money market. Pre: Fin 300, RE 300. (Not offered 1964-65.)

**RE 330 PROPERTY VALUATION (3) II**

Economic, social, legal, and physical factors influencing property values, and their relationship to housing. Pre: RE 300 or consent of instructor.

**RE 340 LAND ECONOMICS (3) I**

Economic principles and social institutions that influence the use of ownership of lands, both rural and urban. Pre: BEc 150.

**RE 350 URBAN LAND UTILIZATION (3) II**

Economic concepts, market forces and institutional factors influencing land utilization in urbanized areas. The dynamics of city growth and renewal. Pre: RE 340 or consent of instructor. (Not offered 1964-65.)

**RE 600 SEMINAR IN REAL ESTATE (3) II**

Pre: RE 300.

**RE 699 DIRECTED RESEARCH (Ar.)**

# COLLEGE OF EDUCATION

THE FUNCTIONS OF THE COLLEGE OF EDUCATION include the preparation of teachers for elementary and secondary schools and the professional development of teachers in service. Standard preparation for teaching positions in the public schools of Hawaii requires four years of undergraduate and one year of graduate work. The four-year programs lead to the bachelor of education degree, and the year of graduate work to the five-year diploma. Both the degree and the diploma indicate the level—elementary or secondary—of the complete curriculum.

The bachelor of science degree is awarded after the completion of the recreation curriculum.

## Admission and Degree Requirements

In addition to University admission requirements (pp. 18–22), applicants must meet certain standards of college aptitude, scholarship, health, personality, and oral English. Applicants for admission to the fifth year or any other advanced program must take the National Teacher Examinations or present scores previously earned in this examination. These examinations are included in Ed EP 309, required of all seniors. Admission to the fifth-year program leading to a five-year diploma requires a grade of C or better in student teaching, and professional preparation equivalent to that represented by the bachelor of education degree or the bachelor of science degree in vocational education.

Admission requirements for the recreation curriculum are the same as those for the University.

To be eligible for the bachelor's degree, a student must:

- 1) Have an aggregate of at least 130 semester hours of credit;
- 2) have a 2.0 grade-point ratio for all registered credits, and in the major field (*see* "Undergraduate Degree Requirements")
- 3) have met all University degree requirements;
- 4) have met course requirements for one of the curricula.

### **Five-Year Diploma Requirements**

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

- 1) Have the bachelor of education degree or its equivalent, including:
  - a) directed teaching in amount and under conditions comparable to those in the laboratory schools; and
  - b) course background in general and professional education, comparable to the specific requirements of one of the curricula offered by the College;
- 2) have satisfactorily met the intern teaching and course requirements of the fifth-year curriculum.

### **Classified Professional Certificate Requirements**

The standard certificate for public school teaching in Hawaii is the professional certificate granted by the State Department of Education. The general requirement for this certificate is five years of college work, including student teaching and other professional courses. In addition, the candidate must have met the specific course and curriculum requirements for the grade of certificate sought, elementary or secondary.

Requirements for admission to the Program are: (1) bachelor's degree from an accredited institution; (2) candidates with degrees granted more than 10 years prior to application for admission to CPC program will be required to fulfill deficiencies or take refresher courses in their respective teaching fields as deemed necessary by admissions personnel of College of Education; (3) proficiency in *oral* and written communication; (4) recommendations from former employers and/or college advisers; (5) transcripts of college records, including standardized test scores; (6) meeting standards of academic success as required at the specific curriculum levels, including a teaching field at the secondary level with a g.p.a. of at least 2.5; (7) interview with College of Education admission personnel; (8) submission of written application by (a) April 15 for the following summer session, (b) July 15 for the fall semester, and (c) November 15 for the second semester. All applications must be accompanied by transcript of previous college work.

Requirements for the professional certificate can be met as follows:

- 1) by fulfilling requirements for the five-year diploma; or
- 2) by earning 30 semester hours of credit after receiving the bachelor of education degree or its equivalent. Six of these must be in graduate education courses, of which one must be chosen from Ed HP 650, 660, 670, 671, or 683; or
- 3) by fulfilling requirements for the special programs for graduates holding degrees other than bachelor of education; specific course requirements are as follows:

- a) Elementary level—child psychology, principles of education, teaching of language arts, arithmetic, social studies, science tests and measurements, educational psychology, speech, art, childrens' literature, music, and physical education.
- b) Secondary level—adolescent or developmental psychology, principles of secondary education, a methods course in the teaching field, educational psychology, and tests and measurements.
- c) In addition, at both levels, a semester of student teaching and 6 graduate credits in education.

### **Curricula**

The curricula in elementary and secondary education in general are identical for the first year, and are designed to provide a broad general background. This emphasis on general education continues in the second year; however, some differentiation appropriate to the selected curriculum begins at this point as well as in the freshman year, for certain secondary fields. (Candidates in art education, industrial arts education, mathematics education, music education, and science education should contact the Department of Secondary Education for program exceptions.)

All students in the College of Education are required to have the equivalent of a semester's experience in a leadership role with children or youth in a non-academic group situation prior to the junior year. A performance report by the employer or supervisor and a self-evaluation by the student are sent to the department chairman.

During the third year the professional information and background necessary for public school service are emphasized. Students preparing for secondary school teaching utilize the electives included in the curriculum outline in meeting requirements for teaching field concentrations. Beginning with the freshman class, September 1963, students in the elementary curriculum are required to choose an academic field of concentration which usually will require approximately 20 credits. Guides for suggested course sequences are available in the department office.

The fourth-year program consists largely of professional education. One semester is devoted to student teaching, while the other provides necessary professional courses. One half of the students engage in practice teaching the first semester and take courses the second semester, while the other half reverses the order. The criteria for initial placement in student teaching are as follows: (1) evidence of competency in spoken and written English; (2) evidence of personality adjustment suitable for contact with children and youth; (3) cumulative grade-point average of at least 2.2; (4) cumulative average of at least 2.2 in profes-



sional courses in Education; (5) at the secondary level a grade-point average of at least 2.5 in the teaching field or fields; (6) at the secondary level at least two-thirds of the teaching field major completed for those student-teaching in the first semester of their senior year. Those student-teaching in the second semester of their senior year must have their major completed.

The program of the fifth year is practically identical for both curricula, with intern teaching appointments being made at the appropriate level, and, in the case of prospective secondary school teachers, in the appropriate teaching fields. An alternation of supervised teaching and course work, similar to that in the senior year, is followed.

### Teaching Field Requirements—Secondary Education

*Agricultural arts*: 32 credits in agriculture, Botany 101, Chemistry 103-104, Zoology 161; Ed SE 333. *Art*: 36 credits in art, 12 hours in art history including Art 171-181, 24 hours studio courses including Art 111-112; Ed SE 336. *Biological science*: 42 credits including basic laboratory courses in physical sciences and in botany, microbiology, zoology; Ed SE 333. *Commercial*: 36 credits in business, economics, shorthand, typewriting, bookkeeping; Ed SE 348, 349. *English*: 42 credits in composition, linguistics, English and American literature; Ed SE 235, 330, 331. *General science*: 42 credits including basic laboratory courses in chemistry, physics, botany, zoology, earth science; Ed SE 333. *Health and physical education*: 36 credits with a minimum of 12 in health and 16 in physical education; Ed SE 238. *Home economics*: 45 credits in home economics; Home Economics 270. *Industrial arts*: 36 credits in hand and machine woodworking, metalwork, electricity, crafts, general shop; Ed SE 346, 347. *Languages*: 30 credits in advanced courses; Ed SE 335. *Library science*: 26 credits, 18 in library science, 8 in related courses; Ed EE 225, 320; Ed SE 235, 330. *Mathematics*: 30 credits at university level; Ed SE 334. *Music*: 43 credits including applied music and organizations; Ed SE 337-388. *Physical science*: 42 credits including basic laboratory courses in biological sciences and in chemistry, geology, physics; Ed SE 333. *Social studies*: (junior high school level) 42 credits including 6 in U. S. history, 6 in world history, a course each in government, economics, geography, sociology, and anthropology, a course in Hawaiian history, Hawaiian government, or Hawaiian culture; 20 in English; Ed SE 235, 331, 332. *Social studies*: (senior high school level) 48 credits including 6 in U. S. history, 6 in world history, 6 in government, 6 in economics, 6 in geography, and 6 in sociology and a course in anthropology, a course in Hawaiian history, Hawaiian government, or Hawaiian culture; Ed SE 331, 332. *Speech*: 36 credits in speech; Ed SE 339.

## Elementary and Secondary Curricula

## FIRST YEAR

| FIRST SEMESTER       |         | SECOND SEMESTER      |         |
|----------------------|---------|----------------------|---------|
|                      | CREDITS |                      | CREDITS |
| Ed. HP 100           | 1       | Ed. HP 101           | 1       |
| English 101          | 3       | English 102          | 3       |
| HPE 101 or 102       | 1       | HPE**                | 1       |
| History 151          | 3       | History 152          | 3       |
| AS 101 or MS 101     | 1       | AS 102 or MS 102     | 1       |
| Mathematics 111*     | 3       | Psychology 102       | 4       |
| General Science 120† | 4       | General Science 121† | 4       |
| Speech 140           | 2       |                      |         |
| Total                | 18      | Total                | 17      |

## Elementary Curriculum

## SECOND YEAR

|                    |    |                       |     |
|--------------------|----|-----------------------|-----|
| Art 103            | 2  | Psychology 250        | 3   |
| English 150 or 152 | 3  | Ed. EE 220            | 4   |
| History 171        | 3  | English 151 or 153    | 3   |
| AS 151 or MS 151   | 1  | Political Science 110 | 3   |
| Music 150‡         | 3  | AS 152 or MS 152      | 1   |
| Philosophy 100     | 3  | Speech 110            | 1   |
| Elective           | 3  | Electives§            | 3-4 |
| Total              | 18 | Total                 | 18  |

## THIRD YEAR

|                  |    |             |    |
|------------------|----|-------------|----|
| Ed EE 221 or 224 | 4  | Ed EE 322   | 2  |
| Ed EE 225        | 2  | Ed EE 323   | 2  |
| Ed EE 320        | 3  | Ed EE 324   | 3  |
| Music 251††      | 2  | Ed EE 326   | 2  |
| Sociology 232    | 3  | HPE 221     | 2  |
| Speech 135       | 1  | Music 252†† | 2  |
| Elective         | 3  | Elective    | 5  |
| Total            | 18 | Total       | 18 |

## FOURTH YEAR

|                |    |           |    |
|----------------|----|-----------|----|
| Ed EP 309      | 3  | Ed EE 390 | 14 |
| Geography 401  | 3  | Ed EE 391 | 2  |
| HPE 230        | 2  |           |    |
| Psychology 372 | 3  |           |    |
| Speech 365     | 3  |           |    |
| Elective       | 4  |           |    |
| Total          | 18 | Total     | 16 |

\*Mathematics 103 or 104 may be substituted for secondary majors.

†Chemistry 105-106 may be substituted for secondary majors.

‡Music 117-118 may be substituted.

§Two of the following for elementary majors who do not choose an academic minor, one for secondary majors: Anthropology 150, Economics 140, Sociology 151.

\*\*Elementary majors take HPE 130.

††Music 253 may be substituted.

## Secondary Curriculum

### SECOND YEAR

| FIRST SEMESTER        |              | SECOND SEMESTER    |              |
|-----------------------|--------------|--------------------|--------------|
|                       | CREDITS      |                    | CREDITS      |
| English 150 or 152    | 3            | English 151 or 153 | 3            |
| Political Science 110 | 3            | History 171†       | 3            |
| HPE 130               | 1            | MS 152 or AS 94    | 1-0          |
| AS or MS 151          | 1            | Psychology 250     | 3            |
| Philosophy 100        | 3            | Elective§          | 6-9          |
| Elective†             | 5-7          |                    |              |
| <b>Total</b>          | <b>16-18</b> | <b>Total</b>       | <b>16-18</b> |

### THIRD YEAR

|               |              |              |              |
|---------------|--------------|--------------|--------------|
| Ed SE 230     | 4            | Ed SE 290**  | 1            |
| Sociology 232 | 3            | Ed SE 330††  | 3            |
| Elective§     | 9-11         | HPE 230      | 2            |
|               |              | Elective§    | 10-12        |
| <b>Total</b>  | <b>16-18</b> | <b>Total</b> | <b>16-18</b> |

### FOURTH YEAR

|                |              |              |           |
|----------------|--------------|--------------|-----------|
| Ed EP 309      | 3            | Ed SE 390    | 14        |
| Psychology 372 | 3            | Ed SE 391    | 2         |
| Speech 365††   | 3            |              |           |
| Elective§      | 7-9          |              |           |
| <b>Total</b>   | <b>16-18</b> | <b>Total</b> | <b>16</b> |

## Elementary and Secondary Curricula

### FIFTH YEAR

|                        |           |                    |           |
|------------------------|-----------|--------------------|-----------|
| Ed Foundations*        | 3         | Ed EE or Ed SE 690 | 14        |
| Ed Ad 680              | 2         | Ed EE or Ed SE 691 | 2         |
| Elective (Education)§§ | 5         |                    |           |
| Elective               | 6         |                    |           |
| <b>Total</b>           | <b>16</b> | <b>Total</b>       | <b>16</b> |

## Recreation Curriculum

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.

\*Ed HP 660, 660, 670, 671, or 683.

†Anthropology 150, Economics 140, or Sociology 151; and other electives.

‡Social Studies majors substitute History 461-462 or 463-464.

§As required to meet teaching field concentrations.

\*\*Concurrent with appropriate methods course.

††For other teaching fields, appropriate methods courses will be substituted.

‡‡Speech majors substitute Speech 369.

§§Must include Ed EE 620 in the elementary curriculum; Ed SE 635 or 636 in the secondary curricular.

## FIRST YEAR

| FIRST SEMESTER   |         | SECOND SEMESTER     |         |
|------------------|---------|---------------------|---------|
|                  | CREDITS |                     | CREDITS |
| Anthropology 150 | 3       | Botany 105 or 160   | 2       |
| English 101      | 3       | Economics 150       | 3       |
| HPE 101 or 102   | 1       | English 102         | 3       |
| HPE 132          | 1       | Pol Sci 110         | 3       |
| AS 101 or MS 101 | 1       | HPE 102 or 101      | 1       |
| Sociology 151    | 3       | HPE 170             | 2       |
| Speech 140       | 2       | AS 102 or MS 102    | 1       |
| Zoology 111      | 3       | Speech, as required | 1       |
| Total            | 18      | Total               | 16      |

## SECOND YEAR

|                    |    |                      |    |
|--------------------|----|----------------------|----|
| Art 103            | 2  | Art 104              | 2  |
| English 155        | 3  | HPE 120              | 2  |
| HPE 103            | 1  | HPE 140              | 2  |
| HPE 115            | 1  | Music 118            | 1  |
| History 171        | 3  | AS 151 or MS 151, 94 | 1  |
| AS 151 or MS 151   | 1  | Psychology 250       | 3  |
| Music 117          | 1  | Speech 150           | 3  |
| Psychology 104     | 3  | Elective             | 3  |
| Speech as required | 1  |                      |    |
| Total              | 16 | Total                | 17 |

## THIRD YEAR

|   |    |   |    |
|---|----|---|----|
| HPE 215 (for men)<br>or 225 (for women) | 2  | HPE 217 (for men) or<br>227 (for women) | 2  |
| HPE 221                                 | 2  | HPE 222                                 | 2  |
| HPE 245                                 | 2  | HPE 246                                 | 2  |
| HPE 250                                 | 2  | HPE 251                                 | 2  |
| HPE 280                                 | 3  | HPE 285                                 | 3  |
| Sociology 232                           | 3  | Elective                                | 5  |
| Elective                                | 2  |   |    |
| Total                                   | 16 | Total                                   | 16 |

## FOURTH YEAR

|           |    |                |    |
|-----------|----|----------------|----|
| Ed SE 238 | 2  | HPE 248        | 2  |
| HPE 234   | 2  | HPE 249        | 2  |
| HPE 241   | 2  | HPE 253        | 5  |
| HPE 252   | 5  | Psychology 372 | 3  |
| HPE 263   | 2  | Elective       | 3  |
| Elective  | 2  |                |    |
| Total     | 15 | Total          | 15 |

## Electives

Eight credits of electives must be selected from Group I. Additional electives from Group II must be selected to complete curriculum requirements of 130 semester hours. Substitutions for suggested electives may be approved by the adviser.

Group I: Art 111-112, 141; Drama 150-151; Health & Physical Education 104, 105, 106, 107, 111, 113, 114, 116, 118, 123, 124, 126, 127, 128, 219, 230, 231, 235, 236, 276-277, 399, 430; Home Economics 126, 221; Music 200, 300.

Group II: Air Science 95-202, 251-252; Anthropology 300; Art 101; Chinese 101-102; Drama 140; Geography 101; Geology 150; Hawaiian 101-102; History 151-152, 521-522, 577; Japanese 101-102; Military Science 202, 252; Music 160; Philosophy 100; Psychology 270, 420; Religion 150; General Science 120-121; Speech 130.

## Laboratory Schools

Practical experience in teaching is given in the College laboratory schools and selected public schools. To insure a rich experience for the children enrolled and to set a high standard of achievement for the student teachers, conditions are made as ideal as possible, with small classes, selected children, and a strong supervising staff assisted by specialists in art, drama, health, library science, physical education, music, and speech.

Observation-participation experience in the third year and intern teaching in the fifth year are provided in selected public schools under the joint supervision of the College and the State Department of Education.

## Reading Clinic

The Clinic is a teacher-education laboratory of the Department of Educational Psychology, offering experience to qualified graduate students in diagnosing reading problems and in tutoring children with reading disabilities. It also serves as a materials center in the field of reading: trade books, basal reading series, workbooks, tests, games, and professional books and pamphlets.

## Vocational Home Economics Education

Prospective vocational home economics teachers obtain their undergraduate preparation in the College of Tropical Agriculture. Basic professional education courses and student teaching are required. Selective standards, including those in English, used in the College of Education apply to prospective vocational teachers. Students in this program register in the secondary curriculum for the fifth (graduate) year. For the work of this year, *see* "Five-Year Diploma Requirements."

### **Certification in School Counseling**

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 curriculum may be completed as part of the requirements for a master of education degree, or may be taken without completing the degree. Individuals who complete the program satisfactorily are recommended for counselor certification. Those interested should confer with the counselor-educator.

### **Certification in Teaching the Mentally Retarded**

The College offers a program leading to certification as a teacher of the mentally retarded. Completion of 24 credits of course work and student teaching experience with mentally retarded children (for which one year of successful on-the-job supervised teaching of mentally retarded children may be substituted) qualifies the student for certification. Course requirements include Ed EP 315, 510, 609, 615, 616, Ed HP 660, and Psychology 356.

### **Certification in Library Science**

Regulations of the State Department of Education provide that a teacher may have "Qualified School Librarian" placed on the face of the Professional Certificate providing he meets the requirements of 26 credits in library science and related courses. Individuals interested in the program should confer with one of the instructors in library science.

### **Certification in School Administration**

School administration credentials—elementary, intermediate, secondary, and technical—are granted by the State Department of Education after the following requirements have been satisfied: (1) possession of a professional teaching certificate; (2) completion of five years of successful teaching experience; (3) 15 graduate credits in administration, supervision, and curriculum; and (4) successful completion of the leadership training program.

The leadership training program is sponsored by the College and the State Department of Education. To be admitted to the program, the candidate must have five years of teaching experience, hold the professional certificate, and successfully pass annual examinations administered by the State Department of Education. Approved candidates enroll for Ed Ad 780 and 697–698.

## EDUCATION COURSES

*See p. 41 for a discussion of course descriptions.*

### Educational Administration (Ad)

Professors CROSSLEY, EVERLY, JACKSON, MICKELSON; Associate Professors R. JOHNSON

*Credit for 697 and 698 does not apply to graduate degree programs.*

**Ad 670 SUPERVISION OF INSTRUCTION (2) I**

Principles of supervision and development of supervisory programs. Pre: EE 622 or SE 636.

**Ad 671 SCHOOL PUBLICITY AND PUBLIC RELATIONS (2) I**

Principles, techniques, policies, organization of a school-community information program. (Alt. yrs.; not offered 1964-65.)

**Ad 679 SUPERVISION OF STUDENT TEACHING (2) I, II**

Principles and methods; role of the supervisor; human relations in supervision of student teaching. Pre: teaching experience; consent of instructor.

**Ad 680 PUBLIC SCHOOL ORGANIZATION (2) I, II**

Function of the teacher in school administration; state organization of public education; Hawaii school law and State Department of Education regulations. Pre: teaching experience; may include student teaching.

**Ad 682 ADMINISTRATION OF THE ELEMENTARY SCHOOL (2) II**

Curricula and programs; reports to parents, pupils, staff; plant; community relations; problems of the small school. Pre: Ad 680; teaching experience.

**Ad 683 ADMINISTRATION OF THE SECONDARY SCHOOL (2) II**

Organization and administration; curriculum; schedules; personnel; plant; public relations. Pre: Ad 680; teaching experience.

**Ad 686 ORGANIZATION AND ADMINISTRATION OF VOCATIONAL AND TECHNICAL SCHOOLS (2) II**

Problems and procedures in organizing and administering industrial and vocational school programs.

**Ad 687 ORGANIZATION AND ADMINISTRATION OF ADULT EDUCATION (2) II**

Practices, agencies, clientele, philosophy, and goals of adult education.

**Ad 688 ADMINISTRATION OF THE INTERMEDIATE SCHOOL**

Organization and administration of the intermediate school; unique role of the intermediate school in America. Pre: teaching experience.

**Ad 689 THE SCHOOL PLANT (2) I**

Problems and techniques in school plant planning, operation, and maintenance; working with other agencies and with classified personnel.

**Ad 697-698 INTERNSHIP IN EDUCATIONAL LEADERSHIP (2-2) Yr.**

Supervised field work in educational leadership. Pre: acceptance in State Department of Education Leadership Training Program or East-West Center. May be repeated, but only by Center students.

**Ad 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**Ad 762 HIGHER EDUCATION IN THE UNITED STATES (3) II**

Trends in higher education; financing; increasing enrollments; recruitment and improvement of faculties; liberal and professional programs.

**Ad 770 SEMINAR IN SUPERVISION OF INSTRUCTION (2) II**

Methods and tools of supervision; faculty meetings; classroom observation; conferences; evaluation. Pre: Ad 670 or 679. May be repeated.

**Ad 780 SEMINAR IN EDUCATIONAL ADMINISTRATION (2) I, II**

Analysis of selected problems in school administration. Pre: Ad 682 or 683; consent of instructor. May be repeated.

**Ad 781 LEGAL AND BUSINESS ASPECTS OF SCHOOL ADMINISTRATION (2) I**

Advanced course in legal and business controls and practices in the public school system. Pre: Ad 682 or 683; consent of instructor.

**Ad 783 ORGANIZATION OF INSTRUCTIONAL PROGRAMS (2) II**

Organization and administration of elementary and secondary schools for improvement of the curriculum and instructional program. Pre: EE 622 or SE 636.

## **Educational Psychology (EP)**

Professors R. ALM, BEYERS, CLARK, D. COLLINS, MATHEWSON, WITTICH; Associate Professors LETON, MCINTOSH, REED, SAX; Assistant Professors NIYEKAWA, SANDERSON; Instructor LUBITZ

*EP 309 and 372 or their equivalents are prerequisites for all graduate courses in Educational Psychology, except for EP 514, 634, 704, 705, 714.*

**EP 309 TESTS AND MEASUREMENTS (3) I, II**

Theory and techniques of evaluation in education. Pre: EE 221, EE S 222, or SE 230. Course fee \$12.00, including \$11.00 for the National Teacher Examination.

**EP 315 ARTS AND CRAFTS FOR MENTALLY RETARDED (2) II**

Construction and use of learning aids for mentally retarded children. May be taken concurrently with EP 615 with consent of instructor.

**EP 372 EDUCATIONAL PSYCHOLOGY (3) I, II**

Major factors of learning and mental health as they apply to the educative process. Pre: Psychology 250. (Identical with Psychology 372.)

**EP 399 DIRECTED READING (Ar.) I, II**

Individual reading or research. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in education. Pre: consent of instructor and department chairman.

**EP 507 REMEDIAL READING (2) II**

Techniques for motivating and helping children whose reading skills are below their capacity and needs.

**EP 510 EDUCATION OF EXCEPTIONAL CHILDREN (3) I**

A basic survey course covering recognized areas of exceptionality.

**EP 514 AUDIO-VISUAL MEDIA (3) I, II**

Communication, theory, the characteristics of A-V media: automated learning programs, TV, projected and opaque materials (maps and models). Course fee \$4.00.

**EP 601 GUIDANCE IN THE SCHOOL (3) I, II**

Basic principles of guidance; consideration of techniques, organization, materials, resources.



**EP 602 ELEMENTARY SCHOOL GUIDANCE (2) I**

Principles, techniques, and organization of guidance services in the elementary school.

**EP 604 OCCUPATIONAL INFORMATION IN GUIDANCE (2) I**

Occupational research and survey techniques; trends, sources of materials, use of occupational information in vocational guidance. Pre: EP 601.

**EP 605 PROBLEMS OF SCHOOL ADJUSTMENT (2) I**

Principles of behavior which affect human relationships in the school, with emphasis upon application to actual situations.

**EP 607 CLINICAL PROCEDURES IN READING (3) I, II**

Diagnosis and improvement of reading in elementary and secondary schools. Pre: course in teaching of reading; consent of instructor.

**EP 609 TESTS AND INVENTORIES IN GUIDANCE (2) II**

Tests and inventories for measuring aptitudes, interests, and modes of behavior. Pre: 601.

**EP 613 EDUCATION OF THE MENTALLY RETARDED (3) I**

Characteristics and educational provisions for the mentally retarded. Pre: EP 510.

**EP 614 EDUCATION OF GIFTED CHILDREN (3) II**

Characteristics and educational provisions for gifted children. Particular attention to psychological aspects of creativity. Pre :EP 510.

**EP 615 CURRICULUM DEVELOPMENT FOR MENTALLY RETARDED CHILDREN (3) II**

Development of curricula and use of materials for teaching mentally retarded children. Pre: EP 510.

**EP 616 SEMINAR IN EDUCATION OF MENTALLY RETARDED (2) II**

Advanced problems in the education of mentally retarded children. Pre: 20 credits in MR endorsement plan; teaching experience in mentally retarded classes.

**EP 629 EDUCATIONAL STATISTICS (3) I, II**

Statistical inference including the applications of parametric and non-parametric methods to educational problems. Pre: descriptive statistics.

**EP 634 TELEVISION IN EDUCATION (3) I, II**

Research backgrounds, development, and utilization of television in education, including fundamentals of television production and teaching of television with emphasis on the utilization of television in the school. Pre: EP 514, or consent of instructor. Course fee \$5.00.

**EP 672 ADVANCED EDUCATIONAL PSYCHOLOGY (3) II**

Application of experimental evidence in psychology to major educational problems; the bearing of recent psychological theories upon education. (Identical with Psychology 672.)

**EP 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**EP 701 SEMINAR IN GUIDANCE (2) I, II**

Current issues and problems. (1) General, (2) testing, (3) counseling, (4) vocational, (5) elementary school, (6) administration, (7) group procedures. Pre: 8 credits in guidance courses.

**EP 702 GROUP GUIDANCE (2) II**

Principles, practices, materials, and techniques used in group guidance in schools. Pre: EP 601.

**EP 703 GUIDANCE PRACTICUM (3) I, II**

Supervised experience in guidance activities in schools. Guidance majors only. Pre: consent of instructor.

**EP 704 SEMINAR IN AUDIO-VISUAL EDUCATION (3) I**

Review of general and current audio-visual research. Applications of same to problems in the improvement of instruction. Pre: EP 514 or equivalent.

**EP 705 PRODUCTION OF AUDIO-VISUAL MATERIALS (3) II**

Preparation of overlays, films, slides, simple motion pictures. Utilization of film, television, and automated learning materials. Pre: EP 514 and teaching experience. Course fee \$5.00.

**EP 708 EDUCATIONAL RESEARCH METHODS (3) I, II**

Research techniques and thesis development. Pre: proficiency in statistics; consent of instructor.

**EP 709 EDUCATIONAL EVALUATION (3) II**

Educational objectives and evaluation methods; synthesis of data from objective and subjective sources. Pre: consent of instructor.

**EP 714 ORGANIZATION OF NEW MEDIA PROGRAMS (3) I**

Current principles and practices in the organization of programs utilizing new learning media: audio-visual, automated learning and educational television. Pre: EP 514.

**EP 768 SEMINAR IN EDUCATIONAL PSYCHOLOGY (2) I, II**

Current issues and problems. (1) General, (2) learning, (3) measurement, (4) research and statistics. May be repeated for credit. Pre: EP 708.

## **Elementary Education (EE)**

Professor PORTER; Associate Professors HAYES, JENKINS, NOTKIN, PICKENS; Assistant Professors EZER, FITZSIMMONS, FUJITA, GILLESPIE, INN, JOHNSTONE, YANG; Instructor YAMASHITA

*Credit for 690, 691 does not apply to graduate degree programs.*

**EE 220 ELEMENTARY EDUCATION (4) I, II**

Basic course in the education of children of ages 3 to 12; guided observation in the laboratory schools for the purpose of developing the ability to apply the principles of growth and development in the learning situation. Pre: Psychology 250.

**EE 221 THE ELEMENTARY SCHOOL PROGRAM (4) I, II**

Function of the elementary school in a democratic society with emphasis on the basic concepts of curriculum, the broad concept of method, and the role of the teacher. Includes weekly observation and participation in the public schools. Pre: EE 220.

**EE 224 THE KINDERGARTEN-PRIMARY PROGRAM (4) I, II**

Course emphasis is on early childhood education, its function in a democratic society, basic concepts concerning curriculum and method, and the teacher's role. Designed mainly for those interested in teaching at the kindergarten and primary levels. Includes observation and participation for four hours weekly in an assigned classroom. Pre: EE 220.

**EE 225 CHILDREN'S LITERATURE (2) I, II**

Acquaintance with a wide range of children's books; criteria for judging literature on the basis of needs and interests. Pre: EE 220.

**EE 290 PARTICIPATION TEACHING (1) I, II**

Classroom observation and participation in the public schools. Discussion and analysis of such experience. Required of students who take EE S222.

**EE 320 LANGUAGE ARTS, ELEMENTARY (3) I, II**

Modern approach to the teaching of language arts—reading, oral and written expression. Pre: EE 220.

**EE 322 SOCIAL STUDIES, ELEMENTARY (2) I, II**

The major purposes of this course are to point out the special contribution of the social studies to the elementary curriculum and to aid students in developing sound instructional programs and procedures in elementary social studies. Pre: EE 220.

**EE 323 SCIENCE, ELEMENTARY (2) I, II**

Science education in the elementary school; developing concepts and understandings. Pre: EE 220.

**EE 324 MATHEMATICS, ELEMENTARY (3) I, II**

Purposes, procedures, scope, and organization in developing underlying concepts of elementary mathematics; analysis of new elementary mathematics programs; techniques, relative merits, and roles of inductive and deductive approaches to new ideas. Pre: EE 220; Mathematics 111.

**EE 326 CREATIVE ART, ELEMENTARY (2) I, II**

Understanding the scope and importance of art in the elementary school curriculum, and the creative use of art media through laboratory experiences. Pre: EE 220; Art 103. Course fee \$7.50.

**EE 330 CREATIVE EXPRESSION IN ELEMENTARY EDUCATION (3) I**

The development of communication skills through creative dramatics, rhythmic movement, and the related arts. Pre: EE 220.

**EE 390 STUDENT TEACHING, ELEMENTARY (14) I, II**

Supervised experience in the University Preschool and in off-campus public schools on a semester basis in a particular age or grade level, nursery through grade six. Pre: EE 221, S 222, or 224.

**EE 391 SEMINAR FOR STUDENT TEACHERS (2) I, II**

This course is designed to provide opportunities for student teachers to conceptualize their experiences, to develop group membership skills, and to assume leadership roles. To be taken concurrently with EE 390.

**EE 399 DIRECTED READING (Ar.) I, II**

Individual reading or research. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in education. Pre: consent of instructor and department chairman.

**EE 620 TEACHING READING IN THE ELEMENTARY SCHOOL (2) I, II**

Theory and practice in the teaching of reading from the initial readiness stage through the intermediate (upper elementary) grades. Current practices in methodology, organizational patterns and evaluation are examined critically.

**EE 621 MODERN LANGUAGE ARTS PROGRAM, ELEMENTARY (2) II**

Current research; critical examination of educational procedures in teaching the language arts. Pre: basic course in teaching language arts; teaching experience. (Not offered 1964-65.)

**EE 622 ELEMENTARY SCHOOL CURRICULUM (3) I**

Theoretical foundations of curriculum development; curriculum research; critical examination of current practices in curriculum development for the elementary school. Pre: EE 221, 224, or equivalent; teaching experience.

**EE 623 THE ELEMENTARY SCIENCE CURRICULUM (2) I**

Application of recent developments in science, curriculum construction, and learning theory to the elementary school. Pre: EE 323 and teaching experience. (Not offered 1964-65.)

**EE 624 THE ELEMENTARY MATHEMATICS CURRICULUM (2) I**

Application of recent developments in mathematics, curriculum construction, and learning theory to the elementary school. Pre: EE 324 and teaching experience.

**EE 625 THE ELEMENTARY SOCIAL STUDIES CURRICULUM (2) II**

An examination and evaluation of social science content, societal values and research findings as a basis for the development and revision of social studies materials, texts, curriculum guides, and methodology. Pre: EE 322 and teaching experience.

**EE 626 ART IN ELEMENTARY EDUCATION (2) II**

Principles of and problems in teaching art in the elementary school; curriculum development and current approaches in art education; laboratory experiences in art media. Pre: Art 103; EE 326. Course fee \$7.50. (Not offered 1964-65.)

**EE 630 CURRICULUM DEVELOPMENT IN CREATIVE EXPRESSION (3) II**

Leadership training for teachers of creative dramatics, rhythmic movement, and the related arts. Pre: EE 330, Drama 410 or consent of instructor.

**EE 667 CURRICULUM TRENDS IN EARLY CHILDHOOD EDUCATION (3) I**

Study of current issues and problems in kindergarten and early elementary education with emphasis on program planning for curriculum improvement. Pre: EE 221, 224 or equivalent, and teaching experience.

**EE 690 INTERNSHIP, ELEMENTARY (14) I, II**

Full-time teaching under special supervision. Restricted to fifth-year students. First semester work begins September 1, 1964; second semester ends June 6, 1965.

**EE 691 SEMINAR FOR INTERN TEACHERS (2) I, II**

Problems arising from classroom experiences of intern teachers. Restricted to fifth-year students. To be taken concurrently with EE 690.

**EE 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**EE 722 SEMINAR IN ELEMENTARY CURRICULUM FOUNDATIONS (3) II**

Advanced study in the development and improvement of the curriculum of the elementary schools. Pre: EE 622; consent of instructor. May be repeated once for credit.

## **Health and Physical Education (HPE)**

Professor SAAKE; Associate Professors GAY, GUSTUSON, VASCONCELLOS; Assistant Professors BEAMER, CHUI, CURTIS, O'BRIEN, SAKAMOTO, VAN DEGRIFT; Instructors ASATO, BRUHN, FURUKAWA, GIBSON, THOMPSON

*An activities and locker fee of \$3.00 is assessed in 101-120, except for bowling.*

**HPE 101 AQUATIC ACTIVITIES (1) I, II**

Skill, knowledge, attitudes, and appreciation. Separate sections: swimmers, non-swimmers.

**HPE 102 INDIVIDUAL AND DUAL ACTIVITIES (1) I, II**

Skill, knowledge, attitudes, and appreciation. Separate sections: golf, tennis, badminton, bowling.

**HPE 103 TEAM SPORTS (1) I, II**

Skills, knowledge, attitudes, and appreciation. Combination volleyball and softball; combination basketball and soccer. Separate sections for men and women.

**HPE 104 COMBATIVE ACTIVITIES (1) I, II**

Skills, knowledge, attitudes, and appreciation. Combination judo and wrestling

**HPE 105 RHYTHMIC ACTIVITIES (1) I, II**

Skills, knowledge, attitudes, and appreciation. Combination social dancing and folk dancing.

**HPE 106 PRESCRIBED EXERCISES (1) I, II**

Exercises adapted to individual needs, capacities, and interests.

**HPE 107 DEVELOPMENTAL AND GYMNASTIC ACTIVITIES (1) I, II**

Skills, knowledge, attitudes, and appreciation. Combination tumbling, trampoline, parallel bars, etc.

**HPE 111 INTERMEDIATE SWIMMING (1)**

For students who have met basic requirements and desire to develop additional skills in swimming and diving. (Not offered 1964-65.)

**HPE 113 ADVANCED TENNIS (1) II**

For those interested in developing advanced skills and strategy in tennis.

**HPE 114 DEVELOPMENTAL ACTIVITIES (1-1) Yr.**

Exercises with and without apparatus selected to meet personal needs; various forms and systems of exercise surveyed.

**HPE 115 TUMBLING (1) I**

Exercises suitable for use with child and adult groups.

**HPE 116 HEAVY APPARATUS (1) II**

Heavy apparatus, including trampoline, for the development of balance, strength, and skills.

**HPE 118 TRAMPOLINE (1) II**

History, principles, methods, safety procedures. Tumbling and exercises.

**HPE 120 MUSIC AND RHYTHMS IN PHYSICAL EDUCATION (2) II**

The use of music in the activity program. Includes a brief survey of the various rhythmic patterns and their applications.

**HPE 123 FOLK AND NATIONAL DANCES (1) I**

Selected dances of various national groups now in popular use. Square dances included.

**HPE 124 DANCES OF HAWAII (1) II**

Introduction to the hula. The background and fundamentals will be presented, and selected dances given. Activities and locker fee \$3.00.

**HPE 127 INTERMEDIATE GOLF (1) II**

For those with some experience. Introduction to strategy of course-play while improving basic skills.

**HPE 128 ADVANCED GOLF (1) II**

For those with considerable experience. Advanced strategy and techniques, scoring, handicapping, rules and conditions relating to tournament play.

**HPE 130 PERSONAL HYGIENE (1) I, II**

Scientific health information as a basis for hygienic living. Personal health problems.

**HPE 132 PERSONAL HEALTH (2) I**

The proper care of the body and development of desirable health habits and attitudes. Intended primarily for majors in physical education and recreation.

**HPE 140 NATURE AND FUNCTION OF PLAY (2) II**

Place of play in community and school life; applications to the various age groups.

**HPE 170 INTRODUCTION TO PHYSICAL EDUCATION (2) II**

Designed for prospective teachers and leaders in physical education and recreation; objectives, needs, procedures, and outcomes in physical education activities.

**HPE 215 ATHLETIC COACHING, FOOTBALL AND BASKETBALL (2) I**

Fundamentals, position play, team play, and strategy in football and basketball.

**HPE 217 ATHLETIC COACHING, BASEBALL AND TRACK (2) II**

Fundamentals, position play, and strategy in baseball; basic skills; analysis of form, and conditioning in track.

**HPE 219 COACHING OF SWIMMING (2) II**

Designed for those interested in the development of swimming teams in schools and other agencies. Content and method emphasized.

**HPE 221 PHYSICAL EDUCATION, ELEMENTARY (2) I, II**

Content and method for elementary school programs. Adaptions to meet situations with like age groups outside of school. Activities and locker fee \$3.00.

**HPE 222 SKILLS AND ACTIVITIES IN SECONDARY PHYSICAL EDUCATION (2) II**

Analysis of activities and methods for junior and senior high school programs.

**HPE 225 THE TEACHING OF INDIVIDUAL SPORTS (2) I**

Organization and teaching of athletic activities for girls, such as tennis, archery, badminton, golf, etc., on the secondary level.

**HPE 227 THE TEACHING OF TEAM SPORTS (2) II**

Techniques of teaching fundamentals and strategy of team games for girls and women.

**HPE 230 SCHOOL HEALTH PROBLEMS (2) I, II**

Responsibilities of the classroom teacher in recognizing and meeting the health needs of the school child; school and community official and voluntary agencies.

**HPE 231 METHODS AND MATERIALS IN HEALTH EDUCATION (2) II**

Organization and content, methods and materials for health teaching in elementary and secondary schools.

**HPE 234 SAFETY PROCEDURES AND FIRST AID (2) I**

Prevention and emergency treatment of injuries, emphasis upon school, playground, and athletic situations. Practical work in first aid. Red Cross Certificate may be earned.

**HPE 235 THE HEALTH EDUCATION CURRICULUM (2) I**

Procedures for the development and construction of the health education program with emphasis on the health needs and interests of school age children.

**HPE 236 EVALUATION IN HEALTH EDUCATION (2) II**

Processes involved in appraising the effectiveness of health education program. Practice in use and development of evaluation instruments.

**HPE 239 HEALTH OF THE SCHOOL CHILD (2) I**

Deals with various problems in child health and the role of the school in meeting them.

**HPE 241 SOCIAL RECREATION (2) I**

Activities and leadership techniques for parties, socials, etc.

**HPE 245-246 OFFICIATING IN ATHLETICS (2-2) Yr.**

Techniques used by officials in the various sports. Practice in officiating is included.

**HPE 248 HOBBIES IN RECREATION (2) II**

Development of procedures and skills in various hobbies for recreation majors. Others by permission of instructor only.

**HPE 249 CAMP LEADERSHIP (2) II**

Program development; procedures in modern camping; relationships with educational and other agencies. For recreation majors; others with consent of instructor.

**HPE 250-251 RECREATION LEADERSHIP (2-2) Yr.**

Students assigned to recreational agencies for orientation. One hour per week in discussion of individual and group problems. Pre: consent of instructor.

**HPE 252-253 FIELD WORK IN RECREATION (5-5) Yr.**

Students assigned to recreational agencies for experience. One hour per week in discussion of problems. Pre: consent of instructor. For recreation majors only.

**HPE 263 INTRAMURAL ATHLETICS (2) I**

Organization, program, and procedures used in conducting a sports program for students outside of regular class hours.

**HPE 276 CURRENT TRENDS IN HEALTH (2) II**

A critical analysis of current problems and trends in basic health education areas which contribute to healthful living in the community, home, and school.

**HPE 280 ANATOMY IN PHYSICAL EDUCATION (3) I**

Designed to develop an understanding of muscle action during activity. Primarily for leaders in physical education and recreation but open to others.

**HPE 285 PHYSIOLOGY IN PHYSICAL EDUCATION (3) II**

Essentials necessary in teaching health practices; activities to meet individual and group needs. Primarily for leaders in physical education and recreation but open to others.

**HPE 332 THE SCHOOL'S ROLE IN COMMUNITY HEALTH (2) II**

Historical and modern developments of health problems with special emphasis on interpretation of their effect on individual and community life. Promotion of community health programs for the solution of current health problems. Pre: HPE 230, or consent of instructor.

**HPE 399 DIRECTED READING (Ar.) I, II**

Individual problems. Limited to seniors in the recreation leadership curriculum with 2.7 grade-point ratio, or 3.0 grade-point ratio in health and physical education.

**HPE 631 ORGANIZATION AND ADMINISTRATION OF THE SCHOOL HEALTH PROGRAM (2)**

Underlying principles, organization for health including health services, healthful school living, health and safety instruction; interrelationships with community agencies. Pre: HPE 230, 231, 235, 236, and 239. (Not offered 1964-65.)

## History and Philosophy of Education (HP)

Professors ANDERSON, AUSTIN; Associate Professor AMIOKA; Assistant Professors BOYER, STEUBER; Instructor J. ALM

*Qualified graduate students in other colleges may enroll in courses in this department with consent of instructor.*

### HP 100-101 INTRODUCTION TO EDUCATION (1-1) Yr.

The teacher as a person; teaching as a profession; choice of a teaching field. Course fee \$1.00 first semester.

### HP 360 FUNDAMENTAL IDEAS IN EDUCATION (2) I

Examination of basic ideas influencing modern education; sociological, psychological, and philosophical considerations; for juniors in the Honors Program.

### HP 570 ANTHROPOLOGY AND EDUCATION (3) II

Education as a means of transmitting culture. Socialization in nonliterate societies; universal aspects of the process. Cross-cultural education. (Identical with Anthropology 515.)

### HP 650 HISTORY OF EDUCATION (3) I, II

History of Western educational thought and practice as a basis for the study of modern school problems.

### HP 660 PHILOSOPHY OF EDUCATION (3) I, II

Philosophy and science in education; social, psychological, and ethical considerations essential to a philosophy of education. Pre: student teaching.

### HP 670 COMPARATIVE EDUCATION: EUROPE AND AMERICA (3) I

Comparison of the ways in which contemporary Western societies undertake to meet their educational problems.

### HP 671 COMPARATIVE EDUCATION: THE ORIENT (3) I

Study of the educational problems, practices, and institutions in the countries of Asia.

### HP 672 EDUCATION AND THE WORLD COMMUNITY (3) I

The world community and its relationship to education; representative cultures; aims and programs of the U.N.; cross-cultural learning.

### HP 681 (661) THE CHURCH AND THE SCHOOL (2)

Church, state, and school relationships in the U.S., Canada, Latin America, and Europe. Pre: HP 660.

### HP 683 (663) SOCIAL FOUNDATIONS OF EDUCATION (3) I

The impact on education of major social trends and forces operating in American society; social change and education.

### HP 684 (664) INTERPERSONAL RELATIONSHIPS IN EDUCATION (3)

Philosophical and psychological considerations in personal relationships in family and school. (Not offered 1964-65.)

### HP 685 (665) EDUCATION IN AMERICA (3) I

A comprehensive overview of the American educational scene from nursery school to graduate and professional schools, public and private; problems of support, organization, curriculum, methods, teacher preparation. Designed primarily for students who are not Americans.



**HP 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**HP 751 HISTORY OF AMERICAN EDUCATION (3) II**

History of educational thought and practice in America, with major emphasis on the 19th and 20th centuries. Pre: HP 650.

**HP 757 EDUCATIONAL CLASSICS (2) II**

Intensive study of English translations of major contributions to Western educational thought from Plato to Dewey. Pre: HP 650. (Alt. yrs.; not offered 1964-65.)

**HP 763 SEMINAR IN EDUCATIONAL THEORY (2) I, II**

(1) Educational issues; (2) John Dewey; (3) Contemporary Educational Philosophers; (4) Japanese Educational Philosophy; (5) History of Education. Pre: HP 660. May be repeated.

**HP 765 COMPARATIVE IDEOLOGIES AND EDUCATION (2) I**

Critical analyses of contemporary ideologies and social philosophies with particular reference to implications for educational policies and practices.

**HP 768 SEMINAR IN PROBLEMS IN EDUCATION (2) II**

Study and discussion of significant topics and problems. Required of Plan B M.Ed. candidates in their final semester or summer session. Pre: EP 708.

**HP 770 SEMINAR IN COMPARATIVE EDUCATION (2) II**

(1) East Asia; (2) South Asia; (3) Southeast Asia; (4) Latin America; (5) Africa; (6) USSR and Eastern Europe; (7) Western Europe; (8) the British Commonwealth. Pre: HP 670 or 671. May be repeated.

## **Industrial Education (IE)**

Professor VANDEBERG

**IE 101 WOOD FABRICATION AND TECHNOLOGY (3) I**

Fundamental operations and technology of wood fabrication. Design and fabrication of projects. Course fee \$10.00.

**IE 102 METAL FABRICATION AND TECHNOLOGY (3) I**

Fundamental operations in metal fabrication. Projects in benchmetal, sheetmetal, tempering, machining. Course fee \$10.00.

**IE 107 BASIC DRAFTING AND DESIGN FOR INDUSTRIAL EDUCATION (3) I**

Drafting and design as the language of industry; basic drafting and design principles and techniques, perspective, orthographic, isometric, and development problems; contemporary design as applied to fabrication.

**IE 108 DRAFTING AND DESIGN FOR INDUSTRIAL EDUCATION (3) II**

Continuation of IE 107. Machine and assembly drafting; auxiliary views and sectioning, architectural and technical illustration.

**IE 201 ELECTRICITY (3) I**

Series and parallel circuits, magnetism, electromagnetism, measuring instruments, generator and motor principles. Course fee \$10.00. (Not offered 1964-65.)

**IE 202 ELECTRICITY (3) II**

Circuits, coils, motors, generators, transformers; inductance; conduit wiring; radio. Course fee \$10.00. (Not offered 1964-65.)

**IE 206 POWER MECHANICS (3) I**

Basic power units: internal combustion engines. Experience with hand tools in repair of two- and four-cycle engines.

**IE 300 INDUSTRIAL CRAFTS—JEWELRY AND LAPIDARY (2) I**

Design, processes, and materials of jewelry making; lapidary processes and materials for polishing semi-precious gemstones; black coral polishing and mounting.

**IE 301 INDUSTRIAL CRAFTS—LEATHER (2) II**

Design and fabrication of leather products. Materials and processes taught through creative projects and problems.

**IE 302 INDUSTRIAL CRAFTS—PLASTICS AND WOOD SCULPTURE (2) II**

Design and fabrication of plastics projects; materials and processes of metal enameling; other industrial crafts native to Hawaii. (Not offered 1964–65.)

**IE 303 ADVANCED WOOD FABRICATION AND TECHNOLOGY (3) II**

Nomenclature, setup, and operation of power equipment. Design, patterns, jigs, and templates; production procedures. Course fee \$10.00.

**IE 304 ADVANCED METAL FABRICATION AND TECHNOLOGY (3) II**

Organization layout, equipment, management, uses of instructional material. Selected projects in benchmetal, forging, heat-treating, machine shop, oxyacetylene welding, and cutting. Course fee \$10.00.

**IE 307 ADVANCED DRAFTING AND DESIGN (3) II**

Drafting and design principles in fabrication of industrial products; problems of wood, metal, other materials; architectural drafting. Application to instruction. (Not offered 1964–65.)

**IE 309 THE GRAPHIC ARTS (3)**

Survey course for industrial education majors and others desiring experiences in printing and allied industrial processes. Job press, multilithography, photography as applied to printing, and related technical and production processes. (Not offered 1964–65.)

**IE 348 INDUSTRIAL ARTS FOR ELEMENTARY TEACHERS (2)**

Hand and simple machine tool instruction taught through selected elementary education projects and units. (Not offered 1964–65.)

**IE 401 PROBLEMS IN INDUSTRIAL EDUCATION (Ar.) I, II**

A program arranged for specialization in several technical areas. May be repeated for total of 5 credits.

**IE 402 IMPROVEMENT OF INSTRUCTION, INDUSTRIAL EDUCATION (Ar.) I, II**

Consideration of problems in teaching industrial education. May be repeated for total of 5 credits.

**IE 764 SEMINAR IN INDUSTRIAL EDUCATION (2) II**

Individual study of special problems.

## **Library Science (LS)**

Assistant Professors GEISER, TOM; Instructor CROCKETT

*Students may enroll in courses only after consultation with instructors concerned. Individual problems may be registered for under 699.*

**LS 301 INTRODUCTION TO LIBRARIANSHIP (3) II**

Development, function, and operation of libraries as social institutions; orientation to librarianship. Observation of various types of libraries.

**LS 310 THE LIBRARY IN TEACHING (2) I, II**

For prospective teachers and librarians. Use of the library in classroom instruction; uses of school and public library resources; teaching library skills.

**LS 320 REFERENCE MATERIALS (3) I**

Introduction to basic types of reference sources; their evaluation, content, use.

**LS 340 CATALOGUING AND CLASSIFICATION (3) I, II**

Introduction to the Dewey Decimal classification; dictionary cataloguing; subject headings and filing. Pre: typing ability. Course fee \$3.00.

**LS 399 DIRECTED READING (Ar.) I, II**

Individual problems. Limited to seniors in the library science curriculum with 2.7 grade-point ratio, or 3.0 grade-point ratio in library science. Pre: consent of instructor and department chairman.

**LS 430 BOOK SELECTION AND READING GUIDANCE (3)**

Selection and use of school library materials in terms of the curriculum and children's needs and interests. Pre: EE 225 or SE 235. (Not offered 1964-65.)

**LS 608 SCHOOL LIBRARY ADMINISTRATION (3)**

Philosophy, problems, and procedures in organizing, administering, and developing school library programs. Pre: EE 390 or SE 390; LS 340, 430. (Not offered 1964-65.)

**LS 610 PROMOTING LIBRARY USE (2) I**

Techniques of staff and public relations; book lists and school news; book talks and story-telling; bulletin boards and exhibits. (Not offered 1964-65.)

**LS 640 ADVANCED TECHNICAL PROCESSES (2)**

More detailed cataloguing problems, including the organization of audio-visual aids. Pre: typing ability. Course fee \$3.00. (Not offered 1964-65.)

**LS 680 SEMINAR IN SCHOOL LIBRARY PROBLEMS (2)**

Analysis of major problems, issues, and practices in the school library field. For in-service librarians and graduate students. (Not offered 1964-65.)

**LS 690 LIBRARY INTERNSHIP (14) I, II**

Full-time supervised service in laboratory or public school libraries. Pre: LS 301, 320, 340, 430; EE 390 or SE 390.

**LS 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

## **Secondary Education (SE)**

Professors R. ALM, MARTIN, MEYER, VANDEBERG; Associate Professors IN, NELSON, NODA, PICKENS; Assistant Professors DAVIS, DEQUELJOE, FUKUI, FULTZ, IHARA, MORIWAKI, WHITMAN; Instructors J. ALM, TOMINAGA

*Credit for 690 and 691 does not apply to graduate degree programs.*

**SE 230 SECONDARY EDUCATION (4) I, II**

Basic course dealing with the major problems of secondary education. Pre: Psychology 250.

**SE 235 LITERATURE FOR ADOLESCENTS (2) I**

Literature for the secondary school level; helping students appreciate the significance and meaning of literature; materials suitable for varying levels of ability and interests.

**SE 237 MATHEMATICS IN THE JUNIOR HIGH SCHOOL (2) I**

Arithmetic beyond fundamental processes; "general mathematics" courses; arithmetic in other courses.

**SE 238 PHYSICAL EDUCATION, SECONDARY (2) I**

Methods and materials in conduct of the physical activities program; techniques in leadership; selection of activities and program evaluation. Pre: SE 230.

**SE 290 PARTICIPATION TEACHING (1) I, II**

Classroom experiences and discussion and analysis of such experiences. Concurrent registration with major field methods course. May be repeated once for credit. Pre: SE 230.

**SE 330 LANGUAGE ARTS, SECONDARY (3) I, II**

Teaching of speaking, reading, writing, and listening in the secondary school; literature, grammar, usage, spelling. Pre: SE 230.

**SE 331 TEACHING OF READING IN INTERMEDIATE AND HIGH SCHOOL (2) I**

Techniques and materials for teaching reading and improving reading skills in the intermediate and high school.

**SE 332 SOCIAL STUDIES, SECONDARY (3) I, II**

Scope and organization of social studies in the secondary school; development of social knowledge and understanding. Pre: SE 230.

**SE 333 SCIENCE, SECONDARY (3) I, II**

Purposes and procedures; development of scientific attitude; review of the major generalizations of the biological and physical sciences. Pre: SE 230.

**SE 334 MATHEMATICS, SECONDARY (3) I, II**

Purposes and procedures; development of basic mathematical concepts. Pre: SE 230; Math 132, 421.

**SE 335 FOREIGN LANGUAGES, SECONDARY (3) I, II**

Techniques and materials; aims, motivation, tests; infusion of cultures; use of instructional aids. Pre: SE 230.

**SE 336 ART, SECONDARY (3) I, II**

Purposes and procedures; the arts in relation to all school subjects. Pre: SE 230; Art 103–104. Course fee \$2.00.

**SE 337–338 SCHOOL MUSIC, SECONDARY (3–2) Yr.**

Objectives, materials, and procedures of general, instrumental, and choral music in the secondary school. Pre: SE 230.

**SE 339 SPEECH AND DRAMATICS, SECONDARY (3) I, II**

Techniques for teaching types of speech and play analysis and direction, production, and management problems. Pre: SE 230.

**SE 346 METHODS OF INSTRUCTION, INDUSTRIAL EDUCATION (3) II**

Techniques of individual and group instruction in laboratory and related classes; evaluation of various methods. Pre: SE 230.

**SE 347 ORGANIZATION AND MANAGEMENT OF INDUSTRIAL EDUCATION (2) II**

Organization of instruction, handling supplies; maintaining equipment and tools; purchasing materials; keeping records; making inventories. Pre: SE 230.

**SE 348 TYPEWRITING AND SHORTHAND (2) I**

Theory and methods of teaching typewriting and shorthand. Pre: SE 230; Business 270–272.

**SE 349 BOOKKEEPING AND OFFICE PRACTICE (2) II**

Teaching bookkeeping, office practice, and other subjects in the secondary school business education curriculum. Pre: SE 230; Business 150-151.

**SE 390 STUDENT TEACHING, SECONDARY (14) I, II**

Supervised experience in the University High School or public school. Pre: SE 230 and appropriate methods course. Follows laboratory school or public school calendar.

**SE 391 SEMINAR FOR STUDENT TEACHERS (2) I, II**

Study of problems arising from experience as student teachers. To be taken concurrently with SE 390 or 392.

**SE 392 STUDENT TEACHING IN HOME ECONOMICS (6) I, II**

Observation, supervised teaching, and conferences. Pre: senior standing; credit or concurrent registration in Home Economics 270.

**SE 399 DIRECTED READING (Ar.) I, II**

Individual reading or research. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in education. Pre: consent of instructor and department chairman.

**SE 437 CURRICULUM DEVELOPMENT, INDUSTRIAL EDUCATION (2)**

Curriculum development in industrial arts with special emphasis on the planning of courses of studies for both intermediate and senior high school offerings. (Not offered 1964-65.)

**SE 631 MODERN LANGUAGE ARTS PROGRAM, SECONDARY (2) I**

Survey of research; critical examination of educational procedures in teaching the language arts. Pre: basic course in teaching language arts.

**SE 634 EXTRACLASS ACTIVITIES IN SECONDARY SCHOOLS (2) I, II**

Planning and supervising student government, dramatics, athletics, school journalism, and other activities.

**SE 635 JUNIOR HIGH SCHOOL CURRICULUM (3) I, II**

Programs for the intermediate school; relationship of teachers, administrators, and parents; curriculum problems; evaluation. Pre: teaching experience.

**SE 636 SECONDARY SCHOOL CURRICULUM (3) I**

Principles and techniques of curriculum improvement at the secondary school level. Pre: teaching experience.

**SE 637 ART IN SECONDARY EDUCATION (3)**

Principles of and problems in teaching art in the secondary school; current approaches in teaching art. Pre: SE 336 and consent of instructor. Course fee \$7.50. (Not offered 1964-65.)

**SE 640 SEMINAR IN SPECIAL METHODS (3) I, II**

A study of trends, research data, problems of implementation in special methods of teaching in secondary school fields of study: (1) Business Education, (2) English Education, (3) Foreign Language Education, (4) Health and Physical Education, (5) Home Economics Education, (6) Industrial Education, (7) Mathematics Education, (8) Science Education, (9) Social Studies Education, (10) Speech Education. Pre: Undergraduate special methods course in appropriate teaching field; teaching experience. Field of study must be designated at registration.

**SE 672 TEACHING AIDS ON ASIA (2) I**

Methods and materials in teaching about Asian nations, including the screening and suggested use of appropriate films and slides on each country, and a sampling of music and the visual arts. Pre: consent of instructor.

**SE 690 INTERNSHIP, SECONDARY (14) I, II**

Full-time teaching under special supervision. Restricted to fifth-year students. First semester work begins September 1, 1964; second semester ends June 6, 1965.

**SE 691 SEMINAR FOR INTERN TEACHERS (2) I, II**

Problems arising from classroom experiences of intern teachers. Restricted to fifth-year students. To be taken concurrently with SE 690.

**SE 699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor and department chairman.

**SE 733 SEMINAR IN CURRICULUM, SECONDARY (3) I, II**

Advanced study in the development and improvement of the curriculum of the secondary schools. Required of Plan B M.Ed. candidates in their final semester or summer session. Pre: SE 636; consent of instructor. May be repeated once for credit.

**SE 737 FOUNDATIONS IN ART EDUCATION (3)**

Advanced study in the development and growth of art in secondary education. Pre: SE 336, 637, consent of instructor; desirable, Philosophy 500. (Not offered 1964-65.)

# **COLLEGE OF ENGINEERING**

**THE COLLEGE OF ENGINEERING** prepares students for civil, electrical, mechanical, and general engineering.

## **Admission and Degree Requirements**

Engineering programs require special preparation in addition to the requirements for admission to the University (pp. 18–22). Students are selected for the College of Engineering on the basis of aptitude tests and high school records. Those who lack the required special preparation, or who are unable to carry heavy academic schedules, or who elect advanced military or air science, usually need more than four years to meet degree requirements, and should plan on a five-year program.

To be eligible for the bachelor of science degree a student must:

- 1) Complete the course requirements for one of the curricula;
- 2) have an aggregate of 130 semester hours of credit;
- 3) have a 2.0 grade-point ratio for all registered credits;
- 4) have not more than three grades of *D* for required courses in physics, mathematics, and engineering.

## **Curricula**

Four-year curricula lead to the degree of bachelor of science in civil, electrical, general, or mechanical engineering. These curricula are designed as three integrated programs to prepare the student to undertake the responsibility of an engineer:

- 1) Humanistic and social studies, to promote an understanding of the responsibilities of a free man.
- 2) Mathematics, physical science, and engineering science, to promote an understanding of the sciences underlying engineering.
- 3) Engineering analysis and design, to promote specialization in one field.

The first-year courses are common to all curricula.

## Common First Year

| FIRST SEMESTER                      |         | SECOND SEMESTER                    |         |
|-------------------------------------|---------|------------------------------------|---------|
|                                     | CREDITS |                                    | CREDITS |
| Chem 103 General Chemistry          | 4       | Chem 104 General Chemistry         | 4       |
| GE 100 Orientation                  | 0       | Eng 102 Composition                | 3       |
| GE 105 Engineering Graphics         | 3       | Health & Phys. Ed.                 | 1       |
| Eng 101 Composition                 | 3       | Math 141 Anal. Geom.<br>& Calculus | 3       |
| Health & Phys. Ed.                  | 1       | AS 102 or MS 102                   | 1       |
| Math 140 Anal. Geom.<br>& Calculus* | 3       | Phys 170 General Physics           | 3       |
| Sp 140 Fund. of Oral Comm.          | 2       | Phys 171 General Physics Lab       | 1       |
| AS 101 or MS 101                    | 1       |                                    |         |
| Total                               | 17      | Total                              | 16      |

## Civil Engineering Curriculum

| SECOND YEAR                    |    |                             |    |
|--------------------------------|----|-----------------------------|----|
| CE 111 Surveying               | 2  | CE 112 Surveying            | 3  |
| CE 170 Applied Mechanics       | 3  | CE 271 Applied Mechanics II | 3  |
| CE 110 Computer<br>Programming | 1  | Hist 171 American History   | 3  |
| Eng 155 Literature             | 3  | Math 143 Calculus           | 3  |
| Math 142 Calculus              | 3  | AS 152 or MS 152            | 1  |
| AS 151 or MS 151               | 1  | Phys 174 General Physics    | 4  |
| Phys 172 General Physics       | 3  |                             |    |
| Phys 173 General Physics Lab   | 1  |                             |    |
| Total                          | 17 | Total                       | 17 |

| THIRD YEAR                           |    |                                      |    |
|--------------------------------------|----|--------------------------------------|----|
| CE 220 Fluid Mechanics               | 3  | CE 222 Fluid Mechanics II            | 3  |
| CE 221 Hydraulic Lab                 | 1  | CE 274 Mechanics of Materials        | 3  |
| CE 241 Mechanics of<br>Materials Lab | 1  | CE 351 Soil Mechanics                | 3  |
| CE 273 Mechanics of Materials        | 4  | ME 231 Thermodynamics                | 3  |
| EE 102 Electrical Science            | 3  | Econ 150 Principles of               | 3  |
| Elective (Human. or Soc.<br>Studies) | 3  | Elective (Human. or Soc.<br>Studies) | 3  |
| Math Elective†                       | 3  |                                      |    |
| Total                                | 18 | Total                                | 18 |

| FOURTH YEAR                          |    |                                      |    |
|--------------------------------------|----|--------------------------------------|----|
| CE 300 Engineering Economy           | 2  | CE 302 Contracts & Specific.         | 2  |
| CE 331 Sanitary Engineering          | 3  | CE Electives II and III‡             | 7  |
| CE 360 Transportation<br>Engineering | 3  | Eng 210 or 215                       | 3  |
| CE 380 Structural Design             | 4  | Elective (Human. or Soc.<br>Studies) | 3  |
| CE Elective I                        | 3  |                                      |    |
| Elective (Human. or Soc.<br>Studies) | 3  |                                      |    |
| Total                                | 18 | Total                                | 15 |

\*Math 103 may be required if math preparation is inadequate.

†Any math course numbered 200 or above.

‡CE Elective I: CE 321 or CE 385.

CE Elective II & III: CE 325, 326; or CE 386, 388; CE 362, 364.



## Electrical Engineering Curriculum

### SECOND YEAR

| FIRST SEMESTER               |           | SECOND SEMESTER                  |           |
|------------------------------|-----------|----------------------------------|-----------|
|                              | CREDITS   |                                  | CREDITS   |
| CE 170 Applied Mechanics     | 3         | CE 271 Applied Mechanics II      | 3         |
| GE 110 Computer Programming  | 1         | EE 211 Circuit Theory I          | 3         |
| Econ 150 Principles of       | 3         | Hist 171 American History        | 3         |
| Eng 155 Literature           | 3         | Math 143 Calculus                | 3         |
| Math 142 Calculus            | 3         | AS 152 or MS 152                 | 1         |
| AS 151 or MS 151             | 1         | Phys 174 General Physics         | 4         |
| Phys 172 General Physics     | 3         | Phys 253 Electrical Measurements | 1         |
| Phys 173 General Physics Lab | 1         |                                  |           |
| <b>Total</b>                 | <b>18</b> | <b>Total</b>                     | <b>18</b> |

### THIRD YEAR

*All electives require advisor's approval*

|                                  |           |                                   |           |
|----------------------------------|-----------|-----------------------------------|-----------|
| ME 243 Mechanics of Solids       | 3         | EE 221 Electronics I              | 3         |
| EE 212 Circuit Theory II         | 5         | EE 232 Traveling Waves Lab        | 1         |
| EE 223 Circuits Laboratory       | 1         | EE 242 Traveling Waves            | 3         |
| Math 401 Differential Equations  | 3         | EE 351 Energy Conversion          | 3         |
| Phys 440 Electronics             | 3         | EE 353 Conversion Lab             | 1         |
| Phys 350 Electricity & Magnetism | 3         | Phys 550 Electromagnetic Waves    | 3         |
| <b>Total</b>                     | <b>18</b> | Elective (Human. or Soc. Studies) | 3         |
|                                  |           | <b>Total</b>                      | <b>17</b> |

### FOURTH YEAR

*All electives require advisor's approval*

|                                   |           |                                    |           |
|-----------------------------------|-----------|------------------------------------|-----------|
| EE 321 Electronics II             | 3         | EE 373 Electives Lab II            | 1         |
| EE 323 Electronics Lab            | 1         | ME 231 Thermodynamics              | 3         |
| EE 322 Electives Lab I            | 1         | Electives (Technical)*             | 6         |
| Elective (Technical)*             | 3         | Electives (Human. or Soc. Studies) | 6         |
| Elective (Technical)*             | 3         |                                    |           |
| Eng 210 or 215                    | 3         |                                    |           |
| Elective (Human. or Soc. Studies) | 3         |                                    |           |
| <b>Total</b>                      | <b>17</b> | <b>Total</b>                       | <b>16</b> |

\*Technical Electives: Any mathematics, physics, or engineering courses numbered 200 or above approved by adviser; at least 6 credits must be in electrical engineering courses.

# General Engineering Curriculum

## SECOND YEAR

| FIRST SEMESTER               |         | SECOND SEMESTER             |         |
|------------------------------|---------|-----------------------------|---------|
|                              | CREDITS |                             | CREDITS |
| GE 110 Computer Program      | 1       | CE 271 Applied Mechanics II | 3       |
| CE 111 Surveying             | 2       | Econ 150 Principles of      | 3       |
| CE 170 Applied Mechanics     | 3       | Hist 171 American History   | 3       |
| Eng 155 Literature           | 3       | Math 143 Calculus           | 3       |
| Math 142 Calculus            | 3       | AS 152 or MS 152            | 1       |
| AS 151 or MS 151             | 1       | Phys 174 General Physics    | 4       |
| Phys 172 General Physics     | 3       |                             |         |
| Phys 173 General Physics Lab | 1       |                             |         |
| Total                        | 17      | Total                       | 17      |

## THIRD YEAR

|                                   |    |                                   |    |
|-----------------------------------|----|-----------------------------------|----|
| CE 241 Mechanics of Materials Lab | 1  | CE 220 Fluid Mechanics            | 3  |
| CE 273 Mechanics of Materials     | 4  | CE 221 Hydraulics Lab             | 1  |
| ME 231 Thermodynamics             | 3  | CE 274 Mechanics of Materials     | 3  |
| Math 401 Differential Equations   | 3  | EE 102 or 211                     | 3  |
| Phys 350 Electricity & Magnetism  | 3  | ME 232 Adv. Thermodynamics        | 3  |
| Elective (Human. or Soc. Studies) | 3  | Elective (Human. or Soc. Studies) | 3  |
| Total                             | 17 | Total                             | 16 |

## FOURTH YEAR

|                                   |    |  |    |
|-----------------------------------|----|--|----|
| Eng 210 or 215                    | 3  | EE 221 Basic Electronics Lab                   | 3  |
| EE 203 or 223                     | 1  | CE 300 Engineering Economy                     | 2  |
| EE 301 or 212                     | 3  | Elective (Human. or Soc. Studies)              | 3  |
| ME 366 Materials Science          | 3  | Electives—9 credits (Schedule a, b, c, or d,)* | 9  |
| Phys 440 Electronics              | 3  |  |    |
| Elective (Human. or Soc. Studies) | 3  |  |    |
| Total                             | 16 | Total  | 17 |

\*(a) EE 223, 232, 242, 351, 353; Phys 550.  
 (b) ME 234, 367, 371, 373, 374, 382, 475.  
 (c) CE 112, 222, 321, 331, 351, 360, 380, 385.  
 (d) GE 302; BAS 301; Mgt 300; PIR 300, 310, 330, 350.

## Mechanical Engineering Curriculum

### SECOND YEAR

| FIRST SEMESTER               | CREDITS   | SECOND SEMESTER                   | CREDITS   |
|------------------------------|-----------|-----------------------------------|-----------|
| CE 170 Applied Mechanics     | 3         | CE 271 Applied Mechanics II       | 3         |
| Econ 150 Principles of       | 3         | GE 110 Computer Programming       | 1         |
| Eng 155 Literature           | 3         | Hist 171 American History         | 3         |
| Math 142 Calculus            | 3         | Math 143 Calculus                 | 3         |
| AS 151 or MS 151             | 1         | AS 152 or MS 152                  | 1         |
| Phys 172 General Physics     | 3         | Phys 174 General Physics          | 4         |
| Phys 173 General Physics Lab | 1         | Elective (Human. or Soc. Studies) | 3         |
| <b>Total</b>                 | <b>17</b> | <b>Total</b>                      | <b>18</b> |

### THIRD YEAR

|                                   |           |                                   |           |
|-----------------------------------|-----------|-----------------------------------|-----------|
| ME 230 Mechanics of Fluids        | 3         | ME 232 Applied Thermodynamics     | 3         |
| ME 231 Thermodynamics             | 3         | ME 234 Measurements Lab           | 2         |
| ME 243 Mechanics of Solids        | 3         | ME 367 Materials Processing       | 3         |
| ME 366 Materials Science          | 3         | ME 371 Dynamics of Machinery      | 3         |
| Math 401 Differential Equations   | 3         | EE 102 Electrical Science         | 3         |
| Elective (Human. or Soc. Studies) | 3         | Elective (Human. or Soc. Studies) | 3         |
| <b>Total</b>                      | <b>18</b> | <b>Total</b>                      | <b>17</b> |

### FOURTH YEAR

|                             |           |                                   |           |
|-----------------------------|-----------|-----------------------------------|-----------|
| ME 333 Mechanical Engr. Lab | 2         | ME 374 Intro. to Engr. Design     | 4         |
| ME 373 Machine Design       | 3         | EE 203 Electr. Science Lab        | 1         |
| ME 475 Heat Transfer        | 3         | Electives (Technical)*            | 9         |
| EE 301 Electronics Circuits | 3         | Elective (Human. or Soc. Studies) | 3         |
| Eng 210 or 215              | 3         |                                   |           |
| Elective (Technical)*       | 3         |                                   |           |
| <b>Total</b>                | <b>17</b> | <b>Total</b>                      | <b>17</b> |

\*Technical Electives: Any mathematics, physics, or engineering courses numbered 200 or above approved by adviser, six credits must be ME courses.

## Humanistic—Social Studies Electives

The Humanistic—Social Studies Program requires each student to complete English 155, History 171, and Economics 150; and four elective courses. Two of the elective courses may be lower-division courses. Students should select these lower-division courses to meet the departmental prerequisites for the remaining two humanistic—social studies electives of their choice, which must be upper-division courses.

Humanistic—social studies electives may be any combination of courses (other than such technical courses as Economics 420–421, Geography 235, or Psychology 220, 226) from anthropology, art, drama, English, economics, geography, history, music, philosophy, political science, psychology, religion, sociology, or speech which meet the above requirements.

## Engineering Experiment Station

The functions of the Station are to encourage and administer engineering research. It sponsors research in structural engineering, water resources development, sewage disposal, electronics, microwaves, and atmospheric ionization. In cooperation with the Hawaii Institute of Geophysics, it conducts research in the hydrodynamics of tsunamis.

## ENGINEERING COURSES

*See p. 41 for a discussion of course descriptions.*

### Civil

Professors DANIEL, EVANS, GO, TINNISWOOD; Associate Professors CHIU, HASELWOOD, LAU, MITSUDA, YUEN; Assistant Professors HUMMEL, SAKOU, WILLIAMS; Instructors YUASA; Lecturer TOM

#### **CE 111 SURVEYING I (2) I (1 L, 1 Lb)**

Basic principles, computations, and use of instruments involving horizontal and vertical measurements. Pre: Math 102; GE 101 or GE 105. Course fee \$3.00.

#### **CE 112 SURVEYING II (3) II (2 L, 1 Lb)**

Topographic mapping; curves; earthwork; computations, route problems. Pre: Mathematics 103, 140; CE 111. Course fee \$3.00.

#### **CE 170 APPLIED MECHANICS I (3) I, II**

Equilibrium of particles, rigid bodies, frames and machines; vectors, centroids, friction, and moments of inertia. Pre: Mathematics 141; Physics 170.

#### **CE 220 FLUID MECHANICS I (3) I, II**

Properties of fluids, fluid statics, kinematics and kinetics; principles of momentum and energy; real fluid effects. Pre: CE 271 or Physics 310.

**CE 221 HYDRAULICS LABORATORY (1) I, II**

Experiments and demonstrations in fluid flow in closed conduits, fluid measurements and hydraulic machinery. Pre: credit or concurrent registration in CE 220. Course fee \$1.00.

**CE 222 FLUID MECHANICS II (3) II**

Principles of ideal and real fluid flow applied to incompressible fluids with introduction to compressible fluid motion. Pre: CE 220.

**CE 241 MECHANICS OF MATERIALS LABORATORY (1) I, II (1 Lb)**

Introduction to experimental techniques, observation of materials under various loading conditions. Pre: credit or concurrent registration in CE 273. Course fee \$4.00.

**CE 271 APPLIED MECHANICS II (3) I, II**

Dynamics of particles and rigid bodies, impulse-momentum, work-energy. Pre: CE 170, Mathematics 142.

**CE 273 MECHANICS OF MATERIALS I (4), I, II (3 L, 1 Lb)**

Elastic stress-strain relationships and the behavior of structural members under flexural, torsional, and axial loading. Pre: CE 170; Mathematics 143.

**CE 274 MECHANICS OF MATERIALS II (3) II**

Inelastic behavior, unsymmetrical bending, curved beams, torsion, energy methods, buckling. Pre: CE 273.

**CE 311 PHOTOGRAMMETRY (3) I, II**

Basic principles; photographic equipment; control, method of compilation; mosaics. Pre: CE 112. Course fee \$2.00.

**CE 321 HYDRAULICS (3) I**

Nonuniform flow, hydraulic jump, backwater curves, flood routing, water hammer, pipe networks, hydraulic machinery. Pre: CE 220.

**CE 325 APPLIED HYDROLOGY (3) II**

Occurrence and movement of water by natural processes including rainfall, runoff, evaporation, transpiration and infiltration. Engineering applications. Pre: CE 220.

**CE 326 HYDRAULIC DESIGN (4) II (3L, 1 Lb)**

Hydraulic design projects; feasibility studies; preliminary and detail design. Dams, canals, gates, energy dissipators and culverts. Pre: CE 321, CE 380, and credit or concurrent registration in CE 325.

**CE 331 SANITARY ENGINEERING (3) I**

Design, construction, and maintenance of water works; water purification and control. Pre: CE 220.

**CE 332 SANITARY ENGINEERING (3) II**

Design, construction, and maintenance of sewage works; sewage and industrial waste treatment. Pre: CE 331.

**CE 351 SOIL MECHANICS (3) II (2 L, 1 Lb)**

Soil classification, elementary soil mechanics theory and practice. Pre: CE 273.

**CE 360 TRANSPORTATION ENGINEERING (3) I**

Introduction to the technology of transportation systems. Historical development, economics, planning, administration, geometric design, operation. Pre: CE senior or permission of instructor.

**CE 362 ADVANCED TRANSPORTATION ENGINEERING (3) II**

Highway and airport pavement design and construction, traffic engineering, urban transportation studies. Pre: CE 351 and 360.

**CE 364 SOILS AND FOUNDATION ENGINEERING (3) II**

Application of soil mechanics to highways, airports, dams and foundations. Pre: CE 351.

**CE 380 STRUCTURAL DESIGN (4) I (3 L, 1 Lb)**

Design of elements of steel and reinforced concrete structures. Introduction to ultimate strength theory. Pre: CE 273.

**CE 385 STRUCTURAL ANALYSIS (3) I, II**

Plane frameworks, graphical methods, influence lines, deflection and stress analysis of structures by classical methods. Pre: CE 273.

**CE 386 STRUCTURAL DESIGN II (4) (3 L, 1 Lb)**

Continuation of CE 380. Design of structural systems in timber, steel and reinforced concrete, introduction to prestressed concrete design. Design project. Pre: CE 380 and credit or concurrent registration in CE 388.

**CE 388 ADVANCED STRUCTURAL ANALYSIS (3) II**

Analysis of indeterminate beams, rigid frames, trusses, arches and space frames by classical methods, moment distribution, introduction to matrix analysis. Pre: CE 385.

**CE 399 SPECIAL PROBLEMS (Ar.) I, II**

Individual investigation in civil engineering topics as approved by instructor. Limited to seniors with 2.7 overall grade-point ratio, or 3.0 grade-point ratio in engineering.

**CE 621 ADVANCED FLUID MECHANICS I (3) I**

Ideal and real fluid, potential flow and conformal mapping, vortex motion, theory of waves in deep and shallow water, gas dynamics, laminar and turbulent flow. Pre: Mathematics 401, CE 222 or consent of instructor.

**CE 622 ADVANCED FLUID MECHANICS II (3) II**

Continuation of CE 621. Theory of turbulence, boundary layer, drag diffusion, other topics of advanced fluid mechanics. Pre: CE 621.

**CE 623 GROUND-WATER HYDROLOGY (3) I**

Ground-water occurrence, flow, quality, conservation, development and management. Hydromechanics of ground-water flow and water-well problems. Pre: CE 325 or consent of instructor.

**CE 624 FLOW IN POROUS MEDIA (3) II**

Applications of fluid mechanics to flow of single-phase and multi-phase fluids in porous media. Pre: CE 621.

**CE 631 ENVIRONMENTAL AND SANITARY ENGINEERING THEORY I (3) I**

A study of the principles and unit processes involved in water and air resources problems, including water sources purification principles, distribution, and air pollution control. Pre: consent of instructor.

**CE 632 ENVIRONMENTAL AND SANITARY ENGINEERING THEORY II (3) II**

Principles of waste water and solids waste handling, treatment and re-use, and a study of the factors involved in disposal of waste to natural waters. Pre: CE 631.

**CE 633 ENVIRONMENTAL AND SANITARY ENGINEERING DESIGN I (3) I (1 L, 2 Lb)**

The functional design of modern water and air purification systems. Pre: consent of instructor.

**CE 634 ENVIRONMENTAL AND SANITARY ENGINEERING DESIGN II (3) II (1 L, 2 Lb)**

The functional design of modern waste water and solids waste treatment systems. Pre: CE 633.

**CE 635 ENVIRONMENTAL AND SANITARY ENGINEERING CHEMISTRY (4) I (2 L, 2 Lb)**

The chemistry of water, waste waters and air, including instrumentation and process control evaluations and interpretations of results as used in practice. Pre: consent of instructor.

**CE 236 ENVIRONMENTAL AND SANITARY ENGINEERING MICROBIOLOGY (4) (2 L, 2 Lb)**

Fundamental microbiology involved in environmental engineering processes and research with special emphasis on mixed culture systems, biochemistry, and physiological chemistry. Pre: consent of instructor.

**CE 637 ENVIRONMENTAL AND SANITARY ENGINEERING LABORATORY (3) II (2 L, 1 Lb)**

Studies of the chemistry and physics of the various unit processes and waste water and solids waste treatment, including the laboratory work necessary for the development of design criteria and the operation and control of these systems. Pre: consent of instructor.

**CE 638 ENVIRONMENTAL AND SANITARY ENGINEERING PUBLIC HEALTH (3) II**

Characteristics of diseases, means of transmission and means of prevention through control of environment with special emphasis on public health administration, biostatistics, insect and rodent control, and industrial hygiene. Pre: consent of instructor.

**CE 651 ADVANCED SOIL MECHANICS I (3) I (2 L, 1 Lb)**

Problems in design of retaining walls, footings, piles; loading test on piles and footings; analysis and presentation of soil test data. Pre: consent of instructor.

**CE 652 ADVANCED SOIL MECHANICS II (3) II (2 L, 1 Lb)**

Continuation of CE 651 to include settlement, seepage, embankment stability, sheet piling and tunnels. Pre: CE 651.

**CE 671 THEORY OF ELASTICITY (3) I**

Plane stress and plane strain problems. Equilibrium and compatibility. Stress functions. Bending of beams. Analysis of stress and strain in three dimensions. Pre: consent of instructor.

**CE 672 PLATES AND SHELLS (3) II**

Small deflection theory for rectangular and circular plates with various boundary conditions. Membrane stresses in shells of revolution. Cylindrical shells. Pre: CE 671.

**CE 673 STRUCTURAL DYNAMICS (3) I**

Free and forced vibration of systems with finite degrees of freedom. Continuous systems. Analysis of structural frames and components subjected to dynamic loads. Pre: consent of instructor.

**CE 674 THEORY OF ELASTIC STABILITY (3) II**

Elastic and inelastic buckling of columns. Lateral buckling of beams. Stability of frameworks and elastically supported columns. Pre: CE 671.

**CE 681 ADVANCED INDETERMINATE STRUCTURES (3) I**

Elastic center, column analogy, indeterminate trusses, arches, influence lines, elements of matrix analysis and introduction to plastic theory. Pre: consent of instructor.

**CE 682 NUMERICAL METHODS OF STRESS ANALYSIS (3) II**

Finite difference, relaxation, and matrix methods applied to analysis of structural systems. Computer applications. Pre: CE 681.

**CE 683 ADVANCED REINFORCED CONCRETE DESIGN I (3) I**

Ultimate strength theory, prestressed concrete, composite beams using precast and cast-in-place concrete, rigid frames and slabs. Pre: consent of instructor.

**CE 684 ADVANCED REINFORCED CONCRETE DESIGN II (3) II**

Continuation of CE 683. Spherical, cylindrical and hyperbolic paraboloid shells, circular and rectangular tanks, folded plates structures. Pre: CE 683.

**CE 687 SEMINAR I (1) I**

Selected topics in civil engineering. Pre: consent of instructor.

**CE 688 SEMINAR II (1) II**

Selected topics in civil engineering. Pre: consent of instructor.

**CE 699 DIRECTED READING OR RESEARCH (Ar.) I, II**

Pre: consent of instructor.

**CE 800 THESIS RESEARCH (Ar.)**

## Electrical

Professors GOTT, MESERVE, PETERSON; Associate Professors GRANBORG, YUEN; Assistant Professors CHOW, DAS, NAJITA; Instructor NAKAGAWA

**EE 102 ELECTRICAL SCIENCE (3) I, II (3 L)**

Development of electrical science concepts from physics of electricity and magnetism. For non-electrical engineers. Pre: Math 142; Phys 172.

**EE 203 ELECTRICAL SCIENCE LABORATORY (1) I, II (1 Lb)**

Application of electric and magnetic field concepts to circuits, machines, and electronics. For non-electrical engineers. Pre: EE 102. Course fee \$2.00.

**EE 211 CIRCUIT THEORY I (3) II (3 L)**

Analysis of electrical circuits. Transform methods. Topology. Pre: Phys 172; registration in Math 143.

**EE 212 CIRCUIT THEORY II (5) I (5 L)**

Inverse transformations. Complex variables. Circuit synthesis. Pre: EE 211; registration in Math 401.

**EE 221 ELECTRONICS I (3) II (3 L)**

Study of properties of electron tubes and semiconductor devices and their application as circuit elements. Pre: EE 211; Phys 440.

**EE 223 CIRCUITS LABORATORY (1) I (1 Lb)**

Laboratory for EE 212. Pre: EE 211; registration in EE 212. Course fee \$3.00.

**EE 232 TRAVELING WAVES AND NETWORKS LABORATORY (1) II (1 Lb)**

Experiments on the properties of linear active networks and distributed-parameter systems. Pre: registration in EE 221, 242. Course fee \$4.00.

**EE 242 TRAVELING WAVES (3) II (3 L)**

Analysis of distributed-parameter systems. Application to transmission lines and waves in gases, liquids, and solids. Pre: EE 211; Math 401; registration in Phys 550.

**EE 301 ELECTRONICS CIRCUITS (3) I (3 L)**

Analysis and synthesis of electrical networks and systems. For non-electrical engineers. Pre: EE 102.

**EE 321 ELECTRONICS II (3) I (3 L)**

Theory and design of oscillators, waveforming circuits, modulators, demodulators, and logic circuits. Instrumentation. Pre: EE 212, 221.



**EE 322 ELECTIVES LABORATORY I (I) I (1 Lb)**

Laboratory for EE 362 and 372. Pre: registration in EE 362 or 372. Course fee \$2.00.

**EE 323 ELECTRONICS LABORATORY (I) I (1 Lb)**

Laboratory for EE 321. Pre: registration in EE 321. Course fee \$4.00.

**EE 351 ELECTROMECHANICAL ENERGY CONVERSION (3) II (3 L)**

Application of electric and magnetic field principles to energy flow between electrical and mechanical systems. A.c. and d.c. machines. Transformers. Pre: EE 211; Phys 350.

**EE 352 SYNCHRONOUS MACHINES AND POWER SYSTEMS (3) II (3 L)**

Analysis of rotating machines. Relationships of machine characteristics to power system characteristics. Pre: EE 242, 351, 362.

**EE 353 ELECTROMECHANICAL ENERGY CONVERSION LABORATORY (I) II (1 Lb)**

Experiments on electromechanical energy conversion using a generalized machine. Pre: registration in EE 351. Course fee \$4.00.

**EE 362 FEEDBACK CONTROL (3) I (3 L)**

Concept, analysis, and synthesis of feedback control systems. Pre: credit or registration in EE 321, 351.

**EE 372 MICROWAVES (3) I (3 L)**

Theory and techniques for microwave frequencies. Tubes and systems. Pre: EE 242; Phys 550; registration in EE 321.

**EE 373 ELECTIVES LABORATORY II (I) II (1 Lb)**

Laboratory for EE 374 and 376. Field trips. Pre: registration in EE 374 or 376. Course fee \$2.00.

**EE 374 COMMUNICATION SYSTEMS (3) II (3 L)**

Systems approach to communication channels. Modulation and demodulation. Propagation. Pre: EE 242, 321; Phys 550.

**EE 376 ELECTRONIC INFORMATION PROCESSING (3) II (3 L)**

Theory and design of analog and digital computers. Applications. Pre: EE 321.

**EE 396 PROJECT (2) I, II**

Investigation of advanced engineering problems. Pre: senior standing.

**EE 399 SPECIAL PROBLEMS (Ar.) I, II**

Research or development problem. Pre: senior standing with 3.0 grade-point ratio in major field.

**EE 601-602 ELECTROMAGNETIC THEORY AND APPLICATIONS (3-3) Yr. (3 L)**

Solutions and applications of Maxwell's equations to radiation and propagation of electromagnetic waves. Pre: Phys 550; Math 401 or equivalent.

**EE 603 ACTIVE NETWORK ANALYSIS (3) I (3 L)**

Systems using active nonlinear, electron beam, magnetic, superconducting, and quantum-mechanical devices. Pre: EE 372, 374 or equivalent.

**EE 604 MAGNETO-IONIC THEORY (3) II (3 L)**

Electromagnetic waves in ionized media with a superimposed magnetic field. Applications. Pre: EE 601.

**EE 605-606 NETWORK SYNTHESIS (3-3) Yr. (3 L)**

Properties of driving-point and transfer immittances, lossless and lossy. Approximation techniques. Transfer function synthesis and techniques using active elements. Pre: EE 212 or equivalent.

**EE 607 ENERGY-STATE DEVICES (3) I (3 L)**

Devices using quantum-mechanical, electromagnetic, superconduction, and other physical phenomena. Feasibility. Pre: Phys 440, 550; EE 372 or equivalent.

**EE 608 ANALYSIS OF NONLINEAR SYSTEMS (3) II (3 L)**

Properties of stability, singular points, limit cycles. Analysis techniques. Realizability of solutions. Pre: Math 401; EE 321, 362 or equivalent.

**EE 610 ADVANCED FEEDBACK CONTROL SYSTEMS (3) II (3 L)**

Performance criteria, signal flow diagrams, nonlinear effects, describing functions, relay systems, sampled-data systems, adaptive control. Pre: EE 362 or equivalent.

**EE 611 INFORMATION THEORY (3) II (3 L)**

Application of probability to signals. Definition of information. Coding, sampling, filtering, and prediction. Pre: EE 212 or equivalent.

**EE 621-622 ADVANCED MICROWAVE THEORY (3-3) Yr. (3 L)**

Advanced topics in microwave theory. Pre: EE 372; Phys 550; or equivalent.

**EE 641 STATISTICAL COMMUNICATIONS THEORY (3) I (3 L)**

Statistical approach to electrical communications theory. Pre: EE 374.

**EE 697-698 SEMINAR IN ELECTRICAL ENGINEERING (1-1) Yr.**

Pre: graduate standing, consent of instructor.

**EE 699 DIRECTED READING OR RESEARCH (Ar.) I, II**

Pre: graduate standing, consent of instructor.

**EE 800 THESIS RESEARCH (Ar.) I, II**

Pre: candidacy for M.S. in EE.

## General

Senior Professor HOLMES; Associate Professors AVERY, CORBA; Instructors LANDSTREET, SMITH

**GE 100 ENGINEERING ORIENTATION (0) I**

Nature of the engineering profession and the aims of engineering education.

**GE 101 ENGINEERING GRAPHICS (2) I, II (1 L, 2 Lb)**

Applied geometry, orthographic and pictorial instrument drawing and sketching, dimensioning, auxiliary and section views. Fundamentals in analysis and solution of spatial problems pertaining to points, lines, and planes. Primarily for those students who are deficient in high school mechanical drawing.

**GE 102 ENGINEERING GRAPHICS (2) I, II (1 L, 2 Lb)**

Continuation of GE 101 in analyzing and solving spatial problems pertaining to points, lines, planes and their application to engineering. Surface intersections, vector geometry, and graphical calculus. Pre: GE 101.

**GE 105 ENGINEERING GRAPHICS (3) I, II (1 L, 2 Lb)**

Analysis and solution of spatial problems pertaining to points, lines, and planes, and their application to engineering. Surface intersections, vector geometry, and graphical calculus. Pre: 1 year high school mechanical drawing. Not open to students who have credit in GE 102.

**GE 110 DIGITAL COMPUTER PROGRAMMING (1) I, II**

Introduction to the FORTRAN language in general, and application of FOR TRANSIT to IBM 650 in particular. Pre: Mathematics 141. Course fee \$2.00.

**GE 300 ENGINEERING ECONOMY (2) I, II**

Application of economic principles to engineering problems. Pre: Economics 140 and CE 273 or EE 351, or ME 232.

**GE 302 CONTRACTS AND SPECIFICATIONS (2) I, II**

Business, legal, and ethical aspects of engineering; contracts and specifications with special reference to local requirements. Pre: CE 273 or EE 351, or ME 232.

## **Mechanical Engineering**

Professor DOWNS; Associate Professors CHAI, IYER, STUIVER; Assistant Professors CHOU, MUNCHMEYER

**ME 230 MECHANICS OF FLUIDS (3) I**

Incompressible and compressible ideal fluids, effects of viscosity. Similitude, boundary layer flow, and elementary gas dynamics. Pre: Physics 172; Mathematics 143.

**ME 231 THERMODYNAMICS (3) I, II**

Basic laws. Work, heat and the concept of entropy. Perfect gases, mixtures. Availability, irreversibility and efficiency. Pre: Physics 172; Mathematics 143.

**ME 232 APPLIED THERMODYNAMICS (3) II**

Thermodynamic principles of reciprocating machines, turbomachinery, and jet propulsion. Power and refrigeration cycles. Combustion. Pre: ME 230, 231.

**ME 234 MEASUREMENTS LABORATORY (2) II**

Techniques of engineering measurements. Methods, instruments and computation procedures. Applications to typical problems. Pre: ME 230, 231.

**ME 243 MECHANICS OF SOLIDS (3) I**

Analysis of deformable bodies. Stresses, strains and criteria for yielding and fracture. Torsion, bending and buckling. Pre: CE 170; Mathematics 143.

**ME 333 MECHANICAL ENGINEERING LABORATORY (2) I**

Performance analysis and testing of machines, engines and systems. Experiments in automatic control. Special projects. Pre: ME 234.

**ME 340 INTRODUCTION TO NUCLEAR ENGINEERING (3) I**

Principles of nuclear reactors. Thermal and mechanical design aspects of nuclear power plants. Pre: ME 232, 243.

**ME 341 INTERNAL COMBUSTION ENGINES (3) I**

Principles, performance and analysis of internal combustion engines. Pre: ME 232.

**ME 342 AIR CONDITIONING AND REFRIGERATION (3) I**

Refrigeration processes, psychrometrics, solar radiation. Applications to air conditioning design. Pre: ME 232.

**ME 343 AUTOMATIC CONTROL (3) II**

Fundamentals of control theory. Components and systems, response and stability. Applications to mechanical and industrial processes. Pre: ME 234; Mathematics 401.

**ME 344 GAS TURBINE POWER PLANTS (3) II**

Principles, performance and design of gas turbine power plants as related to industrial, automotive and aeronautical applications. Pre: ME 232.

**ME 366 MATERIALS SCIENCE (3) I, II**

Behavior of materials as determined by structure and environment. Interrelationships between microscopic and macroscopic structure and phenomenological properties. Pre: Physics 174.

**ME 367 MATERIALS PROCESSING (3) II**

Development, processing and fabrication of engineering materials. Energy requirements of various manufacturing methods and their effect upon material properties. Pre: ME 366.

**ME 371 DYNAMICS OF MACHINERY (3) II**

Dynamic forces in plane-motion and space mechanisms. Gyroscopic effects. Vibration and balancing. Special topics. Pre: CE 271; Mathematics 401.

**ME 373 MACHINE DESIGN (3) I (2 L, 1 Lb)**

Analysis and design of machine components for strength, rigidity, fatigue, etc. Fastenings, transmission devices and selected topics. Pre: ME 243, 367.

**ME 374 INTRODUCTION TO ENGINEERING DESIGN (4) II (2 L, 2 Lb)**

Analysis and synthesis of integrated systems. Feasibility studies, design and decision processes. Techniques of optimization. Pre: ME 373.

**ME 382 STEAM POWER PLANTS (2) II**

Steam generators, prime movers, fans, pumps, piping design and plant economics. Pre: ME 232.

**ME 390 PROJECT (Ar.) I, II**

Investigation of advanced problems in mechanical engineering design or development. Pre: senior standing.

**ME 475 HEAT TRANSFER (3) I**

Steady and transient conduction. Fundamentals of radiation and convection. Heat exchangers. Pre: ME 231; Mathematics 401.

# COLLEGE OF GENERAL STUDIES

THE COLLEGE OF GENERAL STUDIES provides facilities for instruction in the evenings at both the Honolulu and Hilo campuses, and in areas away from the University both day and night, enabling many people other than regular day students to broaden their cultural backgrounds, gain an insight into the demands of responsible citizenship, and to better prepare themselves for competent participation in the business and professional affairs of the community.

**Unclassified Students.** Besides the regular and special programs listed below, the College administers the academic affairs of those undergraduate students who are not candidates for a degree in another college of the University. Unclassified students may be day or evening, full- or part-time. Students whose educational objectives do not include completion of a degree normally enroll as unclassified students.

Inasmuch as there is not a required program of study, unclassified students have great latitude in the selection of day or evening courses; however, these students must comply with the general admission and other requirements and regulations of the University (see pp. 18-24) except as specifically noted. Although daytime unclassified students are not held to the health and physical education requirements, either exemption from or registration in military science or air science is required of male students carrying 12 or more credits. Unclassified students may not carry more than 18 credit hours, other than in exceptional circumstances; but in the selection of individual courses they are limited only by the requirement that they have the prerequisites, if any, for the course of their choice.

**Evening Credit Courses.** Concurrent with University regular and summer sessions, a group of basic courses, including nearly all the requirements for the first two years of any degree curriculum and advanced courses needed by substantial groups of evening students, particularly in business, are offered on the campus, usually after 5 P.M. Admission is governed by general University requirements, and regular residence credit is given, including graduate credit, where applicable. Evening students with full-time day employment often take two or more courses per semester.

**Off-Campus Credit Courses.** Accelerated programs of evening credit courses are offered four times a year at Hickam Field, Schofield Barracks, Kaneohe Marine Base, Camp Smith, Wheeler Air Force Base, Fort Shafter, Tripler Hospital, and other off-campus locations. Courses, particularly in education, are also offered on Kauai, Maui, Hawaii, and some-

times on Molokai and Lanai, either by faculty members commuting from the Manoa Campus or by other qualified personnel. Schedules for off-campus courses are arranged to fit the needs of students when such adjustments are academically acceptable.

In addition to its programs within the state, the College operates an overseas center at Kwajalein. Here, selected courses for credit are given in an effort to meet the needs of personnel, both military and civilian, stationed in the area.

**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 the campus. These courses are generally offered in the evening.

Sessions begin in January, April, July, and October. Any person with the equivalent of a high school education who can profit from these courses may enroll. Students who regularly attend receive certificates upon completion of their course of study.

**Conferences, Institutes, and Workshops.** A division of the College, the Conference Center, serves as a coordinator between the University and the community for framing and administering programs in various subject matter fields. For the most part, these academic programs are professional and postgraduate in character and are scheduled for relatively concentrated periods of time. The Center works closely with various public and private agencies on all levels of community activity and, on the campus, relies to a great degree on the advice of and cooperative working agreements with the several departments and divisions of the University having an interest in a given program. Services of the Center include assistance in planning educational conferences, determining who should attend, establishing advisory committees to work out program details, and preparing conference budgets. For these Center services, scheduling is kept as flexible as possible to accommodate requests as they arise from campus groups, private concerns, the counties, state and federal organizations operating within the state. The College, under Center auspices, also initiates and presents workshops, institutes, and conferences of varied character.

**Special Services.** Other special courses offering training in specific professional or vocational areas, preparing candidates for professional licensing examinations, or supplying University personnel to assist with special local problems are sponsored by the College as needs arise. The College presents an annual Lyceum Series, which includes plays, lectures, play reading, musical, and other educational and cultural events, on the other islands. Special lectures and occasional radio and television broadcasts are also scheduled by the College in behalf of both civilian and military agencies.

Announcements and other information concerning these varied programs will be made available by the College of General Studies upon request.

# COLLEGE OF NURSING

THE COLLEGE OF NURSING programs prepare students for professional nursing, medical technology, and dental hygiene. The programs in nursing and medical technology lead to the degree of bachelor of science. Dental hygiene training and a new associate in nursing degree are two-year programs. A program leading to the master of science in nursing prepares graduates for clinical specialist positions in a selected field of nursing. See *Graduate Bulletin* for further information.

## Admission and Degree Requirements

Applicants must meet University admission requirements (pp. 18-22). Further selection is made on the basis of admission tests, high school or nursing school standing, and personal references.

In order to be eligible for the degree a student must:

- 1) Complete the course requirements of a curriculum;
- 2) have an aggregate of at least 130 semester hours of credit;
- 3) have a 2.0 grade-point ratio for all registered credits, and a C or better in each major course.

## Nursing Curriculum

The baccalaureate program of the College offers a foundation in the liberal arts with a major in professional nursing. It aims are to prepare students for beginning positions in all fields of nursing and to provide a sound basis for graduate study in nursing which may include the functional areas of supervision, teaching and administration.

### FIRST YEAR

| FIRST SEMESTER     |         | SECOND SEMESTER  |         |
|--------------------|---------|------------------|---------|
|                    | CREDITS |                  | CREDITS |
| Chemistry 101      | 4       | Chemistry 102    | 4       |
| English 101        | 3       | English 102      | 3       |
| Health & Phys. Ed. | 1       | Home Ec 126      | 2       |
| Psychology 102     | 4       | Microbiology 130 | 2       |
| Speech 140         | 2       | Microbiology 140 | 2       |
| Zoology 115        | 4       | Zoology 116      | 4       |
| Total              | 18      | Total            | 17      |

**SECOND YEAR**

| <b>FIRST SEMESTER</b> |                | <b>SECOND SEMESTER</b> |                |
|-----------------------|----------------|------------------------|----------------|
|                       | <b>CREDITS</b> |                        | <b>CREDITS</b> |
| English 150           | 3              | English 151            | 3              |
| Nursing 110           | 8              | Nursing 111            | 8              |
| Nursing 131           | 1              | Nursing 132            | 1              |
| Psychology 250        | 3              | Sociology 151          | 3              |
| Elective*             | 3              | Elective*              | 2              |
| <b>Total</b>          | <b>18</b>      | <b>Total</b>           | <b>17</b>      |

**THIRD YEAR**

|                    |           |                    |           |
|--------------------|-----------|--------------------|-----------|
| Nursing 220 or 230 | 8         | Nursing 220 or 230 | 8         |
| History 171        | 3         | Psychology 362 or  |           |
| Sociology 472      | 3         | Sociology 524      | 3         |
| Elective*          | 3         | Electives*         | 6         |
| <b>Total</b>       | <b>17</b> | <b>Total</b>       | <b>17</b> |

**FOURTH YEAR**

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| Nursing 300  | 6         | Nursing 345  | 6         |
| Nursing 340  | 6         | Nursing 350  | 3         |
| Nursing 383  | 3         | Elective*    | 3         |
| <b>Total</b> | <b>15</b> | <b>Total</b> | <b>12</b> |

**Program for Registered Nurses**

Registered nurses, who meet admission requirements, may be granted limited credits toward the degree for nursing courses completed in an accredited diploma or associate degree program in nursing. Such credit will be determined for each applicant by means of the Graduate Nurse Examination of the National League for Nursing and University administered tests. All courses of the fourth year must be completed in this College.

**Medical Technology Curriculum**

The medical technology curriculum provides for three years of course work on the campus and a fourth year of work in an approved hospital school of medical technology. Beginning with the summer session preceding the fourth year and continuing throughout the year, students register for Medical Technology 266, 267, and 268. Completion of this curriculum makes the student eligible for the bachelor of science degree and for the examination for certification as a medical technologist.

\*All electives must be in liberal arts; those in third and fourth years, 200 or above.



| FIRST YEAR                       |           |                        |           |
|----------------------------------|-----------|------------------------|-----------|
| FIRST SEMESTER                   |           | SECOND SEMESTER        |           |
|                                  | CREDITS   |                        | CREDITS   |
| Chemistry 105                    | 5         | Chemistry 106          | 5         |
| English 101                      | 3         | English 102            | 3         |
| Health & Phys. Ed. 101           | 1         | Health & Phys. Ed. 102 | 1         |
| Mathematics 102                  | 3         | Mathematics 103        | 3         |
| AS 101 or MS 101                 | 1         | AS 102 or MS102        | 1         |
| Psychology 104                   | 3         | Zoology 101            | 4         |
| Speech 140                       | 2         |                        |           |
| <b>Total</b>                     | <b>18</b> | <b>Total</b>           | <b>17</b> |
| SECOND YEAR                      |           |                        |           |
| Chemistry 331                    | 4         | Chemistry 141          | 4         |
| English 155                      | 3         | History 171            | 3         |
| AS 151 or MS 151                 | 1         | Microbiology 151       | 4         |
| Zoology 115                      | 4         | AS 152 or MS 152       | 1         |
| Electives*                       | 6         | Zoology 116            | 4         |
|                                  |           | Elective*              | 2         |
| <b>Total</b>                     | <b>18</b> | <b>Total</b>           | <b>18</b> |
| THIRD YEAR                       |           |                        |           |
| Biochemistry 271                 | 4         | Medical Technology 151 | 1         |
| Microbiology 361                 | 4         | Microbiology 362       | 4         |
| Electives*                       | 8         | Zoology 410            | 3         |
| Medical Technology 150           | 1         | Zoology 425            | 3         |
|                                  |           | Electives*             | 6         |
| <b>Total</b>                     | <b>17</b> | <b>Total</b>           | <b>17</b> |
| SUMMER SESSION                   |           |                        |           |
| Medical Technology 266-4 credits |           |                        |           |
| FOURTH YEAR                      |           |                        |           |
| Medical Technology 267           | 12        | Medical Technology 268 | 12        |

### Two-Year Program in Dental Hygiene

This program is intended to qualify dental hygienists for positions with dentists or health departments and for admission to licensing examinations.

| FIRST YEAR†        |           |                    |           |
|--------------------|-----------|--------------------|-----------|
| Chemistry 101      | 4         | Chemistry 102      | 4         |
| Dental Hygiene 120 | 2         | Dental Hygiene 140 | 1         |
| Dental Hygiene 130 | 3         | Dental Hygiene 150 | 1         |
| English 101        | 3         | Dental Hygiene 165 | 1         |
| Speech 140         | 2         | English 102        | 3         |
| Zoology 115        | 4         | Microbiology 130   | 2         |
|                    |           | Microbiology 140   | 2         |
|                    |           | Zoology 116        | 4         |
| <b>Total</b>       | <b>18</b> | <b>Total</b>       | <b>18</b> |

\*All electives must be in liberal arts; those in third and fourth years, 200 or above.

†It is recommended that all students in dental hygiene complete the standard Red Cross First Aid course during the first year or by the end of that summer session; or complete HPE 234. A copy of the Red Cross certificate must be filed in the office of the Dean.

## SECOND YEAR

|                        |           |                    |           |
|------------------------|-----------|--------------------|-----------|
| Dental Hygiene 151     | 2         | Dental Hygiene 170 | 2         |
| Dental Hygiene 166     | 2         | Dental Hygiene 180 | 5         |
| Dental Hygiene 169     | 2         | Dental Hygiene 182 | 2         |
| Dental Hygiene 171     | 2         | Dental Hygiene 188 | 1         |
| Dental Hygiene 179     | 5         | Dental Hygiene 190 | 1         |
| Dental Hygiene 181     | 2         | Psychology 104     | 3         |
| Health & Phys. Ed. 130 | 1         | Sociology 151      | 3         |
| Home Economics 126     | 2         |                    |           |
| <b>Total</b>           | <b>18</b> | <b>Total</b>       | <b>17</b> |

**Associate Degree Program in Nursing**

This new program of approximately two years prepares nurses for staff positions in hospitals and other institutional nursing services where nursing supervision is provided. It is expected to be open for student enrollment during the year 1964-65. Information may be obtained by writing to the College of Nursing.

**NURSING COURSES**

*See p. 41 for a discussion of course descriptions.*

**Dental Hygiene (DH)**

Instructors KOCA, C. LEE

**120 INTRODUCTION TO DENTAL AND ORAL HYGIENE (2) I**

Orientation to the profession; relationship of dental hygienist to dental hygiene and dentistry; role of hygienist in preventive dentistry with emphasis on the objectives and principles of oral hygiene.

**130 ORAL ANATOMY AND TOOTH MORPHOLOGY (3) I**

Anatomy of the teeth, bones of the skull; muscles of mastication, tongue, face, pharynx; glands of the oral cavity; 5th, 7th cranial nerves, blood vessels of the head and neck; laboratory procedures in drawing and carving of anterior and posterior teeth.

**140 INTRODUCTION TO DENTAL PROPHYLAXIS PROCEDURES AND TECHNIQUES (1) II**

Clinical instruction and practice on manikin and few patients in operative technical procedures of instrumentation, polishing, and charting.

**150 INTRODUCTION TO DENTAL HISTOLOGY AND EMBRYOLOGY (1) II**

Fundamentals of dental histology and embryology. Pre: Zoology 115.

**151 DENTAL HISTOLOGY AND EMBRYOLOGY (2) I**

Formation, structure and function of enamel, dentin, cementum, pulp, periodontium, alveolar process and gingiva. Pre: DH 150. (Not offered Fall 1964.)

**163 DENTAL HISTOLOGY AND EMBRYOLOGY (2) I**

Formation, structure and function of enamel, dentin, cementum, pulp, periodontium, alveolar process, gingiva. (Not offered after Fall 1964.)

**165 INTRODUCTION TO HUMAN PATHOLOGY (1) II**

Basic causes of disease, their progress and termination. Emphasis on defensive mechanisms of the body. Pre: DH 150 or concurrent registration.

**166 ORAL PATHOLOGY (2) I**

Study of oral diseases of interest to the dental hygienist. Pre: DH 165, 151 or concurrent registration. (Not offered Fall 1964.)

**169-170 SURVEY OF DENTISTRY (2-2) Yr.**

Familiarization with procedures used in dentistry, dental specialties; emphasis on role of auxiliary personnel. Subject areas covered include dental materials, operative dentistry, prosthodontics, orthodontics, periodontics endodontics, oral surgery, anesthesiology.

**171 DENTAL HEALTH EDUCATION (2) I**

Basic principles of teaching and learning dental health education as related to the office, school, public health; methods, materials and practice in teaching; laws, ethics and economics involved.

**173 ORAL ANATOMY (2) I**

Anatomy of the teeth; bones of the skull; muscles of mastication, tongue, face, pharynx; glands of the oral cavity; 5th, 7th cranial nerves; blood vessels of the head and neck. (Not offered after Fall 1964.)

**174 TOOTH MORPHOLOGY (1) I**

Drawing and carving of models of anterior and posterior teeth, showing general form, cusps, planes, and angles. (Not offered after Fall 1964.)

**177 INTRODUCTION TO HUMAN PATHOLOGY (1) I, II**

Basic causes of disease, their progress and termination. Emphasis on defensive mechanisms of the body. Pre: DH 162. (Not offered after 1964-65.)

**178 ORAL PATHOLOGY (2) II**

Study of oral diseases of interest to the dental hygienist. (Not offered after Spring 1965.)

**179-180 DENTAL HYGIENE AND PROPHYLAXIS (5-5) Yr.**

Instruction and practice on manikin in operative technical procedures of instrumentation and polishing; clinical training in dental prophylaxis.

**181 DENTAL ROENTGENOLOGY (2) I**

A lecture-laboratory course in the study, technique and use of the roentgen ray in its application to dentistry.

**182 PHARMACOLOGY (2) II**

Derivation and effects of drugs most commonly used in dentistry. Relative values of germicides, antiseptics, disinfectants, analysis of formulae of dentifrices, mouthwashes.

**184 ORTHODONTICS (1) II**

Basic principles, normal occlusion, malocclusion, case analysis for classification, etiology of malocclusion, growth of the cranium, facial bones, tooth eruption. (Not offered after Spring 1965.)

**186 DENTAL ROENTGENOGRAPHY (2) II**

A lecture-laboratory course in the study, technique and use of the roentgen ray in its application to dentistry. (Not offered after Spring 1965.)

**188 DENTAL PUBLIC HEALTH (1) II**

Theory and practice of preventive dentistry with emphasis upon community dental health; role of the dental hygienist in public health.

**190 DENTAL OFFICE PROCEDURES AND DENTAL ASSISTING (1) II**

Procedures and duties necessary to efficient dental practice; instruction and clinical assisting in general and specialized dentistry.

## **Medical Technology (MT)**

Instructor WULFF

**150-151 MEDICAL TECHNOLOGY (1-1) Yr.**

Introduction to the application of basic science theory to laboratory practice in medical technology.

*To meet the technical requirements for the Registry of Medical Technologists of the American Society of Clinical Pathologists, this sequence of courses continues for twelve calendar months commencing with the official opening of summer sessions.*

**266 MEDICAL TECHNOLOGY (4)**

Student technician training in a cooperating laboratory under the supervision of a qualified director. Offered only in summer sessions.

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

Student technician training in a cooperating laboratory under the supervision of qualified director. Pre: MT 266.

## **Nursing (N)**

Professor V. JONES; Associate Professors Y. GROSS, E. R. SMITH; Assistant Professors CANFIELD, HEGGLUND, LOVE, OZAKI; Instructors FANCHER, HEE, LUM, MEINHART, NAJITA, NOUCHI, NAKATSUJI, ORTELT, SAKAI, ULLMAN, WILLIAMS; Lecturer HIRSCHY

*Registration is restricted to students preparing for nursing except by special permission.*

**110-111 NURSING (8-8) Yr.**

Theory and supervised laboratory experience in care of adults with medical and surgical disorders. Four hours lecture and 16 hours laboratory weekly.

**131-132 HUMAN RELATIONS IN NURSING (1-1) Yr.**

Introduction of psychiatric nursing strand with emphasis on interpersonal relationships in patient-centered care. Concurrent with N 110-111.

**220-230 MATERNAL AND CHILD NURSING (8-8) I, II**

Study and supervised laboratory experience in care of maternity patients, and of children from birth through adolescence. Four hours lecture and 16 hours laboratory weekly.

**300 PSYCHIATRIC NURSING (6) I, II**

Mental health concepts in nursing and their significance to the nurse herself. Guided experience in total care of patients with mental illness. Three hours lecture and 12 hours laboratory weekly.

**340 PUBLIC HEALTH NURSING (6) I, II**

Principles of public health nursing and guided laboratory experience, including home visiting, clinic services, school health programs, and use of community agencies. Three hours lecture and 12 hours laboratory weekly.

**345 ADVANCED NURSING (6) I, II**

Identification and application of scientific principles in the provision of care of patients presenting complex nursing problems. Two hours lecture and 16 hours laboratory weekly.

**350 SOCIAL FORCES IN NURSING (3) I, II**

Study of the forces which influence the development of nursing as a profession.

**383 PUBLIC HEALTH (3) I**

Principles of public health and preventive medicine; application in protecting the health of citizens through organized community effort.

**394-395 SENIOR HONORS THESIS (2-2) Yr.**

Preparation of research paper under individual faculty supervision. Required for graduation with honors. Pre: N 350 and 399.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

Limited to seniors and juniors in nursing.

# COLLEGE OF TROPICAL AGRICULTURE

THE COLLEGE OF TROPICAL AGRICULTURE prepares students for professional work in the fields of agriculture and home economics. There are three curricula in agriculture: agricultural technology, agricultural economics, and agricultural science. Agricultural technology has two options—general and tropical crop production. Agricultural science has six options—entomology, animal science, plant physiology, poultry science, soil science, and tropical horticulture.

Five curricula are offered in home economics: clothing design, general home economics, institutional management, home economics education, and foods and nutrition.

All curricula lead to the bachelor of science degree.

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

## Admission and Degree Requirements

The requirements for admission are, in general, the same as those for the University (pp. 18-22). Students who lack some of this required preparation are unable to follow the regular programs and usually need more than four years to complete the degree requirements.

To be eligible for the degree a student must:

- 1) Complete the course requirements of a curriculum;
- 2) have an aggregate of at least 130 semester hours of credit;
- 3) have a 2.0 grade-point ratio for all registered credits, and in the major field (*see* "Undergraduate Degree Requirements").

## Curricula in Agriculture

The program is designed to give a knowledge of the fundamental principles underlying agriculture as a science, and to prepare for effective service in research, teaching, business, and industry, as well as in practical farming.

Summer practice work in the area of major interest may be required if, in the opinion of the adviser, such experience is necessary for reasonable competence.

## Agricultural Technology

### I GENERAL AGRICULTURE

#### FIRST YEAR

| FIRST SEMESTER            | CREDITS   | SECOND SEMESTER           | CREDITS   |
|---------------------------|-----------|---------------------------|-----------|
| Agriculture 100           | 1         | Animal Science 141        | 3         |
| Botany 101 or Zoology 101 | 4         | Botany 101 or Zoology 101 | 4         |
| Chemistry 103             | 4         | Chemistry 104             | 4         |
| English 101               | 3         | English 102               | 3         |
| Health & Phys. Ed. 101    | 1         | Health & Phys. Ed. 102    | 1         |
| As 101 or MS 101          | 1         | AS 102 or MS 102          | 1         |
| Elective                  | 3         |                           |           |
| Speech 140                | 2         |                           |           |
| <b>Total</b>              | <b>19</b> | <b>Total</b>              | <b>16</b> |

#### SECOND YEAR

|                  |           |                  |           |
|------------------|-----------|------------------|-----------|
| History 171      | 3         | English 155      | 3         |
| AS 151 or MS 151 | 1         | Geography 151    | 3         |
| Microbiology 151 | 4         | Mathematics 103  | 3         |
| Horticulture 162 | 3         | AS 152 or MS 152 | 1         |
| Elective         | 6         | Entomology 161   | 4         |
|                  |           | Elective         | 2         |
| <b>Total</b>     | <b>17</b> | <b>Total</b>     | <b>16</b> |

#### THIRD YEAR

|                  |           |                |           |
|------------------|-----------|----------------|-----------|
| Genetics 451     | 3         | English 210    | 3         |
| Soil Science 481 | 4         | Entomology 372 | 4         |
| Electives        | 10        | Electives      | 10        |
| <b>Total</b>     | <b>17</b> | <b>Total</b>   | <b>17</b> |

#### FOURTH YEAR

In the fourth year the student takes courses necessary to complete the 130 credits required for graduation. His elective courses must include 9 credits in animal science, 9 credits in plant science, 6 credits in agricultural engineering, and 6 credits in agricultural economics.

### II TROPICAL CROP PRODUCTION

#### FIRST YEAR

|                           |           |                           |           |
|---------------------------|-----------|---------------------------|-----------|
| Agriculture 100           | 1         | Botany 101 or Zoology 101 | 4         |
| Botany 101 or Zoology 101 | 4         | Chemistry 104             | 4         |
| Chemistry 103             | 4         | English 102               | 3         |
| English 101               | 3         | Health & Phys. Ed. 102    | 1         |
| Health & Phys. Ed. 101    | 1         | Math 103                  | 3         |
| Mathematics 102           | 3         | AS 102 or MS 102          | 1         |
| AS 101 or MS 101          | 1         |                           |           |
| Speech 140                | 2         |                           |           |
| <b>Total</b>              | <b>19</b> | <b>Total</b>              | <b>16</b> |

## SECOND YEAR

| FIRST SEMESTER   |         | SECOND SEMESTER  |         |
|------------------|---------|------------------|---------|
|                  | CREDITS |                  | CREDITS |
| AE 131           | 3       | AE 132           | 3       |
| Physics 160      | 4       | Physics 161      | 4       |
| Chemistry 141    | 4       | Botany 470       | 4       |
| AS 151 or MS 151 | 1       | English 155      | 3       |
| Horticulture 162 | 3       | AS 152 or MS 152 | 1       |
| Elective         | 3       | Elective         | 3       |
| Total            | 18      | Total            | 18      |

## THIRD YEAR

|                           |    |                           |    |
|---------------------------|----|---------------------------|----|
| Entomology 161            | 4  | Entomology 372            | 4  |
| AEc 120                   | 3  | History 171               | 3  |
| Soil Science 481          | 4  | English 210               | 3  |
| Elective in Plant Science | 3  | Elective in Plant Science | 3  |
| Elective                  | 3  | Electives                 | 5  |
| Total                     | 17 | Total                     | 18 |

## SUMMER PRACTICE IN INDUSTRY—10 weeks

## FOURTH YEAR

|                              |    |                              |    |
|------------------------------|----|------------------------------|----|
| Agricultural Engineering 431 | 3  | Agricultural Engineering 435 | 3  |
| Genetics 451                 | 4  | Soil Science 482             | 3  |
| AEc 327                      | 3  | Elective in Social Studies   | 3  |
| Electives                    | 6  | Electives                    | 9  |
| Total                        | 16 | Total                        | 18 |

## Agricultural Economics and Agricultural Business\*

## COMMON FIRST YEAR

|                            |    |                            |    |
|----------------------------|----|----------------------------|----|
| Agricultural Economics 120 | 3  | Economics 151              | 3  |
| Economics 150              | 3  | English 102                | 3  |
| English 101                | 3  | Health & Phys. Ed. 102     | 1  |
| Health & Phys. Ed. 101     | 1  | AS 102 or MS 102           | 1  |
| Botany 101                 | 4  | Speech 150                 | 3  |
| AS 101 or MS 101           | 1  | History 171                | 3  |
|                            |    | Elective in Social Science | 3  |
| Total                      | 15 | Total                      | 17 |

\*Minor adjustments may be made in special instances with the approval of the advisor.



## COMMON SECOND YEAR

| FIRST SEMESTER         |         | SECOND SEMESTER    |         |
|------------------------|---------|--------------------|---------|
|                        | CREDITS |                    | CREDITS |
| Accounting 100         | 3       | BAS 300            | 3       |
| Chemistry 103          | 4       | Chemistry 104      | 4       |
| Mathematics 103 or 140 | 3       | Animal Science 141 | 3       |
| AS 151 or MS 151       | 1       | AS 152 or MS 152   | 1       |
| Horticulture 162       | 3       | English 155        | 3       |
|                        |         | Government 110     | 3       |
| Total                  | 14      | Total              | 17      |

## AGRICULTURAL ECONOMICS

## THIRD YEAR

|                            |    |                                |    |
|----------------------------|----|--------------------------------|----|
| Agricultural Economics 327 | 3  | Agricultural Economics 321     | 3  |
| Economics 240              | 3  | English 210                    | 3  |
| Economics 300              | 3  | Elective in Agricultural Econ. | 3  |
| Agronomy 501 or Elective   | 3  | Elective in Econ. or Bus.      | 3  |
| Electives                  | 6  | Elective in Social Science     | 3  |
|                            |    | Elective                       | 3  |
| Total                      | 18 | Total                          | 18 |

## FOURTH YEAR

|                            |    |                              |    |
|----------------------------|----|------------------------------|----|
| Agricultural Economics 322 | 3  | Elective in Agricultural Ec. | 3  |
| Ag. Engin. 131 or Elective | 3  | Elective in Social Science   | 3  |
| Elective in Ecs. or Bus.   | 3  | Electives                    | 12 |
| Electives                  | 7  |                              |    |
| Total                      | 16 | Total                        | 18 |

## AGRICULTURAL BUSINESS

## THIRD YEAR

|                            |    |                            |    |
|----------------------------|----|----------------------------|----|
| Agricultural Economics 322 | 3  | Agricultural Economics 321 | 3  |
| Agricultural Economics 327 | 3  | English 210                | 3  |
| Economics 240              | 3  | Management 300             | 3  |
| Economics 300              | 3  | Elec. in Mkt. & For. Trade | 3  |
| Law 100                    | 3  | Elective in Economics      | 3  |
| Elective                   | 3  | Elective in Social Science | 3  |
| Total                      | 18 | Total                      | 18 |

## FOURTH YEAR

|                               |    |                                |    |
|-------------------------------|----|--------------------------------|----|
| Agricultural Economics 423    | 3  | Elective in Agricultural Econ. | 3  |
| Agricultural Economics 430    | 3  | Elective in Business Econ.     | 3  |
| Management 410                | 3  | Elective in Social Science     | 3  |
| Elec. in Agronomy or Soil Sc. | 3  | Electives                      | 6  |
| Electives                     | 6  |                                |    |
| Total                         | 18 | Total                          | 15 |

Electives are chosen with approval of the adviser. They must include 6 credits in agricultural economics, 9 in business and economics in addition to those specified, and 9 in social science other than economics.

### Agricultural Science

#### FIRST YEAR

| FIRST SEMESTER            |          | SECOND SEMESTER           |          |
|---------------------------|----------|---------------------------|----------|
|                           | CREDITS  |                           | CREDITS  |
| Botany 101 or Zoology 101 | 4        | Botany 101 or Zoology 101 | 4        |
| Chemistry 103*            | 4        | Chemistry 104*            | 4        |
| English 101               | 3        | English 102               | 3        |
| Health & Phys. Ed. 101    | 1        | Health & Phys. Ed. 102    | 1        |
| AS 101 or MS 101          | 1        | AS 102 or MS 102          | 1        |
| Speech 140                | 2        | Elective                  | 3 or 4   |
| Elective                  | 3 or 4   |                           |          |
| Total                     | 18 or 19 | Total                     | 16 or 17 |

#### SECOND YEAR

|                  |    |                  |    |
|------------------|----|------------------|----|
| Chemistry 143    | 4  | Chemistry 144    | 4  |
| Mathematics 102  | 3  | Physics 161      | 4  |
| AS 151 or MS 151 | 1  | English 155      | 3  |
| Physics 160      | 4  | Mathematics 103  | 3  |
| Elective         | 4  | AS 152 or MS 152 | 1  |
|                  |    | Elective         | 3  |
| Total            | 16 | Total            | 18 |

#### THIRD YEAR

|                  |          |           |          |
|------------------|----------|-----------|----------|
| Genetics 451     | 3        | Electives | 17 or 18 |
| Soil Science 481 | 4        |           |          |
| Electives        | 10 or 11 |           |          |
| Total            | 17 or 18 | Total     | 17 or 18 |

#### FOURTH YEAR

|             |          |             |          |
|-------------|----------|-------------|----------|
| History 171 | 3        | English 210 | 3        |
| Electives   | 11 or 12 | Electives   | 14 or 15 |
| Total       | 14 or 15 | Total       | 17 or 18 |

The following list indicates the fields in which students electing the agricultural science curriculum may specialize. Required courses are listed, as well as additional courses from which electives may be chosen with approval of the adviser.

**ANIMAL SCIENCE.** *Requirements:* Animal Science 141, 145, 242, 243, 244, 341; Microbiology 151; Zoology 206; and 16 credits from the fol-

\*Majors in social science, animal science, and plant physiology take Chemistry 105-106.

lowing: Agricultural Biochemistry 402; Agricultural Economics 327; Agricultural Engineering 131, 132; Agronomy 502, 503; Animal Science 442, 443, 444, 445, 446; Entomology 161, 372; Horticulture 101; Poultry Science 474, 475; Zoology 345, 410, 416, 425, 431.

**ENTOMOLOGY.** *Requirements:* Microbiology 151; Entomology 161, 361, 362, 372; and 15 credits from the following: Agricultural Engineering 131, 132; Botany 105, 460, 470, 553; Chemistry 331; Geography 420; Geology 150, 151; Horticulture 362, 463; Philosophy 430; Plant Pathology 310; Soil Science 482, 483; Zoology 401, 410, 416, 425, 431, 345; also one year of a foreign language: German, French, Spanish, Japanese, or Russian.

**PLANT PHYSIOLOGY.** *Requirements:* Botany 410, 460, 470; Chemistry 331; Mathematics 140, 141, and 24 credits as follows: 6 from Botany 103, 412, 418, 425, 553, 570-571, 572, 573; Plant Pathology 310; 6 from Anthropology 150, Economics 150, Philosophy 100; 12 from French, German or Russian.

**POULTRY SCIENCE.** *Requirements:* Animal Science 446; Microbiology 151; Poultry Science 474, 475; Zoology 161, 311; and 15 credits selected from the following: Agronomy 502; Agricultural Engineering 131, 132; Animal Science 141, 145, 442; Chemistry 331; Economics 140, 480; Entomology 372; Genetics 451; Zoology 410.

**SOIL SCIENCE.** *Requirements:* Agricultural Engineering 435; Chemistry 331; Soil Science 399, 482, 483; and 18 credits from the following: Agronomy 502; Agricultural Engineering 431; Botany 161, 470, 570-571, 572, 573; Chemistry 271, 444, 551-552; Geography 101, 430; Geology 150, 151; Horticulture 162; Mathematics 103, 104; Microbiology 151, 251; Philosophy 350; Soil Science 484.

**TROPICAL HORTICULTURE.** *Requirements:* Horticulture 162, and 25 credits from the following: Agricultural Biochemistry 302\*; Agricultural Engineering 131, 132, 435; Botany 161, 410, 412, 418, 430, 460, 461, 470, 553, 570, 571; Chemistry 331; Entomology 161, 372; Genetics 451; German 101-102; Horticulture 161, 362, 369, 392, 453, 463, 464, 471, 494, 566; Mathematics 140, 141, 142; Microbiology 151; Plant Pathology 310; Soil Science 482, 483; Zoology 431.

### Curricula in Home Economics

The home economics program is designed to provide, through the facilities of the department and the University, a liberal education integrating the social and natural sciences, the humanities, and the arts, and

---

\*Chemistry 141 and Agricultural Biochemistry 302 may substitute for Chemistry 143 and 144.

to provide specialized instruction based upon these disciplines as preparation for professional careers in which the interest and well-being of the individual consumer, the family and the community are paramount.

As the functions of the family are being shifted increasingly to the larger community, there are expanded opportunities for home economics careers in educational and social agencies, government, business and industry, research laboratories, public and private institutions and services.

### General Home Economics

#### FIRST YEAR

| FIRST SEMESTER  |         | SECOND SEMESTER |         |
|-----------------|---------|-----------------|---------|
|                 | CREDITS |                 | CREDITS |
| Art 103         | 2       | Art 104         | 2       |
| English 101     | 3       | English 102     | 3       |
| Chemistry 101   | 4       | Chemistry 102   | 4       |
| H.E. 100        | 1       | H.P.E. 101      | 1       |
| H.E. 110 or 120 | 3       | H.E. 110 or 120 | 3       |
| H.P.E.          | 1       | Psy. 104        | 3       |
| Speech 140      | 2       |                 |         |
| Total           | 16      | Total           | 16      |

#### SECOND YEAR

|             |    |            |    |
|-------------|----|------------|----|
| H.E. 222    | 3  | Econ. 140  | 3  |
| Soc. 151    | 3  | Eng. 155   | 3  |
| Zoology 111 | 3  | H.E. 114   | 2  |
| History 171 | 3  | Micro. 130 | 2  |
| H.E. 112    | 2  | H.E. 103   | 3  |
| Elective    | 2  | Elective   | 3  |
| Total       | 16 | Total      | 16 |

#### THIRD YEAR

|           |    |           |    |
|-----------|----|-----------|----|
| H.E. 240  | 3  | Eng. 210  | 3  |
| H.E. 252  | 3  | H.E. 250  | 3  |
| H.E. 260  | 2  | Speech    | 1  |
| Speech    | 1  | Electives | 9  |
| Electives | 7  |           |    |
| Total     | 16 | Total     | 16 |

#### FOURTH YEAR

|                       |    |                     |    |
|-----------------------|----|---------------------|----|
| H. E. 258 or Elective | 4  | H.E.258 or Elective | 4  |
| H.E. 262              | 3  | Electives           | 12 |
| Electives             | 10 |                     |    |
| Total                 | 17 | Total               | 16 |

## Home Economics Education

## FIRST YEAR

| FIRST SEMESTER       |           | SECOND SEMESTER      |           |
|----------------------|-----------|----------------------|-----------|
|                      | CREDITS   |                      | CREDITS   |
| Art 103              | 2         | Art 104              | 2         |
| Chem. 103            | 4         | Chem. 104            | 4         |
| Eng. 101             | 3         | Eng. 102             | 3         |
| H.E. 100             | 1         | H.P.E. 102           | 1         |
| H.E. 112 or H.E. 120 | 3         | H.E. 112 or H.E. 120 | 3         |
| H.P.E. 130           | 1         | Psy. 104             | 3         |
| Speech 140           | 2         |                      |           |
| <b>Total</b>         | <b>16</b> | <b>Total</b>         | <b>16</b> |

## SECOND YEAR

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| H.E. 222     | 3         | Psy. 250     | 3         |
| Soc. 151     | 3         | Econ. 140    | 3         |
| Zool. 115    | 4         | Eng. 155     | 3         |
| H.E. 103     | 3         | Hist. 171    | 3         |
| Micro. 151   | 4         | H.E. 114     | 2         |
|              |           | Zool. 116    | 4         |
| <b>Total</b> | <b>17</b> | <b>Total</b> | <b>18</b> |

## THIRD YEAR

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| Educ. SE 230 | 4         | Eng. 210     | 3         |
| H.E. 252     | 3         | H.E. 250     | 3         |
| H.E. 260     | 3         | H.E. 270     | 3         |
| Speech 365   | 3         | Educ. SE 290 | 1         |
| H.E. 251     | 2         | H.E. 240     | 3         |
|              |           | H.E. 262     | 3         |
| <b>Total</b> | <b>15</b> | <b>Total</b> | <b>16</b> |

## FOURTH YEAR

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| H.E. 358     | 4         | Ed. SE 391   | 2         |
| H.E. 270     | 2         | Ed. SE 392   | 6         |
| Electives    | 11        | Electives    | 8         |
| <b>Total</b> | <b>17</b> | <b>Total</b> | <b>16</b> |

## FIFTH YEAR

*College of Education Secondary Curriculum*

|                      |           |              |           |
|----------------------|-----------|--------------|-----------|
| Ed. HP 660           | 3         | Ed. SE 690   | 14        |
| Ed. Ad. 680          | 2         | Ed. SE 691   | 2         |
| Elective (Education) | 5         |              |           |
| Electives            | 6         |              |           |
| <b>Total</b>         | <b>16</b> | <b>Total</b> | <b>16</b> |

Foods and Nutrition  
and  
Institution Management  
*First two years same curriculum*

FIRST YEAR

| FIRST SEMESTER  |         | SECOND SEMESTER |         |
|-----------------|---------|-----------------|---------|
|                 | CREDITS |                 | CREDITS |
| Art 103         | 2       | Art 104         | 2       |
| Chemistry 105   | 5       | Chemistry 106   | 5       |
| English 101     | 3       | English 102     | 3       |
| H.P.E. 101      | 1       | H.P.E. 102      | 1       |
| H.E. 100        | 1       | H.E. 110 or 120 | 3       |
| H.E. 120 or 110 | 3       | Speech 140      | 2       |
| Total           | 15      | Total           | 16      |

SECOND YEAR

|               |    |             |    |
|---------------|----|-------------|----|
| H.E. 222      | 3  | H.E. 123    | 3  |
| Psy. 104      | 3  | H.E. 103    | 3  |
| Sociology 151 | 3  | Micro. 151  | 4  |
| Zoology 115   | 4  | Zoology 116 | 4  |
| Speech        | 1  | Econ. 140   | 3  |
| Chemistry 141 | 4  |             |    |
| Total         | 18 | Total       | 17 |

FOODS AND NUTRITION

THIRD YEAR

|                  |    |                 |    |
|------------------|----|-----------------|----|
| Speech           | 1  | English 210     | 3  |
| History 171      | 3  | H.E. 250        | 3  |
| Biochemistry 271 | 4  | Elective        | 7  |
| H.E. 240         | 3  | Mathematics 103 | 3  |
| Elective         | 2  |                 |    |
| English 155      | 3  |                 |    |
| Total            | 16 | Total           | 16 |

FOURTH YEAR

|               |    |           |    |
|---------------|----|-----------|----|
| Chemistry 331 | 4  | H.E. 443  | 3  |
| H.E. 258      | 4  | Electives | 12 |
| Electives     | 9  |           |    |
| Total         | 17 | Total     | 15 |

### INSTITUTION MANAGEMENT THIRD YEAR

| FIRST SEMESTER   |           | SECOND SEMESTER |           |
|------------------|-----------|-----------------|-----------|
|                  | CREDITS   |                 | CREDITS   |
| Biochemistry 271 | 4         | H.E. 250        | 3         |
| H.E. 234         | 3         | H.E. 239        | 3         |
| H.E. 240         | 3         | H.E. 443        | 3         |
| History 171      | 3         | English 155     | 3         |
| H.E. 238         | 3         | H.E. 445        | 3         |
| <b>Total</b>     | <b>16</b> | <b>Total</b>    | <b>15</b> |

### FOURTH YEAR

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| H.E. 340     | 4         | English 210  | 3         |
| H.E. 258     | 4         | Business 101 | 3         |
| Business 100 | 3         | Electives    | 10        |
| H.E. 236     | 3         |              |           |
| Elective     | 3         |              |           |
| <b>Total</b> | <b>17</b> | <b>Total</b> | <b>16</b> |

### Clothing Design

#### FIRST YEAR

|              |           |              |           |
|--------------|-----------|--------------|-----------|
| Art 111      | 2         | Art 112      | 2         |
| English 101  | 3         | English 102  | 3         |
| H.P.E. 101   | 1         | H.P.E. 102   | 1         |
| H.E. 100     | 1         | H.E. 110     | 3         |
| H.E. 114     | 2         | H.E. 120     | 3         |
| H.E. 117     | 2         | Speech 140   | 2         |
| French 101*  | 3         | French 102   | 3         |
| <b>Total</b> | <b>14</b> | <b>Total</b> | <b>17</b> |

#### SECOND YEAR

|                |           |               |           |
|----------------|-----------|---------------|-----------|
| Art 131        | 2         | Art 132       | 2         |
| English 155    | 3         | Econ. 140     | 3         |
| Science 120    | 4         | Science 121   | 4         |
| H.E. 112       | 3         | H.E. 115      | 2         |
| Psychology 104 | 3         | H.E. 118      | 3         |
| H.E. 126       | 2         | Sociology 151 | 3         |
| <b>Total</b>   | <b>17</b> | <b>Total</b>  | <b>17</b> |

#### THIRD YEAR

|               |           |                 |           |
|---------------|-----------|-----------------|-----------|
| Marketing 300 | 3         | H.E. 103        | 3         |
| H.E. 214      | 3         | H.E. 215        | 3         |
| H.E. 252      | 3         | H.E. 250        | 3         |
| H.E. 260      | 3         | Elective in Art | 2         |
| History 171   | 3         | Elective        | 6         |
| Speech 150    | 3         |                 |           |
| <b>Total</b>  | <b>18</b> | <b>Total</b>    | <b>17</b> |

\*Not required if student has had two years of French in secondary school.

## FOURTH YEAR

|               |    |                 |    |
|---------------|----|-----------------|----|
| Marketing 340 | 3  | H.E. 220        | 3  |
| Art 335       | 2  | Elective in Art | 2  |
| H.E. 219      | 3  | English 209     | 3  |
| H.E. 418      | 3  | Electives       | 7  |
| H.E. 358      | 4  |                 |    |
| Elective      | 2  |                 |    |
| Total         | 17 | Total           | 15 |

**Hawaii Agricultural Experiment Station**

The facilities of the Station, including the research staff, the field laboratory, and the Agricultural Engineering Institute, are available in part for undergraduate and graduate instruction. Students are able to study the latest methods and results of agricultural research. Close collaboration is maintained with the stations of the Hawaiian Sugar Planters' Association and the Pineapple Research Institute of Hawaii.

The function of the Station is "to promote scientific investigation and experiments respecting the principles and applications of agricultural science" (Hatch Act of 1887). Investigations cover the physiology of plants and animals; diseases, insects, and parasites; agronomy, soils, food science, food processing, agricultural engineering, and biochemistry, human and animal nutrition; breeding and genetics; as well as other research in culture, production, and marketing.

Facilities for carrying on this work are provided by the headquarters offices and laboratories located on the University campus, by research farms at Poamoho and Waimanalo, Oahu, and by branch stations on the neighbor islands with attached laboratories and experimental farms. These include the Kona Branch Station; the East Hawaii Branch Station with farms at Malama-Ki, Waiakea, Volcano, and Hamakua; the Maui Branch Station with the Haleakala Station; the Kauai Branch Station. Modern research facilities for poultry and animals are available at the Animal Research Center at Waialeale, Oahu.

### **Cooperative Extension Service in Agriculture and Home Economics**

This 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 rural home life.

**Agricultural Extension Service.** The Service maintains personal contacts with the rural population through its field staff of county farm agents, home demonstration agents, and their assistants, with the help of the specialists at the state headquarters at the University. The staff, 77 in number, operates out of offices located as follows:



Oahu: Honolulu, Kaneohe, Wahiawa; Kauai: Lihue; Hawaii: Hilo, Naalehu, Kealahou, Honokaa, Kohala; Maui: Kahului, Kula; Molokai: Kaunakakai.

Improved farm and home practices are taught by means of practical demonstrations before University Extension clubs of men and women, commodity groups, and 4-H clubs of boys and girls. This group instruction is supplemented by farm and home visits and mass media. Each year various extension short courses and 4-H events are held on the University campus.

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

## **AGRICULTURE COURSES**

*See p. 41 for a discussion of course descriptions.*

### **Agriculture (AG)**

Associate Professors CHUN, S. GOTO

#### **100 ORIENTATION COURSE (1) I**

Lectures to acquaint the student with agriculture in Hawaii and help select major.

#### **399 AGRICULTURAL THESIS (Ar.) I, II**

Advanced individual work in field, laboratory, library. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in agriculture.

#### **401 INTRODUCTION TO AGRICULTURAL EXTENSION (3) II**

Objectives and organization. Methods, selection, and training of voluntary leaders; basic principles in program development and appraisal.

### **Agricultural Biochemistry (AB)**

Associate Professor MATSUMOTO; Assistant Professor HYLIN

#### **402 PRINCIPLES OF METABOLISM (3) I**

A study of fundamental metabolic processes common to plants and animals. Pre: Chemistry 105-106 and 141, or consent of instructor.

### **Agricultural Economics (AEc)**

Professors PHILLIP, SCOTT; Associate Professor ISHIDA; Assistant Professors AUER, BARMETTLER, LARSON, KEELER; Lecturers BAKER, B. LUCAS, WALLRABENSTEIN

#### **120 AGRICULTURAL ECONOMICS (3) I**

Introduction to economics of agricultural production, marketing, prices, income, and policy. Includes government policy and programs related to agriculture, land use, farm tenancy, and socio-economic problems of farmers in the nation and the world.

**321 AGRICULTURAL PRICES (3) II (2 L, 1 Lb)**

Factors affecting prices of agricultural products; evaluation of governmental price policy. Pre: a course in economics. (Alt. yrs.; offered 1964-65.)

**322 MARKETING AGRICULTURAL PRODUCTS (3) I (2 L, 1 Lb)**

Problems, agencies, functions, costs, prices, regulations affecting marketing; proposed improvements. Pre: an introductory course in economics or consent of instructor.

**327 FARM AND RANCH MANAGEMENT (3) I (2 L, 1 Lb)**

Principles of organization and management of individual farms and ranches; choice of enterprises; farm planning; budgeting; business aspects; records; farm and plantation visits.

**423 AGRICULTURAL COOPERATIVES (3) II**

History; appraisal of methods and operations; problems of management, membership relations, accounts. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**424 MARKETING OF TROPICAL AND SUBTROPICAL AGRICULTURAL PRODUCTS (3) I**

Marketing system and market analysis for sugar, rice, pineapple, coffee, citrus, and other tropical and subtropical crops. Pre: principles of economics, or consent of instructor. (Alt. yrs.; offered 1964-65.)

**425 MARKETING OF LIVESTOCK, POULTRY AND DAIRY PRODUCTS (3) II**

Marketing systems and market analysis for livestock, poultry and dairy products. (Alt. yrs.; not offered 1964-65.)

**426 AGRICULTURAL ECONOMICS EXTENSION (3) II**

Methods of disseminating agricultural economic information to extension agents, producers, manufacturers, distributors, and retailers. Includes methods of developing price and outlook reports and economic techniques in applied farm management. (Alt. yrs.; not offered 1964-65.)

**428 PRODUCTION ECONOMICS (3) II**

Economic analysis of agricultural production, including theory of the firm, resource allocation, production and cost functions, input-output analysis, farm size, enterprise combinations, tenure arrangements, risk, and decision making. Pre: AEC 327, or consent of instructor. (Alt. yrs.; offered 1964-65.)

**429 AGRICULTURAL POLICY AND PLANNING (3) I**

The roles of government and private enterprise in agriculture. Pre: Economics 105-151, or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**430 AGRICULTURAL FINANCE (3) I**

Financing of agricultural production and marketing enterprises and operation of agricultural credit systems. Pre: AEC 327, or consent of instructor. (Alt. yrs.; offered 1964-65.)

**431 FOREST ECONOMICS (3) II**

Economic principles involved in the utilization of forest land and timber, and the distribution of forest products. Pre: consent of instructor. (Alt. yrs.; not offered 1964-65.)

**433 ADVANCED FARM MANAGEMENT AND PLANTATION ECONOMICS (3) II (2 L, 1 Lb)**

Advanced work in management and organization of commercial farms; farm business analysis; plantation economics. Pre: AEC 327, or consent of instructor. (Alt. yrs.; offered 1964-65.)

**624 MARKETING RESEARCH (3) II**

Research methodology, analysis of data, presentation of findings. Original research project. Pre: AEc 321, 322, or consent of instructor.

**625 ECONOMICS OF AGRICULTURE: TROPICAL COUNTRIES AND ASIA (3) II**

Economics of agricultural technology, resource utilization, comparative advantage, international and intra-country marketing problems, institutions affecting the agricultural economy.

**626 COLLECTION OF ECONOMIC DATA IN AGRICULTURE (3) II**

Methods of collection of agricultural data for regular programs and for special purposes. Pre: Business 300, or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**629 PRODUCTION ECONOMICS (3) I**

Economics of resource allocation at the firm and industry levels. Advanced analytical techniques of analysis: linear programming; synthesis; budgeting; statistical analysis.

**630 MARKET DEVELOPMENT FOR AGRICULTURAL PRODUCTS (3) II**

Methodology for determining market potentials and methods and costs of market development for products of agricultural origin. Pre: AEc 322 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**631 SEMINAR: CONSUMER ECONOMICS AND FOOD DISTRIBUTION (3) II**

Advanced study of consumer demand and food distribution, with emphasis on research methods. Pre: AEc 322 or consent of instructor. (Alt. yrs.; offered 1964-65.)

**632 ECONOMICS OF AGRICULTURAL PROCESSING INDUSTRIES (3) I**

Economic studies of processing efficiency, economic feasibility of new processing methods, and the role of processing in the marketing of agricultural products. Pre: AEc 322 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**634 ADVANCED AGRICULTURAL PRICES AND STATISTICAL ANALYSIS (3) II**

Research methodology in the analysis of agricultural prices and other statistical data in agriculture, including techniques for estimating prices and determination of factors affecting prices. Pre: basic courses in prices and statistics. (Alt. yrs.; not offered 1964-65.)

**636 SEMINAR: AGRICULTURAL POLICY (3) II**

Economic analysis of agricultural policy at state, national, and international levels, with particular reference to the influence of policy on economic development in agriculture. Pre: AEc 429 or consent of instructor. (Alt. yrs.; offered 1964-65.)

**637 ECONOMICS OF AGRICULTURAL RESOURCE DEVELOPMENT (3) II**

Theory of the economics of agricultural resource development, economic development of agriculture in relation to other sectors of the economy; an economic evaluation of domestic and international problems of agricultural development in emerging and underdeveloped countries. Pre: AEc 428 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**638 SEMINAR: LAND USE IN DEVELOPING COUNTRIES (3) I**

The role of the pattern of land use on agricultural economic development and the welfare of rural people in emerging agricultural nations. Pre: Business Economics 430 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**639 FINANCING AGRICULTURE IN DEVELOPING COUNTRIES (3) I**

Sources of credit and the functions of credit in agricultural economic development with particular reference to credit problems in underdeveloped nations. Pre: AEc 430 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. degree; consent of instructor.

## **Agricultural Engineering (AE)**

Professor KINCH; Assistant Professors VAN'T WOUTD, WANG

**131-132 INTRODUCTION TO MECHANIZED AGRICULTURE (3-3) Yr. (2 L, 1 Lb)**

Basic principles of mechanized agriculture, with applications to field and farmstead equipment.

**431 AGRICULTURAL POWER AND EQUIPMENT (3) I (2 L, 1 Lb)**

Operation, adjustment, selection, and maintenance of farm and plantation power and machine units. Pre: AE 131 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**435 FARM IRRIGATION (3) II (2 L, 1 Lb)**

Maintenance of water balance, water conveyance and measurement on the farm, irrigation methods. Pre: AE 132 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**631 ANALYSIS OF IMPLEMENT DESIGN (3) I (2 L, 1 Lb)**

Application of machine design principles and the basic soil, crop requirements in solving typical equipment design problems. Pre: Mechanical Engineering 374 or equivalent. (Alt. yrs.; not offered 1964-65.)

**635 FARM IRRIGATION SYSTEM DESIGN (3) II (2 L, 1 Lb)**

Design based on water requirements; design of water conveyance and diversion structures and of application methods. Irrigation economics. Pre: Civil Engineering 321 or equivalent. (Alt. yrs.; offered 1964-65.)

**637 INSTRUMENTATION (3) I (2 L, 1 Lb)**

Dynamic response of sensing elements; automatic control theory; thermoelectric temperature measurement; strain gauge instrumentation. Pre: Mathematics 142, Physics 180-181 or equivalent.

**638-639 TOPICS IN TROPICAL AGRICULTURAL ENGINEERING (2-2) I, II**

Two-semester cycle; soil conservation and irrigation under tropical conditions, equipment design for tropical crops, field engineering on the plantation, tropical fruits, and nut processing equipment. Pre: consent of department chairman.

**699 DIRECTED RESEARCH (Ar.) I, II**

## **Agronomy and Soil Science**

Senior Professor G. D. SHERMAN; Professors SWINDALE, YOUNGE; Associate Professor FOX; Assistant Professors KANEHIRO, MOORE, ROTAR, TAKAHASHI, UEHARA

### **AGRONOMY (AGR)**

**501 TROPICAL CROP PRODUCTION (3) I**

Current agricultural practices in the production of sugar cane, pineapple, vegetables, fruits, and forage in the tropics. Course fee \$2.00.

**502 PRINCIPLES OF AGRONOMY (3) II (2 L, 1 Lb)**

Field crop production, ecology, geography. Pre: Botany 101; Chemistry 104 or equivalent.

**503 RANGE MANAGEMENT (3) II**

Origin, establishment, inventory, utilization, and management of pasture and range forage. Emphasis on applications in the tropics. Pre: Botany 101. (Alt. yrs.; not offered 1964-65.)

**510 SUGAR CANE AGRONOMY (3) II**

The cane plant: breeding, physiology, culture, growth, harvesting, milling, and marketing; field practices and management; international agreements.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. degree.

**SOIL SCIENCE (SS)****399 AGRICULTURAL THESIS (Ar.) I, II****481 SOILS (4) I (3 L, 1 Lb)**

Origin, development, properties, and management of tropical soils; classification of Hawaiian soils. Pre: Chemistry 104. Course fee \$3.00.

**482 SOIL FERTILITY (3) II**

Soil composition and fertility. Special attention to field trials, soil tests, and foliar diagnosis in determining fertilizer requirements. Pre: SS 481.

**483 SOIL CHEMISTRY (3) II (1 L, 2 Lb)**

Study of soil reaction, availability of plant nutrients, and chemical analyses of soils. Pre: SS 481.

**484 SOIL PHYSICS (3) II (2 L, 1 Lb)**

Physical properties of soils; structure and moisture relationships. Pre: Physics 161 or 181; SS 481. (Alt. yrs.; offered 1964-65.)

**485 SOIL BIOTICS (3) II (2 L, 1 Lb)**

Soil nitrogen, sulfur, and phosphorus transformations. Nitrogen fixation. Effect of soil organisms on physical properties of soils. Decomposition of residues and organic matter. Microorganisms as indicators of soil fertility status. Soil factors influencing biotic activity.

**685 SOIL FORMATION (3) I**

Soil-weathering and soil-forming processes on the basis of modern pedologic principles. Pre: consent of instructor.

**686 SOIL CLASSIFICATION (3) II**

Comprehensive study of the genesis of soils and the various systems of classification, with special reference to tropical soils. Lectures and field work.

**687 SOIL SCIENCE SEMINAR (1) I, II**

Review of recent findings in soil science research in the fields of soil chemistry, physics, classification, fertility, bacteriology, and technology. Pre: graduate standing.

**688 SOIL AND CLAY MINERALOGY (3) II (2 L, 1 Lb)**

Identification of soil secondary minerals with special emphasis on clay. Pre: Geology 240 or consent of instructor.

**689 ADVANCED SOIL FERTILITY (4) I (2 L, 2 Lb)**

Ion exchange, organic matter transformations, and solubilization of compounds related to crop growth and composition. Use of soil and plant tissue tests for estimating fertilizer requirements. Pre: consent of instructor.

**690 ADVANCED SOIL CHEMISTRY (3) II**

A critical study of methods of soil analysis and the chemical properties of soils.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. degree; consent of instructor.

**799 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the Ph.D. degree; consent of instructor.

## **Animal Science (AS)**

Professor WAYMAN; Associate Professor COBB; Assistant Professor STANLEY; Instructor IWANAGA; Lecturer LYND

**141 ANIMAL HUSBANDRY (3) II (2 L, 1 Lb)**

Study of the important domestic animals, their origin, distribution, and economic importance with an introduction to feeding, breeding, and management for each species.

**145 FEEDS AND FEEDING (3) I (2 L, 1 Lb)**

Basic principles of feeding farm animals; composition and nutritional value of feeds; nutritional requirements of dairy cattle, beef cattle, swine and sheep; balancing rations for specific productive purposes. Pre: Chemistry 104.

**242 BEEF PRODUCTION (2) II**

Economical production of beef cattle; organization of the enterprise, breeds, selection of breeding stock, handling and feeding of animals of different ages on the range and in the feedlot. Pre: AS 141. (Alt. yrs.; offered 1964-66.)

**243 DAIRY HUSBANDRY (3) II**

Principles involved in the economical production of milk; breeds of dairy cattle, selection, raising young animals; breeding, care, housing, and management of milk-herd; factors affecting the quantity and quality of milk produced. Pre: AS 141. (Alt. yrs.; not offered 1964-65.)

**244 SWINE PRODUCTION (2) I**

Principles of efficient pork production including breeds, breeding, feeding, management, and marketing. Pre: AS 141. (Alt. yrs. offered 1964-65.)

**341 LIVESTOCK MANAGEMENT (4) (5 L, 5 Lb for 9 weeks)**

Assigned problems and practical experience in management of livestock; housing, handling, feeding, and judging swine, beef, and dairy cattle. Required for animal science majors during summer between junior and senior years.

**442-443 PHYSIOLOGY OF DOMESTIC ANIMALS (4-4) Yr. (3 L, 1 Lb)**

The organ systems of the body, their anatomical arrangement, structure and function. Emphasis will be placed on most important species. (Alt. yrs.; not offered 1964-65.)

**444 ANIMAL NUTRITION (4) II (2 L, 2 Lb)**

Digestion and metabolism of carbohydrates, proteins, fats, minerals, vitamins, antibiotics, and hormones; nutrient needs for body processes and productive functions. Pre: AS 145, AB 302. Course fee \$5.00. (Alt. yrs.; offered 1964-65.)

**445 ANIMAL BREEDING (3) I**

Application of genetic principles to the improvement of livestock and poultry. Pre: Genetics 451 or consent of instructor.

**446 ANIMAL DISEASES AND THEIR CONTROL (3) I (2 L, 1 Lb)**

Disease problems of livestock and poultry; prevention, control, and eradication. Pre: AS 141; PS 172, and consent of instructor.

**641 SEMINAR IN ANIMAL SCIENCE (1) I, II**

Topics of current interest and current research related to nutrition, genetics, and physiology. Pre: consent of instructor. (May be repeated.)

**642 RUMINANT NUTRITION (2) II**

Physiology and nutrition of the ruminant including microbiology of the rumen, carbohydrate utilization and production of volatile fatty acids, protein metabolism, absorption of nutrients, metabolic processes, normal and abnormal functions within the rumen. Pre: AS 442-443, 444, AB 302. (Alt. yrs.; offered 1964-65.)

**643 PHYSIOLOGY OF REPRODUCTION AND MILK SECRETION (3) I**

Factors responsible for the differentiation, development, and growth of the reproductive systems of higher vertebrates; artificial insemination; anatomy and function of the mammary system with emphasis on physiological and biochemical aspects. (Alt. yrs.; offered 1964-65.)

**645 ADVANCED ANIMAL BREEDING (2) II**

An advanced study of selection, mating systems, and the genetic principles of livestock breeding. Pre: AS 445. (Alt. yrs.; offered 1964-65.)

**699 DIRECTED RESEARCH (Ar.) I, II**

(1) Genetics; (2) nutrition; (3) physiology; (4) management.

## Entomology (Ent)

Senior Professors BESS, HARDY; Professors NISHIDA, RUTSCHKY, M. SHERMAN; Assistant Professors BEARDSLEY, HARAMOTO, MITCHELL, TAMASHIRO

**161 GENERAL ENTOMOLOGY (4) I, II (2 L, 2 Lb)**

Structure, habits, biology, and classification of insects; insects characteristic of Hawaii. Course fee \$3.00.

**361 INSECT MORPHOLOGY (3) I (2 L-Lb)**

Comparative and gross morphology; homologies of structures; anatomy; development in representative groups. Pre: Ent 161. Course fee \$1.00.

**362 SYSTEMATIC ENTOMOLOGY (3) II (2 L-Lb)**

Classification of insects; orders and families. Use of taxonomic tools. Pre: Ent 361. Course fee \$2.00.

**372 ECONOMIC ENTOMOLOGY (4) II (2 L, 2 Lb)**

Insect pests; principles of chemical, biological, and cultural control. Laboratories on Hawaiian insects of households, plants, and animals. Pre: Ent 161; Chemistry 104. Course fee \$3.00.

**661 MEDICAL AND VETERINARY ENTOMOLOGY (3) I (2 L, 2 Lb)**

Insects and other arthropods in relation to causation of human and animal diseases. Pre: Ent 161, desirable Zoology 410 and Microbiology 151. Course fee \$3.00.

**662 ADVANCED SYSTEMATIC ENTOMOLOGY (3) II (2 L-1b)**

Classification of special groups. Nomenclatorial problems; international code. Pre: Ent 362. Lab fee \$1.00.

**663 SCALE INSECTS (3) I (2 L-1b)**

Coccids of Hawaii. Taxonomy, techniques, economic importance, control. Pre: Ent. 161; desirable Botany 460. Course fee \$5.00.

**664 IMMATURE INSECTS (3) II (2 L, 2 Lb)**

Identification, structure, literature, and economic significance, emphasis on the Holometabola. Pre: Ent 362. Course fee \$5.00.

**671 INSECT ECOLOGY (3) I (2 L, 1 Lb)**

Insects as living units in an environment of physical and biotic factors. Pre: Ent 362, 372; desirable Zoology 431.

**672 ACAROLOGY (3) II (2 L, 2 Lb)**

Taxonomy, biology, and ecology of mites. Emphasis on medically and agriculturally important species. Pre: Ent 362. Lab fee \$5.00.

**673 INSECT PATHOLOGY (3) II (2 L, 1 Lb)**

Diseases of insects; histopathology; microbe agents and biological control. Pre: Ent 372.

**675 BIOLOGICAL CONTROL OF PESTS (3) I (2 L, 1 Lb)**

Fundamental concepts. Critical study of major biological control projects. Pre: Ent 362, and 372; desirable Zoology 431.

**680 INSECT TOXICOLOGY (4) I (2 L, 2 Lb)**

Mode of action of insecticides. Relationship of toxicology and physiology to use of insecticides. Pre: Ent 372; Chemistry 141.

**686 INSECT-TRANSMITTED DISEASES OF PLANTS (3) II**

Problems of insect transmission of plant disease. Pre: Ent 161 and Plant Pathology 310.

**697 ENTOMOLOGY SEMINAR (1) I, II**

Current entomological literature. Reviews and reports. Required of graduate students in entomology.

**699 DIRECTED RESEARCH (Ar.) I, II**

Directed research and reading in various fields of entomology.

## **Food Science and Technology (FS)**

Professor EDWARD ROSS; Associate Professor FRANK; Assistant Professors ALLEN, YAMAMOTO

**301 FOOD TECHNOLOGY (2) I**

Introduction to the field of food technology and survey of commercial food processing. Special tropical and Asian food products. Lectures and field trips to local processors. (Alt. yrs.; not offered 1964-65.)

**510 TROPICAL FOOD PROCESSING (3) I (1 L, 2 3-Hr Lb)**

Applied principles of processing and preservation; unit operations in canning, freezing, dehydration, and chemical preservation of tropical foods; practical sanitation procedures. Pre: consent of instructor.



**511 TROPICAL FOOD PRODUCTS (2) II (1 L, 1 3-Hr Lb)**

Procedures for evaluating quality. Examination of tropical food products by adapting standard laboratory methods. Experimental test methods in new product development. Pre: consent of instructor.

**601 PRINCIPLES IN FOOD SCIENCE AND TECHNOLOGY (3) II**

Integration of physical, chemical, and biological concepts to formulate basic principles in food science and technology; the scientific basis of food preservation. Pre: general physics, biochemistry, and microbiology. (Alt. yrs.; offered 1964-65.)

**603 MICROBIOLOGY OF FOODS (3) I**

Description of micro-organisms encountered in foods; different types of food spoilage; various methods used for food preservation. Pre: Microbiology 151 or equivalent with consent of instructor.

**604 LABORATORY METHODS FOR FOOD MICROBIOLOGY (2) II (2 Lb)**

Laboratory experiments and selected field trips to food processing plants; designed to acquaint the student with appropriate methods for study of microbial food spoilage, its control and prevention. Pre: Microbiology 151 or equivalent with consent of instructor.

**620 SEMINAR IN FOOD SCIENCE (1) I**

Special topics, reports, and informal discussion of graduate student research. Pre: consent of instructor.

**630 BIOCHEMICAL AND CHEMICAL ASPECTS OF FOOD SCIENCE (3) II**

Properties of natural compounds of importance to food processing, including application and control for selected enzyme systems. Pre: biochemistry.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of department chairman.

**701 SEMINAR IN RECENT ADVANCES IN FOOD RESEARCH (1) II**

Reports and discussions from current literature in food science and technology.

## **Home Economics (HE)**

Professors BOATMAN, KRAEMER, TEMPLE; Associate Professors BROWN, TULL, UMBEL; Assistant Professors EDER, HERRICK, MACKAY, WEDDLE; Instructors ABE, FURER, ODA, SATHER

**100 ORIENTATION IN HOME ECONOMICS (1) I (1 L, 1 Lb)**

Home economics in education; vocational study and planning. Open to freshmen students in home economics.

**103 CHILD STUDY AND OBSERVATION (3) I, II (2 L, 1 Lb)**

Principles of development and guidance of children. Observation and participation in the nursery school and other situations involving children. Pre: Psychology 102 or 104.

**110 AESTHETICS OF CLOTHING AND PERSONAL APPEARANCE (3) I, II (3 L)**

Individual analysis; principles of color, design, grooming, wardrobe planning. Personality projection through clothing. Open to freshman and sophomore women. Course fee \$3.00.

**112 CLOTHING CONSTRUCTION (3) I (1 L, 2 Lb)**

Selection and use of equipment and commercial patterns. Principles of fitting. Course fee \$2.00.

**114 TEXTILE FABRICS (2) I, II**

Fibers, yarns, fabric construction and finishes as related to selection, use, and care of textile fabrics. Open to all students. Course fee \$2.00.

**115 BLOCK PATTERN DESIGNING (2) II (2 Lb)**

Development of master pattern blocks and their manipulation in designing women's and children's apparel. Clothing design majors only. Course fee \$2.00. Pre: 112.

**117 COSTUMES OF THE WESTERN WORLD (3)**

Factors determining fashion; characteristics of selected designers; organization, structure, techniques, terminology of fashion industry.

**118 COSTUME DESIGN AND SKETCHING (3) II (2 L, 1 Lb)**

Development of originality through sketching the fashion figure. Sources of design inspiration. Clothing design majors only. Alt. yrs. Pre: Art 112.

**120 INTRODUCTION TO FOODS (3) I, II (1 L, 2 Lb)**

Basic principles of food preparation. Course fee \$8.00. Home econ. majors only.

**123 ADVANCED FOODS (3) II (2 L, 2 Lb)**

Principles and techniques that have a role in food preparation. Comparative cookery with emphasis on the physical and chemical variables in food. Pre: HE 120, Chemistry 106. Course fee \$8.00.

**126 INTRODUCTION TO NUTRITION (2) I, II (2 L)**

Factors involved in nutrition. For nonmajors.

**214-215 CLOTHING DESIGN AND CONSTRUCTION (3-3) Yr. (2 Lb)**

Designing apparel by draping and pattern blocking. Industry methods of production. Pre: HE 115. Course fee \$4.00.

**216 ADVANCED CLOTHING (3) I, II (3 Lb)**

Principles of flat pattern blocking applied in adapting commercial patterns to the individual; consideration of fitting problems and fabric selection. Pre: HE 113 or consent of instructor. Course fee \$4.00.

**217 ADVANCED PATTERN DESIGNING (3) II (3 Lb)**

Creative designing through flat pattern blocking; advanced construction techniques. Alt. yrs. Pre: HE 216. Course fee \$4.00.

**219-220 CREATIVE PROBLEMS IN COSTUME DESIGN (3-3) Yr. (3 Lb)**

Designing for seasonal markets, size ranges, price levels, and style lines. Pre: HE 118, 215. Course fee \$4.00.

**222 MEAL MANAGEMENT (3) I (1 L, 2 Lb)**

Selection and purchase of food and the planning, preparation, and serving of meals. Pre: HE 120. Course fee \$8.00.

**234 INSTITUTIONAL FOOD PRODUCTION (3) I (1 L, 2 Lb)**

Preparation and service of food in quantity; menu planning; cost, use, and care of equipment. Pre: HE 222.

**235 INSTITUTIONAL FOOD PRODUCTION AND PURCHASING (3) II (1 L, 2 Lb)**

Preparation and service of food in quantity; cost, use, and care of equipment. Also emphasizes food selection and procurement. Hotel Management majors only. Pre: HE 234.

**236 INSTITUTIONAL ADMINISTRATION (3) II**

Organization and management of food service in various types of institutions. Pre: 234.

**238-239 INSTITUTIONAL PURCHASING (3-3) Yr.**

Food and equipment specifications and requirements for various types of institutions. Pre: credit or concurrent registration in HE 234.

**240 PRINCIPLES OF NUTRITION (3) I (2 L, 1 Lb)**

Basic principles of nutrition, quantitative study of food materials. Pre: Chemistry 106, Zoology 111 or 115. Course fee \$8.00.

**250 HOME MANAGEMENT (3) II (3 L)**

Management for individuals and families through decision making and organization.

**251 HOUSEHOLD EQUIPMENT (2) II (1 L, 1 Lb)**

Selection, use, care, and repair of household appliances and equipment. Demonstration techniques.

**252 FAMILY HOUSING AND HOME FURNISHINGS (3) I, II (2 L, 1 Lb)**

Evaluation of housing for family living. Selection, use, and arrangement of furnishings and accessories in the home. Pre: Art 104 or 131, Course fee \$5.00.

**260 FAMILY ECONOMICS (3) I**

Consumer-producer relationship in the economy. Family financial management. Pre: Economics 140.

**262 FAMILY RELATIONSHIPS (3) I, II**

A study of the interrelationships of the individual and his family through the various stages of the life cycle. Pre: Psychology 102 or 104 and Sociology 151.

**270 HOME ECONOMICS EDUCATION (3) II**

Curriculum content, teaching procedures and current educational philosophies and practices in home economics education. Pre: Psychology 102 or 104.

**340 HOSPITAL DIETARY MANAGEMENT (4) I, II**

Experience in all phases of dietary department operation in an approved institution. Pre: HE 234, 443, 445; consent of instructor.

**358 HOME MANAGEMENT RESIDENCE (4) I, II**

Supervised residence laboratory in home living. Students share subsistence cost. Pre: senior standing; HE 250.

**399 DIRECTED READING OR RESEARCH (Ar.) I, II**

(1) Child development and family relationships, (2) clothing and textiles, (3) home management, equipment, family economics, (4) institutional management, (5) foods and nutrition. Limited to senior majors with 3.0 grade-point ratio.

**418 COSTUMES OF ASIA (3) II**

Development and characteristics of costumes and fabrics of China, Japan, Korea, Philippines, India, southeast Asia; relation to customs and culture. (Alt. yrs.)

**441 CULTURAL ASPECTS OF FOOD (3) II (2 L, 1 Lb)**

Regional foods-meal patterns, preparation, serving, cost, and study of nutritional adequacy. Pre: HE 240, 241. Course fee \$8.00.

**443 ADVANCED NUTRITION (3) II (2 L, 1 Lb)**

Energy, protein, mineral and vitamin needs and metabolism. Dental health. Animal feeding experiments. Pre: HE 240, 241; Chemistry 271. Course fee \$5.00.

**445 DIET AND DISEASE (3) (2 L, 1 Lb)**

Diet therapy under abnormal conditions. Pre: credit or concurrent registration in HE 443. Course fee \$5.00.

**447 SEMINAR IN NUTRITION (1) II**

Study and discussion of significant topics and problems in the field of nutrition. May be repeated. Pre: consent of instructor.

**470 SPECIAL PROBLEMS IN HOME ECONOMICS (2) I, II**

Development of teaching material. Class and individual problems selected according to the needs of the fifth-year students in home economics education.

**650 SEMINAR IN FAMILY LIFE (3) I, II**

A review and analysis of the literature related to human development and interpersonal relationships within the family. Family functions and values of varying cultures are considered. Pre: graduate standing and consent of the instructor.

## Horticulture (H)

Professors HAMILTON, WARNER, WATSON; Associate Professors BREWBAKER, GILBERT;  
Assistant Professors AKAMINE, NAKASONE, ROMANOWSKI, YEE

**101 GENERAL HORTICULTURE (2) I**

Horticulture and horticultural research intended for students who want a general knowledge but who do not plan to specialize in these fields.

**161 PRINCIPLES OF PLANT PROPAGATION (3) I (2 L, 1 Lb)**

Theory and practical methods of plant propagation. Pre: Botany 101. Course fee \$3.00. (Alt. yrs.; offered 1964-65.)

**162 PRINCIPLES OF HORTICULTURE (3) I (2 L, 1 Lb)**

Relationships of plant structures, nutrients, environment, and cultural methods to plant growth. Pre: Botany 101; credit or concurrent registration in Chemistry 104.

**362 PRINCIPLES OF TROPICAL POMOLOGY (3) II (2 L, 1 Lb)**

Botany, distribution, and basic requirements of tropical fruit crops. Pre: H 162; Botany 101. Course fee \$1.00.

**369 ORNAMENTAL PLANT MATERIALS (3) II**

Lawns, ground covers, vines, shrubs, herbaceous plants, and trees in Hawaii. Pre: H 162; Botany 460; or consent of instructor.

**392 COMMERCIAL VEGETABLE PRODUCTION (3) I (2 L, 1 Lb)**

Production methods and current problems from choosing seed to marketing. Emphasizes top ten Hawaiian vegetables. Pre: H 162; credit or concurrent registration in Ent 161. Course fee \$3.00.

**453 PRINCIPLES OF PLANT BREEDING (3) II (2 L, 1 Lb)**

Cytogenetics, hybridization, and selection in the improvement of plants. Pre: Genetics 451.

**463 PRINCIPLES OF FLORICULTURE (3) I (2 L, 1 Lb)**

Fundamentals and practices of producing floricultural crops in Hawaii. Pre: H 162; Botany 101. Course fee \$3.00.

**464 ORCHIDOLOGY (3) II (2 L, 1 Lb)**

Classification, culture, cytogenetics, and breeding of orchids. Pre: Botany 101; Genetics 451.

**471 POSTHARVEST PHYSIOLOGY (3) II (2 L, 1 Lb)**

Handling and storage of horticultural crops. Pre: H 162 or consent of instructor. (Alt. yrs.; not offered 1964-65.)

**494 SYSTEMATIC VEGETABLE CROPS (3) II (2 L, 1 Lb)**

Adaptation, qualities, disease and insect resistance, taxonomic comparison of types grown in Hawaii; pedigrees and breeding of major varieties. Pre: H 162.

**566 ADVANCED TROPICAL POMOLOGY (3) II (2 L, 1 Lb)**

Origin, culture, and management of fruit and nut crops commercially important in Hawaii. Pre: H 362 or consent of instructor.

**603 EXPERIMENTAL DESIGN (2) II (1 L, 1 Lb)**

Use of statistical methods and experimental designs in plot technique and agricultural research. Pre: Zoology 431, 432.

**611 ADVANCED PLANT BREEDING (3) I (2 L, 1 Lb)**

Breeding systems and methods, field plot and cytogenetic techniques in plant improvement. Pre: H 453.

**666 RADIATION BIOLOGY (3) I**

Types and sources of radiation; effects of irradiation on living organisms; applications in agricultural research. Pre: consent of instructor.

**667 HORTICULTURE SEMINAR (1) I, II**

Presentation of reports upon research or reviews of current literature in horticulture.

**668 GROWTH REGULATORS IN HORTICULTURE (3) II**

Concepts of plant growth regulation and application in agriculture. Pre: Botany 470.

**691 CROP ECOLOGY (3) II (2 L, 1 Lb)**

Climatic, edaphic, and biotic factors influencing tropical and subtropical crops; instrumentation and data interpretation. Pre: 162 or consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II****711 SPECIAL TOPICS IN EXPERIMENTAL HORTICULTURE (Ar.)**

Lecture series on recent advances in horticultural research with detailed study of specific areas of this field. Intended for plant science graduates. Pre: consent of staff.

## Nutrition (N)

Associate Professor LICHTON; Assistant Professors HILKER, STANDAL

**601-602 HUMAN NUTRITION (3-3) I, II (2 L, 1 Lb)**

Fundamental concepts of human nutrition. Lecture and quantitative laboratory studies of the biochemistry and physiology of nutrition and certain diseases of nutritional origin. Pre: consent of instructor.

**621 TOPICS IN NUTRITION (2) I, II**

Reports and discussion of a topic of current interest in nutrition such as infant and child nutrition, trace elements, nutritional diseases. Pre: graduate standing.

**651 DIETARY STUDIES (2) I, II**

Individual, group, family and/or institutional studies of the nutritive value of diets. Pre: consent of instructor.

**652 LABORATORY METHODS IN NUTRITION (3) I, II**

Experiments: food analysis, balance experiments with animals or humans, vitamin determinations. Pre: Chemistry 271; consent of department chairman.

**699 DIRECTED (Ar.) I, II**

Pre: consent of department chairman.

**701 SEMINAR (1) I**

Reports and discussion of special topics and graduate student research. Pre: consent of instructor.

## **Plant Pathology (PP)**

Associate Professor ISHII; Assistant Professors ARAGAKI, HINE, HOLTZMANN

**310 PRINCIPLES OF PLANT PATHOLOGY (4) I (2 L, 1 Lb)**

Disease in plants; emphasis upon infection and development in relation to environment; epidemiology; methods of appraisal; control. Pre: Botany 101.

**610 PRINCIPLES OF PLANT DISEASE CONTROL (3) II (2 L, 1 Lb)**

Methodology and application of plant disease control. Pre: PP 310. (Alt yrs.; not offered 1964-65.)

**620 PLANT PATHOLOGY TECHNIQUES (3) I (2 L, 1 Lb)**

Laboratory and greenhouse methods for the study of plant diseases; isolation, culture, and inoculation; pathological histology, and photography. Pre: PP 310; Microbiology 151; or consent of instructor. Lab fee \$5.00. (Alt. yrs.; offered 1964-65.)

**625 ADVANCED PLANT PATHOLOGY (2) II**

Analysis of basic concepts of plant diseases; emphasis on physiology of parasitism, etiology, and epidemiological principles. Pre: PP 310, 610; or consent of instructor. (Alt. yrs.; offered 1964-65.)

**660 SEMINAR (1) I, II**

Seminars in contemporary research. Reviews and reports.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: candidacy for the M.S. degree; consent of instructor.

## **Plant Physiology**

Professor COOIL; Associate Professors LOCKHART, PUTMAN

*For course descriptions, see the following listings under the Department of Botany.*

**BOTANY 470 PRINCIPLES OF PLANT PHYSIOLOGY (4) II (3 L, 1 Lb)****BOTANY 570-571 ADVANCED PHYSIOLOGY (3-3) Yr.****BOTANY 572 TECHNIQUES IN PHYSIOLOGY (2) I (2 Lb)****BOTANY 573 TECHNIQUES IN PHYSIOLOGY-BIOCHEMISTRY (2) II (2 Lb)****BOTANY 612 ADVANCED BOTANICAL PROBLEMS (Ar.) I, II****BOTANY 675 PHYSIOLOGY SEMINAR (1) II****BOTANY 699 DIRECTED RESEARCH (Ar.) I, II**

## **Poultry Science (PS)**

Associate Professor E. ROSS; Assistant Professors HERRICK, PALAFOX

**472 ADVANCED POULTRY PRODUCTION (3) I (2 L, 1 Lb)**

An advanced study of poultry management practices in the U.S., and Pacific area countries. Pre: PS 172. (Alt. yrs.; offered 1963-64.)

**474 POULTRY NUTRITION (3) I (2 L, 1 Lb)**

Principles of poultry nutrition; formulation of poultry rations with local feeds. Pre: PS 172. (Alt. yrs.; not offered 1964-65.)

**475 INCUBATION AND HATCHERY MANAGEMENT (3) I (2 L, 1 Lb)**

Principles and practices in incubation and brooding; chick embryology. Pre: PS 172. (Alt. yrs.; offered 1964-65.)

**601 SEMINAR IN POULTRY SCIENCE (I) I, II**

Current trends and problems in poultry science.

**699 DIRECTED RESEARCH (Ar.) I, II**

# GRADUATE SCHOOL

THE GRADUATE SCHOOL 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 University offers graduate work leading to:

- 1) The doctor of philosophy in agricultural economics, anthropology, biochemistry, botany, chemistry, entomology, genetics, geological sciences, history, horticulture, meteorology, microbiology, philosophy (Western, Asian, and comparative), physics, political science, psychology, soil science, and zoology;
- 2) the master's degree in agricultural economics, agricultural engineering, agronomy, American studies, animal science, anthropology, art, Asian studies, biochemistry, botany, business administration, chemistry, Chinese, civil engineering, drama and theatre, economics, education, electrical engineering, English, entomology, food science, French, genetics, geography, geology, German, history, horticulture, Japanese, linguistics, mathematics, meteorology, microbiology, music, nursing, nutrition, oceanography, overseas operations, Pacific islands studies, philosophy, physics, plant pathology, political science, poultry science, psychology, public health, social work,\* sociology, soil science, speech, teaching of English as a second language, and zoology.
- 3) the professional certificate for teachers in the employ of the state Department of Education (*see* p. 146).

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

Complete information concerning admission, procedures, and requirements is given in the *Graduate Bulletin*, available upon request from the office of the Graduate School.

---

\*For School of Social Work see Graduate Bulletin or School of Social Work Bulletin.



The following list of courses is for those departments which offer only graduate degrees. Courses given by departments which offer both undergraduate and graduate degrees are listed under the various colleges.

### American Studies

Professor DENNEY; Associate Professors HAMAKER, LUTZKY; Assistant Professor McCUTCHEON

**485-486 CONTEMPORARY AMERICAN CIVILIZATION (3-3) Yr.**

Images of American civilization as held both in the United States and abroad.

**630 CRITICISM IN THE MASS MEDIA AGE (3) II**

Problems in criticism, the philosophy of art, and aesthetics as generated by modern mass communications techniques. Limited to 20 students. Qualified seniors admitted. Pre: consent of instructor.

**685-686 SEMINAR: THE NATURE OF AMERICAN SOCIETY (3-3) Yr,**

An examination and interpretation of the American people and society for foreign students. Pre: consent of instructor.

**690 INTRODUCTION TO CONTEMPORARY AMERICA (3) I, II**

A survey of the people, the society, the arts and sciences, business and government for students preparing to teach English as a second language. Pre: consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing; consent of instructor.

**700 METHODS IN AMERICAN STUDIES (3) I**

Training in bibliography and research methods in American studies.

**750 SEMINAR IN THE INTERACTION OF ASIA AND AMERICA (3) I, II**

The effect of inter-cultural exchange of ideas, values, and techniques between the peoples of Asia and the United States. Pre: consent of instructor.

**800 THESIS RESEARCH**

*Note: seminars entitled Special Programs in American Studies listed under the East-West Center.*

### Biochemistry and Biophysics

Professor WINNICK; Associate Professor YASUNOBU; Assistant Professors HALL, McKAY, MOWER

*601-602 is prerequisite for all other courses in the graduate program.*

**271 ELEMENTS OF BIOCHEMISTRY (3) I**

Lectures on composition of biological substances and their transformations in animals and man. Registration open to majors in medical technology and home economics or with consent of department chairman. Pre: Chemistry 103-104, 143-144, or equivalent.

**272 ELEMENTS OF BIOCHEMISTRY LABORATORY (1) I**

Laboratory exercises to accompany 271. Course fee \$12.00.

**601-602 GENERAL BIOCHEMISTRY (3-3) Yr.**

Structure, chemistry, and metabolism of the important components of living organisms. Pre: Chemistry 143-144, Chemistry 551-552, or consent of instructor.

**611-612 BIOCHEMISTRY LABORATORY (2-2) I, II**

Both physico-chemical and metabolic experiments to illustrate the principles of 601-602. Course fee \$12.00 per semester.

**621 CHEMISTRY OF THE PROTEINS (2) I**

Structure, chemistry, and physico-chemical aspects of amino acids, peptides, and proteins.

**622 METABOLISM AND BIOSYNTHESIS OF PROTEINS (2) II**

Metabolism of the amino acids, and the mechanisms of peptide and protein formation, within the cell and *in vitro*.

**651 ADVANCED ENZYMOLOGY (2) I**

Structure, active centers, and mechanisms of enzyme catalysis; enzyme kinetics; evolutionary considerations.

**660 SURVEY OF INTERMEDIARY METABOLISM (2) II**

Dynamic aspects of the metabolism and interrelationships of tissue constituents, with emphasis on the critical evaluation of recent literature.

**691-692 SPECIALIZED INSTRUMENTATION AND METHODOLOGY (2-2) Yr.**

The use of modern physical and metabolic laboratory equipment for research training. Course fee \$12.00.

**699 DIRECTED RESEARCH (Ar.) I, II**

Students may register on approval of the department.

**711 NUCLEIC ACIDS AND VIRUSES (2) I**

Chemistry, metabolism, biosynthesis, and biological functions of nucleotides and nucleic acids. Structure, composition, and mode of replication of animal, plant, and bacterial viruses.

**720 MOLECULAR GENETICS AND COMPARATIVE BIOCHEMISTRY (2) II**

Genetic regulation of protein synthesis and metabolic pathways, at the molecular and cellular levels. Evolutionary and comparative aspects of molecular structures.

**750 SPECIAL TOPICS IN BIOPHYSICS (2) II**

Selected phases of physico-chemical biology, and the application of physical principles to biological problems.

**791-792 SEMINAR (1) I, II**

Weekly discussions and reports on selected subjects and current advances in biochemistry and biophysics.

**800 THESIS RESEARCH (Ar.) I, II**

Students may register on approval of the department.

## Genetics

Senior Professor SNYDER; Professor MORTON; Associate Professor J. B. SMITH

**321 HUMAN HEREDITY (3) I**

Principles of heredity in man, including analytical, cytological, biochemical, and population aspects. Pre: one semester of biological science recommended.

**451 PRINCIPLES OF GENETICS (3) I**

Fundamental genetic principles, with examples from microorganisms, plants, animals, and man. Pre: one semester of biological science. College algebra and elementary chemistry recommended.

**452 GENETICS LABORATORY (1) I**

Experiments with a variety of organism to illustrate the principles of 451.

**518 CELLULAR GENETICS (3) II**

Genetic principles at the cellular level as they relate to problems of genetic fine structure, transfer of genetic information, mutagenesis, and control of development. Pre: 451 and organic chemistry; one semester of biochemistry recommended.

**618 CYTOGENETICS (3) II (2 I, 1 Ib)**

Correlation of genetic and cytological phenomena. Pre: 451; Botany 418 recommended.

**625 ADVANCED TOPICS IN GENETICS (2) II**

Advanced treatment of frontiers in genetics by visiting scholars. Pre: graduate standing in genetics or consent of instructor.

**650 POPULATION GENETICS (3) II**

Mathematical, observational, and experimental results bearing on the effects of mutation, selection, and systems of mating on the distribution of genes. Genetic analysis of nonexperimental populations, especially man. Pre: 321 or 451 (preferred); elements of calculus, probability and statistics.

**654 GENETICS SEMINAR (1) I, II**

Research and topical literature reports in genetics. May be repeated. Graduate standing in genetics or consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing; consent of instructor.

**800 THESIS RESEARCH (Ar.) I, II**

Pre: consent of instructor.

*Graduate courses in genetics offered by other departments:*

**BIOCHEMISTRY 711 Nucleic Acids and Viruses**

**BIOCHEMISTRY 720 Molecular Genetics and Comparative Biochemistry**

**HORTICULTURE 666 Radiation Biology**

**ANIMAL SCIENCE 645 Advanced Animal Breeding**

## Linguistics

Professors GRACE, MCKAUGHAN; Assistant Professors CALLAGHAN, SCHÜTZ, TSUZAKI

**620 INTRODUCTION TO LINGUISTIC ANALYSIS (3) I**

An intensive introduction to modern techniques of linguistic analysis.

**621 PHONEMICS (3) I**

A survey of phonological theory with concentration on the principles of phonemic analysis and practice in problem solving. Pre: 620 or consent of instructor.

**622 MORPHOLOGY AND SYNTAX (3) I**

Principles of morphological and syntactic analysis. Pre: 621.

**630 FIELD METHODS (3) I**

Work with native speakers of lesser-known languages to develop methods and techniques for the collection and analysis of linguistic data. Pre: 622 and consent of instructor.

**641 SURVEY OF PACIFIC AND ASIAN LANGUAGES (3) II**

Survey by regional specialists of the languages of the Pacific and/or of East, South and Southeast Asia. Historical development of writing systems. Pre: 622.

**645 INTRODUCTION TO COMPARATIVE METHOD (3) II**

Fundamentals of comparative and historical method in linguistics with emphasis on Indo-European and attention to non-Indo-European languages having few or no written records. Pre: 622 or consent of instructor.

**650 ADVANCED LINGUISTIC ANALYSIS (3) I**

Advanced problems and discussion of theory, techniques, and procedures in linguistics. Pre: 621, 622 and consent of instructor.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing; consent of instructor.

**750 SEMINAR (3) I, II**

Reporting and discussion of current research in linguistics. Pre: consent of instructor. May be repeated.

**800 THESIS RESEARCH (Ar.)**

## Oceanography

Professors BROCK, CLAYTON, WYRTKI; Assistant Professors ADAMS, CHAMBERLAIN

**201 SCIENCE OF THE SEA (3) I**

Origin, history, resources; biological, chemical, geological and physical aspects and interrelationships. Opportunities in oceanography.

**620 PHYSICAL OCEANOGRAPHY (3) I**

Introduction to physics of the oceans; physical properties; heat budgets; energy transformation; interaction with boundaries; dynamic equilibrium; waves, currents, and tides; water masses and circulation patterns of the seas.

**621 BIOLOGICAL OCEANOGRAPHY (3) II**

Marine organisms, factors governing productivity; distribution, ecology, environmental influences; marine resources, their availability and utilization. Desirable preparation: 620.

**622 GEOLOGICAL OCEANOGRAPHY (3) II (2 L, 3-Hr Lb)**

Marine geological processes and forms. Field and shipboard activities employing geological equipment and techniques. Pre: 620.

**623 CHEMICAL OCEANOGRAPHY (2) I**

Study of the chemical processes in marine waters including composition of sea water, nutrients, extraction of materials, carbon dioxide systems. Desirable preparation: 620.

**625 SEA AND LABORATORY TECHNIQUES (2) II (2 3-Hr Lb)**

Marine instrumentation, sampling and analytical procedures.

**631 MARINE PHYTOPLANKTON (3) I (2 L, 1 3-Hr Lb)**

Identification, systematic morphology, distribution and abundance. Desirable preparation: 621. (Not offered in 1964.)

**633 CHEMICAL OCEANOGRAPHY LABORATORY METHODS (1) I**

Geological processes and forms peculiar to the near-shore marine environment. Pre: 620, 622.

**633 CHEMICAL OCEANOGRAPHY LABORATORY METHODS (1) I**

Standard chemical methods of analysis. Pre: Chemistry 331 or consent of instructor.

**635 MARINE GEOPHYSICS (3) I (2 L, 1 3-Hr Lb)**

Seismic, magnetic, gravity measurements and techniques employed at sea; gravity anomalies; data reduction. Pre: 620. (Not offered in 1964.)

**640 ADVANCED PHYSICAL OCEANOGRAPHY (3) II**

Dynamics of ocean currents; oceanic circulation; stability; heat budgets, equations of motion and continuity. Pre: 620, Mathematics 402.

**641 MARINE ZOOPLANKTON (3) II (2 L, 1 3-Hr Lb)**

Identification, systematic morphology, distribution, and abundance. Desirable preparation: 621. (Not offered in 1965.)

**642 RECENT MARINE SEDIMENTS (3) II (2 3-Hr L-Lb)**

Composition and distribution of recent marine sediments. Marine sedimentary environments. Pre: 622, 623. (Not offered in 1965.)

**643 MARINE GEOCHEMISTRY (3) II**

Origin and history of the oceans, isotope geochemistry, sedimentary cycle, biogeochemistry. Pre: 622, 623.

**651 DYNAMICS OF MARINE PRODUCTIVITY (3) II (2 3-Hr L-Lb)**

Primary productivity, its variation and methods of assessment; conversion of energy in food chains, ecosystems; factors affecting productivity. Pre: 621.

**653 CHEMICAL PROCESSES IN THE SEA (3) I**

Detailed study of selected topics in chemical oceanography; industrial utilization of sea water and chemical products obtained from marine plants and animals; water freshening; industrial corrosion problems; chemical aspects of photosynthesis and fertility of the sea; chemistry of estuarine waters. Pre: 623. (Not offered in 1964.)

**660 OCEAN WAVE THEORY (3) I**

Generation of waves at sea; forecast of waves; tsunamis, tides, internal waves, shear waves; shoaling modifications; refraction, ray analyses, x-t diagrams, introductory aspects of wave forces. Pre: 640. (Not offered in 1964.)

**672 OCEAN BASINS (3) II**

Origin, structure, and geomorphology of the ocean basins. Pre: 622.

**675 SEMINAR IN SPECIAL TOPICS (2) I, II**

- a. Underwater Sound, or
- b. Underwater Light, or
- c. Air-Sea Interaction, or
- d. Coral Reef Structure, etc.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: consent of instructor.

**701 FISHERIES OCEANOGRAPHY (3) II**

Influence of environmental factors on fluctuations—availability and abundance of fish populations, with particular reference to pelagic species; forecasting of success of commercial fishing. Pre: 621.

**705 OCEANOGRAPHY OF HAWAIIAN REGION (3) II**

Inter-disciplinary aspects: water types and masses; population variability as related to biological, chemical, geological, and physical processes; air-sea interaction and weather. Pre: 620, 621, 622, 623. (Not offered in 1965.)

**799 SEMINAR (1) I, II**

Student presentations based on literature reviews and research. Pre: approval of graduate advisor.

**800 THESIS RESEARCH (Ar.) I, II**

## **Overseas Operations Program**

Professors STALKER, ALLISON

**601-602 INTERNSHIP IN OVERSEAS OPERATIONS (6)**

Three to six months of active duty with either public or private agencies in Asia and the Pacific. Limited to M.A. candidates in OOP.

**699 DIRECTED READING (3-3) Yr.**

Selected readings on American, Asian, and regional specialties. Comprehensive examination on all reading. Limited to M.A. candidates in OOP.

*See also descriptions of the following courses under the listings of their respective departments:*

**AGRICULTURAL ECONOMICS 625** Economics of Agriculture: Tropical Countries and Asia (3), II

**ANTHROPOLOGY 501** The American in Foreign Cultures (3) II

**ECONOMICS 550** Theory of Economic Development (3) I

**ECONOMICS 660** Seminar in Economic Development (3) II and Seminars in Asian Economics

**POLITICAL SCIENCE 631** Seminar in American Foreign Service (3) I

**POLITICAL SCIENCE 632 Seminar in Government Agencies Overseas (3) II**

**PHILOSOPHY 620 Seminar in Contemporary Philosophy**

## **Public Health**

Professors LEE, LOVETT, WORTH; Visiting Professor BURBANK; Associate Professor DRENCKHAHN, BROWN; Lecturers GROSS, McMORROW, SCHNACK, SHEPARD, TOKUYAMA

**601-602 PRINCIPLES AND PRACTICES OF PUBLIC HEALTH (3-3) Yr.**

Objectives of public health and development of efforts towards accomplishing these objectives.

**610 INFECTIOUS DISEASES OF MAN IN THE PACIFIC AREA (3) I**

Systematic presentation of existing knowledge of important infectious diseases in the Pacific area.

**625 BIOSTATISTICS (3) I**

Analysis, evaluation, interpretation, and uses of statistics.

**626 INTRODUCTION TO VITAL STATISTICS (3) II**

Registration and census methods, population composition, interpretation of natality, morbidity, and mortality rates.

**630 PUBLIC HEALTH NUTRITION (2) I**

Organization and administration of nutritional services in the public health program.

**636-637 ENVIRONMENTAL HEALTH (2-2) Yr.**

Organization and administration of public health engineering and sanitation services.

**640 PUBLIC HEALTH EDUCATION (2) I, II**

Principles underlying health education techniques, concepts, and objectives.

**651 PRINCIPLES OF EPIDEMIOLOGY (3) II**

Basic epidemiologic principles, methods, and their application with particular reference to geographic patterns.

**660-661 COMMUNITY MENTAL HEALTH (2-2) Yr.**

Cultural, social, and other environmental factors affecting mental health including organization, administration, and promotion of mental health services in the community.

**670 MEDICAL ASPECTS OF DISABILITY (3) I**

Systematic presentation of medical conditions causing disability. Pre: consent of instructor.

**675 EFFECT OF ENVIRONMENT ON PERSONAL HEALTH (3) I, II**

Relationships between the physical, chemical, and biological factors in the environment and the personal health of man.

**690 SEMINAR ON COMMUNITY HEALTH PROBLEMS (1) I, II**

Principles of health conservation and disease prevention in family and community.

**691 SEMINAR ON INTERNATIONAL HEALTH PROBLEMS (1) I, II**

Principles of health conservation and disease prevention among nations.. Pre: consent of instructor.

**692 SEMINAR ON SCHOOL HEALTH SERVICES (1) I, II**

Practical aspects of the organization and administration of school health services.

**699 DIRECTED RESEARCH (Ar.) I, II**

Pre: graduate standing and consent of instructor and department chairman.

**710 ADVANCED PUBLIC HEALTH PRACTICE (3) I, II**

Directed field studies and observation in the different health specialties. Pre: consent of instructor.

## Social Work

Professors HANDLEY, JAMBOR; Associate Professors COCHRAN, MERRITT, WALSH, ZALOHA; Assistant Professor KUMABE; Lecturers CODY, OZAKI

**300 THE FIELD OF SOCIAL WORK (3) I, II**

Nonprofessional orientation course intended to acquaint the student with the philosophy, scope, and aims of social work. Pre: junior standing.

**301 SOCIAL WELFARE AS A SOCIAL INSTITUTION (3) II**

Purpose and philosophy governing the establishment and operation of social welfare programs. The interrelationship of social, cultural, political, and economic factors in the development of social welfare. Open to seniors.

**605 SOCIAL CASEWORK (2) I**

Introduction to the basic principles and processes of social casework.

**606 SOCIAL CASEWORK (2) II**

Continuation of 605. Emphasis upon diagnosis and skill in the treatment of casework problems. Concurrent with 660-661. Pre: 605.

**608 SOCIAL GROUP WORK (2) I**

Introduction to the basic principles and processes of group work.

**609 SOCIAL GROUP WORK (2) II**

Continuation of 608. Emphasis upon understanding the individual in groups, and skill in use of the helping process. Concurrent with 660-661. Pre: 608.

**610-611 HUMAN GROWTH AND BEHAVIOR (3-3) Yr.**

Designed to provide a synthesized understanding of physical, mental, and emotional growth, with due regard to social and cultural influences on individual development.

**612 GROUP WORK PROGRAM ACTIVITIES (1-1) Yr.**

The program as a tool in meeting individual and group needs. To be taken concurrently with 660-661.

**615 COMMUNITY ORGANIZATION (2) II**

Methods and processes of community organization in social work.

**626 TREATMENT OF JUVENILE DELINQUENCY (2) II**

Social work practice in relation to problems of juvenile delinquency.

**627 SOCIAL SERVICES (2) I**

Income maintenance programs in public and private social welfare fields.



**628 SOCIAL SERVICES (2) II**

Social services (other than income maintenance) with emphasis on selected programs such as those in the children's field, the health field, corrections, etc.

**652 SOCIAL STATISTICS AND RESEARCH (2) II**

Problems and procedures in research related to social work.

**653 LEGAL ASPECTS OF SOCIAL WORK (2) I**

Problems in judicial administration and substantive law in relation to human problems, and social welfare programs.

**656 SOCIAL WELFARE—ITS ORGANIZATION AND ADMINISTRATION (2) I**

Principles and problems of social agencies with respect to structure and operation.

**660-661 SUPERVISED FIELD WORK (3-3) Yr.**

University units in public and private agencies. Concurrent with a method course (casework, group work, or community organization). Limited to full-time students.

**760-761 ADVANCED SUPERVISED FIELD WORK (4-4) Yr.**

To be taken concurrently with an advanced course in social work method (casework, group work, or community organization). Limited to full-time students.

**765 ADVANCED SOCIAL CASEWORK (2) I**

Case discussion of generic casework concepts as they apply in work with emotionally disturbed individuals. Concurrent with 760.

**766 SEMINAR IN SOCIAL CASEWORK (2) II**

Analysis and evaluation of case material contributed from the student's experience and from selected records.

**767 CASEWORK WITH CHILDREN (2) I**

Casework concepts in the care of children. Pre: 765; consent of instructor.

**768 SEMINAR IN REHABILITATION (2) II**

Problems of rehabilitation and the role of social work in this area.

**770 ADVANCED SOCIAL GROUP WORK (2) I**

Analysis of the use of volunteers in group work; their recruitment, selection, placement, training, and supervision. Concurrent with 760.

**771 SEMINAR IN SOCIAL GROUP WORK (2) I**

Analysis and evaluation of case material contributed from the student's experience and from selected records.

**775 ADVANCED SOCIAL PSYCHIATRY (2) I**

Dynamics of behavior in the neuroses and in functional and organic psychoses, with emphasis on current treatment processes.

**777 COMMUNITY DEVELOPMENT AND SOCIAL WORK (2) II**

Organized efforts to improve conditions in community life; capacity for community integration and self-direction. Principles and practice of community development in newly developing countries, with particular reference to contributions and relationships of social work to these programs.

**780 ADMINISTRATIVE METHODS IN SOCIAL WORK (2) I**

Administration of social welfare agencies with emphasis upon the relationship between structure and function.

**781 SEMINAR IN SOCIAL WELFARE POLICY WORK (2) II**

Basic problems and policies in the major fields of social welfare.

**785 METHODS OF SUPERVISION IN SOCIAL WORK (2) II**

Supervision in social work as it relates to casework and group work. Open to agency workers who are potential or actual supervisors. Pre: consent of instructor.

**790 CULTURAL FACTORS IN SOCIAL WORK PRACTICE (2) II**

Significance of psychocultural factors in personality development and behavior. Pre: 611.

**798-799 SEMINAR IN RESEARCH (3-3) Yr.**

Principles of objective fact-finding, primary and secondary sources of social data; preparation of a report or thesis.

# **EAST-WEST CENTER**

**THE EAST-WEST CENTER**—The Center for Cultural and Technical Interchange between East and West—was established by the U. S. Congress in 1960. Ground for the Center buildings was broken the next spring and dedicated by Lyndon B. Johnson, then Vice-President of the United States. The goal of the Center is to further mutual understanding among the peoples of Asia, the Pacific area, and the United States. This goal is the guide line for the operation of the Center's four main divisions: The Institute for Student Interchange, the Institute for Technical Interchange, the Institute of Advanced Projects, and the Division of Central Programs.

## **Institute for Student Interchange**

Students (primarily graduate) are offered both regular and special University programs. These provide an opportunity for study, research, special conferences, and seminars in many fields.

**Scholarships.** Young men and women possessing a high degree of leadership potential and scholastic ability and giving evidence of real interest in the goals of the Center may qualify for scholarships which provide transportation to and from Honolulu, tuition and books, housing and meals, accident and health insurance, and a monthly incidentals allowance. The scholarships may include an expense-paid mainland United States or Asia study grant. Most scholarships are for 21 or 24 months.

Scholarships for American students are for graduate study at the University of Hawaii. Students may enroll in a regular graduate curriculum in the social sciences or the humanities with special reference to Asia or the Pacific; or they may enter the interdisciplinary programs of Asian Studies, Pacific Islands Studies, or Overseas Operations. Also available are programs in certain fields of science unique to the University and its geographical location which, together with language study, are designed to prepare students for work abroad.

Scholarships for Asian and Pacific students are adequate for those who plan to work toward an M.A. degree, but are not usually sufficient for those wishing to earn a Ph.D. degree. The University awards the master's degree in 50 fields and the doctorate in 18. Students usually undertake an advanced degree program or in special instances do super-

vised work in a field as a special student. An undergraduate student may study in any of the departments of the University.

An American scholarship student is expected to complete at least two years of an Asian language before the end of his grant.

**Field Study Grants.** The Asia field study grant provides opportunity to study in Asia for those students in good standing who demonstrate their seriousness, maturity, and ability. The length of time spent in an Asian country varies with individual programs. Generally, students seeking advanced degrees request up to one semester for research purposes. Certain students whose primary goal is language study may be permitted to spend a longer period overseas in recognized full-time Asian language programs. Allowances for the student who is on an Asia study grant are intended to be equivalent to those received while the student is attending the University of Hawaii.

The U. S. mainland field study grant, for the student in good standing from Asia or the Pacific, provides an opportunity for special study on the mainland United States. This study is usually planned to take place during the summer, after two semesters have been spent at the University of Hawaii. In special instances, students are given the mainland study grant during the regular session, when they may enroll in a mainland university or college for special programs.

Students on scholarship are expected to participate in extra-curricular activities of an international nature as their academic requirements may allow.

**English Language Institute.** Because the medium of instruction at the University of Hawaii is English, Asian and Pacific student grantees are tested for English proficiency by the University's English Language Institute. Those requiring extra help are assigned to full-time or part-time training in English until they are ready for a full academic program. (See pp. 36-37)

**Institute of American Studies.** The noncredit seminars conducted for Center grantees by the Institute of American Studies are designed as a bridge that will enable Asians and Americans to develop the intercultural understanding recognized as one of the basic functions of the Center. Both groups of students play a vital role in the seminars by providing sources of information and guidance and by their critical and constructive comparisons of the various Asian societies with the differing cultures found in American society. Attendance at the seminars is required as a partial fulfillment of the Center scholarship grant.

The Institute of American Studies also offers a film series, a lecture and visual arts program, and other nonacademic activities for grantees. A browsing room and library of paperback books are also available.

Courses in American Studies are offered in the Graduate School.

### SEMINARS

*See p. 41 for a discussion of course descriptions.*

**SEMINAR: ASIA-AMERICA 1 (0) I**

Comparative study of basic Asian and American institutions and peoples at an elementary and contemporary level, with special reference to the problems introduced by industrialization and urbanization.

**SEMINAR: ASIA-AMERICA 2 (0) II**

A broad view of mainland America, primarily for Asian students, enabling grantees to understand the geography, ways of life, educational system and other aspects of the U.S. that will be encountered while engaged in the Field Study Program.

**SEMINAR: ASIA-AMERICA 3 (0) II**

Evaluation by Asian students of their American experiences and by American students of their Asian experiences. This seminar offers a forum for a free exchange of ideas and impressions gained on the Field Study Program.

### **Institute for Technical Interchange**

The Institute administers training projects for technical participants from Asia, the Pacific, and the United States. Training, planned on a long-term, group basis, is designed to further understanding among nations at the same time technical knowledge is interchanged. Projects may last from 3 to 12 months and subject matter is chosen to fill needs of developing areas. Stress is now being given to training for those Pacific islands which are under the American flag. Current training projects include medical-nursing education for Pacific islands, personnel and fiscal administration on the middle-management level, educational communications, techniques in teaching English to non-English speaking students, and programs designed to develop skills and to improve the status of women in developing areas. The Institute also administers training and job observation in Hawaii for Agency for International Development participants and participants from other private or government agencies.

### **Institute of Advanced Projects**

The Institute offers a unique program at the advanced professional level. Aimed at improving understanding and establishing better relations between East and West, the Institute serves the Center's purpose in two ways: through exchange of persons and exchange and dissemination of information.

The Senior Specialists-in-Residence program, which brings together for research and writing distinguished persons from Asia, the Pacific area, and the United States, is a significant part of the exchange of persons. In addition, the Fellowships in International Development program offers a limited number of grants to doctoral candidates in the areas of cross-cultural relations and international development.

There are four programs to exchange and disseminate information. Research Collections is building an outstanding collection of Asian materials, including books, periodicals, and microfilm, emphasizing national development and cross-cultural relations. Research Translations translates scholarly Asian materials into English and compiles dictionaries and annotated bibliographies. The East-West Center Press publishes new books from the Center as well as from other institutions throughout the world. The Press exports American books to Asia and imports Asian books in English to the United States. Reference Research and Information acts as a liaison between the Center and other institutions concerned with the Asian-Pacific area. It is preparing an inventory and catalog of research and exchange activities pertaining to Asia and the Pacific.

Panels of advisers and consultants on substantive matters have been established to aid the program directors in selection of candidates and subject-matter emphases. Already established are the Japanese National Advisory Panel, composed of University of Hawaii consultants, and a group of mainland consultants in the fields of agriculture, economics, education, politics and law, public administration, and public health. Also serving is a regional representative for the Hong Kong–Republic of China–Philippines area. It is planned to have a complement of such representatives in other areas.

### **Division of Central Programs**

The Division handles administration, the conference program, and public information and community relations. Central Program activities reach beyond the Center, to the community and to Asia, the Pacific, and the United States through conferences and materials distributed by the Office of Public Information. The Office of Community Relations coordinates activities of the Center and its students with Hawaii's residents on all islands, working with the Friends of East-West Center, an organization of volunteers.

### **General Information**

**East-West Center Buildings.** Facilities include the Administration Building, which houses offices, a food center, and conference rooms; a men's residence; a women's residence; John F. Kennedy Theatre; and the Institute of Advanced Projects building. The Japanese cultural garden adjacent to the Administration Building was the gift of Japanese businessmen.

### For Further Information

**Asian-Pacific Scholarships.** Write to the Director of Student Selection, East-West Center, University of Hawaii, Honolulu, Hawaii 96822. Call on or write the Cultural Affairs Officer at the American Embassy (USIS) nearest you.

**American Scholarships.** Write or call on the Director of Student Selection, East-West Center, University of Hawaii, Honolulu, Hawaii 96822.

**Programs, Grants of the Institute of Advanced Projects.** Write to the Vice-Chancellor, Institute of Advanced Projects, East-West Center, University of Hawaii, Honolulu, Hawaii 96822.

**Technical Training.** Write to the Vice-Chancellor, Institute for Technical Interchange, East-West Center, University of Hawaii, Honolulu, Hawaii 96822.

# **FACULTY AND STAFF**





## Board of Regents

|   | TERM EXPIRES |
|---|--------------|
| C. C. CADAGAN .....<br><i>President and General Manager, Alexander &amp; Baldwin, Inc., Honolulu</i>                    | 1964         |
| THOMAS H. HAMILTON, ex officio .....<br><i>President of the University, Honolulu</i>                                    | —            |
| CHARLES A. HARKER .....<br><i>Koloa, Kauai</i>  | 1967         |
| ROBERT L. HIND, JR. ....<br><i>Manager, Keauhou Ranch, Kona, Hawaii</i>   | 1966         |
| ROBERT H. HUGHES, Chairman .....<br><i>Department Head, Hawaiian Commercial &amp; Sugar Co., Ltd.<br/>Puunene, Maui</i> | 1965         |
| CHARLES A. KEKUMANO .....<br><i>Chancellor-Secretary, Roman Catholic Diocese of Honolulu</i>                            | 1966         |
| GEORGE H. MCPHERSON .....<br><i>President, McPherson Concrete Products, Inc., Honolulu</i>                              | 1966         |
| EDWARD H. NAKAMURA .....<br><i>Attorney, Bouslog &amp; Symonds, Honolulu</i>  | 1967         |
| PETE T. OKUMOTO .....<br><i>Physician and Surgeon, Hilo, Hawaii</i>   | 1965         |
| R. BURL YARBERRY, ex officio .....<br><i>Superintendent, Department of Education, State of Hawaii, Honolulu</i>         | —            |

## Former Presidents

- JOHN W. GILMORE, 1908–1913 (Deceased)  
B.S.A. 1898, M.S.A. 1906, Cornell
- ARTHUR L. DEAN, 1914–1927 (Deceased)  
B.A. 1900, Harvard; Ph.D. 1902, Yale; LL.D. 1947, Hawaii
- DAVID L. CRAWFORD, 1927–1941  
B.A. 1911, LL.D. 1933, Pomona; M.A. 1912, Stanford; LL.D. 1957, Hawaii
- ARTHUR R. KELLER, 1941–1942 (Acting)  
LL.B. 1907, National University Law School; M.S. 1916, Massachusetts Institute of Technology
- GREGG M. SINCLAIR, 1942–1955  
B.A. 1912, LL.B. 1949, Minnesota; M.A. 1919, LL.D. 1954, Columbia; LL.D. 1951, Ohio State; LL.D. 1955, California; HH.D. 1956, Hawaii; D.LIT. 1960, Keio
- PAUL S. BACHMAN, 1955–1957 (Deceased)  
B.S. 1922, Ohio State; M.A. 1925, Ph.D. 1927, University of Washington
- WILLARD WILSON, 1957–1958 (Acting)  
B.A. 1929, LL.D. 1961, Occidental College; M.A. 1930, Columbia; Ph.D. 1939, Southern California
- LAURENCE H. SNYDER, 1958–1963  
B.S. 1922, sc.D. 1947, Rutgers; M.S. 1924, sc.D. 1926, Harvard; sc.D. 1960 Ohio State

**Administrative Officers 1963-64****General Administration**

- THOMAS H. HAMILTON, Ph.D., *President*  
KENNETH K. LAU, LL.M., *Assistant to the President*  
ROBERT W. HIATT, Ph.D., *Vice-President for Academic Affairs*  
ROBERT M. KAMINS, Ph.D., *Director of Curriculum & Faculty Development*  
ALBERT C. SMITH, Ph.D., *Director of Research*  
RICHARD S. TAKASAKI, M.P.A., *Vice-President for Business Affairs*  
CHARLES S. JAMES, B.A., *Director of Finance*  
GEORGE K. TANABE, B.B.A., *Comptroller*  
JOHN B. K. SUR, M.S., *Director of Campus Development*  
KEITH S. SNYDER, B.A., *Director of Auxiliary Services*  
WILLARD WILSON, Ph.D., *Secretary of the University*  
THOMAS NICKERSON, B.A., *Assistant to the Secretary of the University*  
HAROLD M. BITNER, Ph.D., *Dean of Student Personnel*  
CARL G. STROVEN, Ph.D., *Librarian*  
KAORU NODA, Ph.D., *Director of the Hilo Campus*

**East-West Center**

- THOMAS H. HAMILTON, Ph.D., *Acting Chancellor of the East-West Center*  
Y. BARON GOTO, Sc.D., *Vice-Chancellor, Institute for Technical Interchange*  
JOHN R. HENDRICKSON, Ph.D., *Vice-Chancellor of Student Programs*  
EDWARD W. WEIDNER, Ph.D., *Vice-Chancellor of Institute of Advanced Projects*

**College Administration**

- W. TODD FURNISS, Ph.D., *Dean of the College of Arts and Sciences*  
JOHN P. HOSHOR, Ph.D., *Assistant Dean of the College of Arts and Sciences*  
SCHUYLER D. HOSLETT, Ph.D., *Dean of the College of Business Administration*  
EDWIN C. PENDLETON, Ph.D., *Assistant Dean of the College of Business Administration*  
HUBERT V. EVERLY, Ph.D., *Dean of the College of Education*  
OTTO J. BEYERS, Ed.D., *Assistant Dean of the College of Education*  
WILFRED J. HOLMES, M.S., *Dean of the College of Engineering*  
NICHOLAS B. CORBA, M.Ed., *Assistant Dean of the College of Engineering*  
EDMUND F. SPELLACY, Ph.D., *Dean of the College of General Studies*  
ROGER L. MOSELEY, M.B.A., *Assistant Dean of the College of General Studies*  
VIRGINIA A. JONES, M.Ed., *Dean of the College of Nursing*

- MORTON M., ROSENBERG, Ph.D., *Dean of the College of Tropical Agriculture; Director, Hawaii Agricultural Experiment Station and Cooperative Extension Service* (until July 1964)
- SHOSUKE GOTO, Ph.D., *Assistant Dean of the College of Tropical Agriculture*
- G. DONALD SHERMAN, Ph.D., *Associate Director, Hawaii Agricultural Experiment Station*
- DALE N. GOODELL, M.S., *Associate Director, Cooperative Extension Service*
- WYTZE GORTER, Ph.D., *Dean of the Graduate School* (effective July 1, 1964; Dr. Leonard D. Tuthill, Acting Dean until that date)

### Directors of Special Units

- EDWARD T. WHITE, M.A., *Office of Admissions and Records*
- SPENCER W. TINKER, M.S., *Waikiki Aquarium*
- ..... *H. L. Lyons Arboretum*
- WINDSOR C. CUTTING, M.D., *Pacific Biomedical Research Center*
- WALTER WITTICH, Ph.D., *Communications Center*
- FRED C. HUNG, Ph.D., *Acting Director, Economic Research Center*
- DONALD A. LETON, Ph.D., *Acting Director, Bureau of Educational Research*
- WILFRED J. HOLMES, M.S., *Acting Director, Engineering Experiment Station*
- RICHARD C. SITTLER, Ph.D., *Acting Director, English Language Institute*
- GEORGE P. WOOLLARD, Ph.D., *Hawaii Institute of Geophysics*
- HAROLD S. ROBERTS, Ph.D., *Industrial Relations Center*
- FREDERICK K. NUNNS, M.S., *Land Study Bureau*
- TOM DINELL, M.P.A., *Legislative Reference Bureau*
- VERNON E. BROCK, M.A., *Hawaii Marine Laboratory*
- JOHN N. STALKER, Ph.D., *Project Director, Peace Corps*
- RICHARD K. C. LEE, M.D., *Public Health and Medical Activities*
- FREDERICK Y. SMITH, M.S.J., *Office of Publications and Information*
- WILLIAM P. LEBRA, Ph.D., *Social Science Research Institute*
- KATHARINE N. HANDLEY, M.S.W., *School of Social Work*
- MERLE ANSBERRY, Ph.D., *Speech and Hearing Clinic*
- ROBERT A. SPARKS, Ph.D., *Statistical and Computing Center*

### Emeriti

- Andrews, Carl B., *Professor Emeritus of Engineering*  
B.S. 1908, M.S. 1909, C.E. 1917, Rose Polytechnic Institute; M.S. 1928, Massachusetts Institute of Technology
- Bennett, J. Gardner, *Professor Emeritus of Engineering*  
B.S. 1912, Cornell College; B.S. in C.E. 1918, C.E. 1925, Wisconsin
- Bice, Charles M., *Senior Specialist Emeritus in Poultry Husbandry*  
B.S. 1927, Wisconsin
- Bilger, Leonora N. (Mrs. Earl M.), *Professor Emeritus of Chemistry*  
B.A. 1913, M.A. 1914, Ph.D. 1916, Cincinnati
- Brown, Hubert E., *Professor Emeritus of Health and Physical Education*  
B.P.E. 1920, M.P.E. 1927, Springfield College; Ph.D. 1940, New York

**Carter, Walter, *Professor Emeritus of Entomology***

B.S. 1923, Montana; M.S. 1924, Ph.D. 1928, Minnesota

**Edmondson, Charles H., *Professor Emeritus of Zoology***

Ph.B. 1903, M.S. 1904, Ph.D. 1906, Iowa

**Eller, Willard E., *Professor Emeritus of Physics***

B.S. 1914, Ph.D. 1928, California; M.S. 1925, University of Washington

**Emory, Kenneth P., *Professor Emeritus of Anthropology***

B.A. 1920, Dartmouth; M.A. 1923, Harvard; Ph.D. 1946, Yale

**Gruelle, Katherine B. (Mrs. Laurence N.), *Professor Emeritus of Home Economics***

B.S. 1917, Ohio State; M.A. 1925, Columbia

**Henke, Louis A., *Professor Emeritus of Agriculture***

B.S. 1912, M.S. 1923, Wisconsin

**Kahananui, Dorothy (Mrs.), *Associate Professor Emeritus of Music***

B.S. 1931, New York; M.Ed. 1936, Hawaii

**Krauss, Frederick G., *Professor Emeritus of Agriculture***

S.C.D. (Hon.) 1921, Hawaii

**Leebrick, Karl C., *Professor Emeritus of Government***

B.S. 1911, M.S. 1913, Ph.D. 1916, California

**Livesay, Thayne M., *Dean Emeritus, College of Arts and Sciences***

B.A. 1917, Pacific University; M.A. 1921, Ph.D. 1931, University of Washington

**Miller, Carey D., *Professor Emeritus of Nutrition***

B.A. 1917, California; M.S. 1922, Columbia

**Pecker, Irving O., *Professor Emeritus of Romance Languages***

B.A. 1912, Boston

**Poole, Charles F., *Professor Emeritus of Agriculture***

B.S. 1920, M.S. 1926, Hawaii; Ph.D. 1930, California

**Porteus, Stanley D., *Professor Emeritus of Psychology***

S.C.D. (Hon.) 1933, Hawaii

**St. John, Harold, *Professor Emeritus of Botany***

B.A. 1914, M.A. 1915, Ph.D. 1917, Harvard

**Sinclair, Gregg M., *President Emeritus***

Degrees listed under Former Presidents

**Wadsworth, Harold A., *Dean Emeritus, College of Agriculture***

B.S. 1916, California

**White, Bruce E., *Dean Emeritus, and Senior Emeritus Professor of Educational Psychology***

B.A. 1923, Willamette; M.A. 1932, Ph.D. 1935, University of Washington

**Visiting Faculty, 1964-65****Burbank, Nathan C., Jr., *Visiting Professor of Environmental Health and Sanitary Engineering***

A.B. 1938, M.S. 1940, Harvard; B.S. 1950, Oklahoma Institute of Technology; S.C.D. 1955, Massachusetts Institute of Technology

**Croft, Kenneth, *Visiting Professor of Speech***

B.A. 1939, Oklahoma; M.A. 1942, M.A. 1949, Michigan; Ph.D. 1953, Indiana (first semester)

**Dymsza, William A., *Visiting Associate Professor of Business Economics***

A.B. 1943, Pennsylvania State; M.B.A. 1948, Wharton School of Finance; Ph.D. 1951, Pennsylvania

- Eiteman, Wilford J., *Carnegie Visiting Professor of Finance*  
B.M. 1922, Chicago Musical College; A.B. 1926, M.A. 1928, Ohio Wesleyan; Ph.D. 1931, Ohio State
- Ewbank, Henry Lee, Jr., *Visiting Associate Professor of Speech*  
B.A. 1947, M.A. 1948, Ph.D. 1952, Wisconsin (first semester)
- Gunderson, Robert G., *Visiting Professor of Speech*  
B.S. 1937, Ph.D. 1949, Wisconsin; M.A. 1941, Oberlin (second semester)
- Hebert, Emery J., *Associate Professor of Management*  
B.S. 1953, Lamar State College of Technology; M.A. 1954, George Peabody; Ph.D. 1962, Texas
- Matthews, Milton P., *Professor of Marketing*  
B.A. 1948, Utah; M.S. 1949, Ph.D. 1955, New York
- Miller, Herbert E., *Visiting Professor of Accounting*  
B.A. 1936, M.A. 1937, State University of Iowa; Ph.D. 1944, Minnesota
- Newman, William H., *Visiting Research Professor of Management*  
A.B. 1930, Friends University; Ph.D. 1934, Chicago
- Parkman, Ralph, *Visiting Professor of Mechanical Engineering*  
B.S. 1941, Pittsburg; M.S. 1949, Ph.D. 1951, Stanford (second semester)
- Wagner, Norman K., *Visiting Assistant Professor of Meteorology*  
B.S. 1954, M.S. 1956, University of Washington

### Instruction, 1963-64

- Abbott, Agatin T., *Professor of Geology*  
B.A. 1939, Minnesota; Ph.D. 1952, University of Washington
- Abe, Chieko, *Instructor in Home Economics and Assistant Food Supervisor*  
B.S. 1954, Hawaii
- Abrams, Tom E., *Instructor in English*  
B.A. 1932, M.A. 1937, Colorado
- Acosta, Joseph, *Assistant Professor of Education*  
B.A. 1954, Fresno State; M.A. 1958, University of the Philippines
- Adams, Carl W., *Assistant Professor of Meteorology*  
B.S. 1940, U.S. Naval Academy; M.S. 1951, U.S. Naval Postgraduate School
- Adler, Jacob, *Professor of Accounting and Finance*  
B.S. 1933, Chicago; M.S. 1956, Ph.D. 1959, Columbia
- Ah Cook, Master Sergeant Almon L. F., *Instructor in Military Science*
- Aidlin, Jerome, *Instructor in Art*  
B.F.A. 1962, Cleveland Institute of Art
- Aitken, Emma A., *Instructor in Home Economics*  
R.S. 1943, College of Medical Evangelists
- Aitken, Robert, *Instructor, English Language Institute*  
B.A. 1947, M.A. 1950, Hawaii
- Akamine, Ernest K., *Associate Professor of Plant Physiology*  
B.S. 1935, M.S. 1941, Hawaii
- Akamine, Ralph N., *Lecturer in Dental Hygiene*  
D.D.S. 1946, Washington University; M.S. 1951, Illinois
- Akita, George, *Associate Professor of History and Asian Studies*  
B.A. 1951, Hawaii; M.A. 1953, Ph.D. 1960, Harvard

- Alden, Robert L., *Lecturer in Personnel and Industrial Relations*  
M.E. 1938, Columbia
- Allen, James L., *Associate Professor of English (Hilo)*  
B.A. 1953, M.A. 1954 Tulane; Ph.D. 1959, Florida
- Allison, John M., *Professor of Political Science*  
B.A. 1927, LL.D. 1959, Nebraska
- Alm, Julie N. (Mrs. Richard S.), *Instructor in Education*  
B.S. 1943, M.A. 1947, Minnesota
- Alm, Richard S., *Professor of Education*  
B.S. 1942, M.A. 1948, Ph.D. 1954, Minnesota
- Amioka, Shiro, *Associate Professor of Education*  
B.Ed. 1949, M.Ed. 1952, Hawaii; Ph.D. 1959, Illinois
- Anderson, C. Webster, *Associate Professor of Art*  
B.A. 1933, California; M.A. 1953, California at Los Angeles
- Anderson, Ronald S., *Professor of Education and Asian Studies*  
B.A. 1929, M.A. 1946, Stanford; Ph.D. 1956, California
- Andrewson, Velma F. (Mrs. Richard), *Instructor in Civil Engineering*  
B.S.C.E. 1960, Hawaii; M.S.C.E. 1962, Purdue
- Ansberry, Merle, *Professor of Speech*  
B.A. 1929, M.A. 1931, California; Ph.D. 1937, Wisconsin
- Aoki, Mitsuo, *Associate Professor of Religion*  
B.A. 1940, Drury College; B.D. 1943, Chicago Theological Seminary
- Aragaki, Minoru, *Assistant Professor of Plant Pathology*  
B.S. 1950, M.S. 1954, Hawaii
- Araki, James Tomomasa, *Professor of Japanese*  
B.A. 1954, M.A. 1958, Ph.D. 1961, California at Berkeley
- Arapoff, Nancy (Mrs. Peter), *Instructor, English Language Institute*  
B.A. 1952, California at Santa Barbara; M.A. 1963, Hawaii
- Arkoff, Abe, *Associate Professor of Psychology*  
B.A. 1946, M.A. 1948, Ph.D. 1951, Iowa
- Artola, George T., *Assistant Professor of Asian and Pacific Languages*  
B.A. 1941, Brooklyn College; M.A. 1950, Ph.D. 1953, Johns Hopkins
- Artola, Virginia V. (Mrs. George T.), *Instructor in Latin*  
B.A. 1937, M.A. 1941, Brooklyn College
- Asato, James K. *Instructor in Health and Physical Education*  
B.S. 1952, Hawaii; M.S. 1956, Illinois
- Asato, Yukio, *Research Assistant in Microbiology*  
B.A. 1957, Hawaii
- Aspinwall, Dorothy B. (Mrs. Albion N.), *Professor of European Languages*  
B.A. 1933, M.A. 1939, Alberta; Ph.D. 1948, University of Washington
- Asuncion, Medina A., *Lecturer in Tagalog*  
B.S.E. 1954, Far Eastern University
- Aten, Donald G., *Instructor in Education*  
B.Ed. 1956, B.A. 1961, Hawaii; M.A. 1957, Columbia
- Austin, F. Glenn, *Professor of Education*  
B.A. 1935, M.A. 1938, Kansas; Ph.D. 1949, Ohio State
- Autrey, Lt. Colonel Paul, *Associate Professor of Military Science*  
B.S. 1941, Auburn

- Avery, Don E., *Associate Professor of Engineering*  
B.S. 1937, M.E. 1950, University of Washington
- Avery, Donald M., *Lecturer in Management*  
B.A. 1943, Stanford
- Baciu, Stefan, *Assistant Professor of Spanish*  
B.A. 1937, Liceu Andrei Saguna; M.A. 1941, Law Faculty
- Backus, Joseph M., *Assistant Professor of English*  
B.A. 1949, Allegheny College; M.S. 1954, Columbia; M.A. 1957, Ph.D. 1961, California
- Baker, Gladys E., *Professor of Botany*  
B.A. 1930, M.S. 1932, Iowa; Ph.D. 1935, Washington
- Baker, J. B., *Assistant Professor of Education*  
B.S. 1933, Adrian College
- Banner, Albert H., *Professor of Zoology*  
B.S. 1935, Ph.D. 1943, University of Washington; M.S. 1940, Hawaii
- Barkley, Richard A., *Lecturer in Oceanography*  
B.S. 1950, Louisiana State; M.S. 1958, Ph.D. 1960, University of Washington
- Barmettler, Edmund R., *Assistant Professor of Agricultural Economics*  
B.S. 1952, M.Ed. 1953, California at Davis; Ph.D. 1958, Ohio State
- Barnes, I. Lynus, *Assistant Professor of Chemistry and Geochemistry*  
A.B. 1955, Indiana; Ph.D. 1963, Hawaii
- Barrera, Sergeant Victor M., *Instructor in Military Science*
- Barry, Charles K., *Assistant in Marine Zoology*  
B.S. 1963, Miami
- Bartos, Otomar J., *Assistant Professor of Sociology*  
B.A., M.A. 1954, Colorado; Ph.D. 1958, Yale
- Batra, Shanti (Mrs. Vir), *Lecturer in Botany*  
M.S. 1942, Calcutta University (India); Ph.D. 1951, Cornell
- Beamer, Martha F. (Mrs.), *Assistant Professor of Health and Physical Education*  
B.Ed. 1952, M.Ed. 1960, Hawaii
- Beardsley, John W., *Assistant Professor of Entomology*  
B.S. 1950, California; M.S. 1952, Ph.D. 1963, Hawaii
- Beckman, Lars E., Ph.D., *Visiting Professor of Human Genetics*
- Bedford, Norton M., *Professor of Accounting*  
B.B.A. 1940, M.B.A. 1947, Tulane; Ph.D. 1950, Ohio State
- Beebert, Edward D., *Assistant Professor of History (Hilo)*  
B.A. 1947, M.A. 1949, Ph.D. 1957, University of California, Berkeley
- Beecroft, Robert S., *Associate Professor of Psychology*  
B.A. 1949, Ph.D. 1954, Iowa State
- Bell, Donald W., *Assistant Professor of Real Estate*  
B.S. 1943, Montana State
- Bell, Lloyd F., *Lecturer in Mathematics*  
B.S. 1944, U.S. Naval Academy; M.S. 1952, Ph.D. 1961, Stanford
- Bell, Thelma Lee (Mrs. S. A.), *Associate Professor of Home Economics*  
B.S. 1930, North Texas State College; M.A. 1935, Ph.D. 1961, Texas Woman's University
- Benedict, Albert A., *Professor of Microbiology*  
A.B. 1948, M.A. 1950, Ph.D. 1952, California



Bennet, Richard P., *Instructor in Mathematics*

B.S. 1961, Upsala College; M.A. 1963, Hawaii

Bennett, Hannah Lou, *Assistant Professor of Education*

B.S. 1939, Northwest Missouri State College; M.A. 1947, Ohio State

Bentley, Lucie F., *Associate Professor of Speech and of Drama and Theatre*

B.A. 1928, Stanford; M.A. 1933, Cornell

Berfield, Byron David, *Lecturer in Music (Hilo)*

B.Mus. 1957, Oberlin

Berger, Leslie R., *Assistant Professor of Microbiology*

B.S. 1950, Cincinnati; M.S. 1953, University of Washington; Ph.D. 1957, California at Davis

Berkell, Edward I., *Instructor in Spanish*

B.A. 1943, Queens College; M.A. 1952, Miami

Bernatowicz, Albert J., *Professor of General Science*

B.A. 1948, Clark; M.A. 1952, Ph.D. 1953, Michigan

Bertrand, Raoul, *Associate Professor of French*

M.A. 1927, Aix Marseilles University

Bess, Henry A., *Senior Professor of Entomology*

B.S. 1927, Alabama Polytechnic Institute; M.S. 1931, Florida; Ph.D. 1934, Ohio State

Beyers, Otto J., *Professor of Education*

B.A. 1933, Wayne; M.A. 1934, Ed.D. 1936, Washington University

Bilous, Carolyn B. (Mrs. Nicholas), *Assistant Professor of Education*

B.S. 1938, Temple; M.A. 1949, Columbia

Bilborrow, Eleanor J., *Assistant Professor of Speech*

B.A. 1937, Colorado State College of Education; M.A. 1942, Stanford; Ph.D. 1957, Denver

Bitner, Harold M., *Professor of Psychology*

B.S. 1941, State Teachers College, Shippensburg, Pennsylvania; M.A. 1945, Duke; Ph.D. 1951, Ohio State

Black, Glenn L., *Assistant Professor of Hotel Management*

B.S. 1940, Iowa State; M.S. 1950, California at Los Angeles

Black, Iva R. (Mrs. A. Duane), *Instructor in Speech (Hilo)*

B.S. 1954, M.A. 1960, Northwestern

Boatman, Elsie M. (Mrs.), *Professor of Home Economics, Director of Food Service*

B.S. 1924, M.S. 1931, Iowa State

Bollinger, John, *Instructor in Music*

B.M. 1959, Oberlin; M.M. 1962, Yale

Bonk, William J., *Assistant Professor of Anthropology (Hilo)*

B.A. 1951, M.A. 1954, Hawaii

Booth, Master Sergeant John H., *Instructor in Military Science*

Borges, Frederic W., *Assistant Professor of Mathematics*

B.A. 1943, Brooklyn College; M.A. 1948, Columbia

Bouslog, Charles S., *Professor of English*

B.A. 1934, Indiana; M.A. 1948, Ph.D. 1951, Harvard

Bouslog, Nobuko S. (Mrs. Charles S.), *Lecturer in Mathematics*

B.Ed. 1941, California at Los Angeles

Bowen, Robert N., *Instructor in Anthropology*

B.S. 1955, Michigan State; M.A. 1961, Hawaii

Bowers, Neal M., *Professor of Geography*

B.S. 1938, Western Michigan College of Education; M.A. 1939, Ph.D. 1951, Michigan

Boyce, Barbara K., *Instructor in Speech*

B.A. 1950, Hunter College; M.A. 1951, State University of Iowa (first semester)

Boyer, William H., *Assistant Professor of Education*

B.A. 1948, Oregon; M.Ed. 1952, Colorado; Ed.D. 1956, Arizona State

Boylan, Colonel Vincent L., *Professor of Military Science*

B.S. 1939, U.S. Military Academy

Brantley, L. Reed, *Professor of Chemistry*

A.B. 1927, California at Los Angeles; M.S. 1929, Ph.D. 1930, California Institute of Technology

Breneman, Lucille (Mrs. A. D.), *Assistant Professor of Speech*

B.A. 1935, Baylor; M.A. 1949, Hawaii

Brewbaker, James L., *Associate Professor of Horticulture*

B.A. 1948, Colorado; Ph.D. 1952, Cornell

Briley, Frank E., *Assistant Professor of Education*

B.S. 1948, North Carolina State College; M.Ed. 1952, North Carolina

Brissenden, Paul F., *Lecturer in Personnel and Industrial Relations*

A.B. 1908, Denver; A.M. 1912, California; Ph.D. 1918, Columbia

Britton, Major Albert J., *Assistant Professor of Air Science*

B.A. 1958, New Hampshire

Britten, Edward J., *Professor of Agronomy*

B.S. 1940, M.S. 1941, Saskatchewan; Ph.D. 1944, Wisconsin

Brixey, Stephen S., *Instructor in Mathematics*

B.A. 1926, M.A. 1929, Oklahoma

Brock, Vernon E., *Professor of Zoology*

A.B. 1935, M.A. 1944, Stanford

Bronstein, Arthur J., *Associate Professor of Speech*

B.A. 1934, City College of New York; M.A. 1936, Columbia; Ph.D. 1949, New York

Brosnahan, Leger N., *Assistant Professor of English*

B.A. 1951, Georgetown; M.A. 1952, Ph.D. 1958, Harvard

Brown, Dorothy S. (Mrs.) *Assistant Professor of English*

B.A. 1934, Hawaii; M.A. 1935, Stanford; Ph.D. 1956, University of Washington

Brown, Myrtle L., *Associate Professor of Home Economics*

B.S. 1945, Bennett College; M.S. 1948, Ph.D. 1957, Pennsylvania State U.

Bruhn, William J., Jr., *Instructor in Health and Physical Education*

B.Ed. 1957, Hawaii

Bryngelson, Bryng, Ph.D., *VRA Visiting Professor of Speech Pathology*

Buchele, Robert B., *Professor of Management*

A.B. 1938, Columbia; M.B.A. 1938, Harvard; Ph.D. 1951, Chicago

Burgess, Sara A. (Mrs. Jess H., Jr.), *Instructor in Speech*

B.S. 1954, M.Ed. 1958, Idaho; M.A. 1960, Washington State University

Burkett, George I., *Instructor in European Languages*

B.A. 1941, M.A. 1950, Oklahoma; Diploma 1948, Paris

Burns, Robert H., *Lecturer in Hotel Management and Tourism*

B.A. 1958, Michigan State; A.S. 1950, New York State

- Bushnell, Kenneth W., *Instructor in Art***  
B.A. 1956, California at Los Angeles; M.F.A. 1961, Hawaii
- Bushnell, Oswald A., *Professor of Microbiology***  
B.S. 1934, Hawaii; M.S. 1935, Ph.D. 1937, Wisconsin
- Butzine, Janet S. (Mrs. Harold), *Instructor in Education***  
B.S. 1940, Cornell; M.S. 1945, Purdue (second semester)
- Cahill, Robert S., *Assistant Professor of Political Science***  
B.A. 1954, Reed College; M.A. 1961, Ph.D. 1962 Oregon
- Callaghan, Catherine A., *Assistant Professor of Linguistics***  
A.B. 1954, Ph.D. 1963, California
- Cammack, Floyd M., *Assistant Professor of Anthropology***  
B.A. 1954, Kentucky; B.A. 1956, M.S. 1960, Oxford; M.S. 1957, Columbia; Ph.D. 1962, Cornell
- Campbell, Robert L., *Assistant Professor of Education***  
B.S. 1946, Illinois Institute of Technology; M.Ed. 1951, Louisiana State (on leave 1963-64)
- Canfield, Claire, *Assistant Professor of Nursing***  
B.S. 1947, Wayne; M.A. 1950, Columbia; M.P.H. 1961, Michigan
- Canfield, Grant W., *Lecturer in Personnel and Industrial Relations***  
B.S. 1949, M.B.A. 1958, Southern California
- Cannelora, Louis, *Lecturer in Real Estate***  
LL.B. 1938, Hastings College of Law
- Carlson, Arthur E., *Professor of Accounting***  
B.Ed. 1943, Wisconsin State; M.A. 1947, Harvard; Ph.D. 1954, Northwestern
- Carlson, David S., *Assistant Professor of Management***  
B.S. 1951, M.B.A. 1956, Wayne
- Carpenter, C. Whitney, II, *Instructor in German***  
A.B. 1943, Cornell; M.A. 1952, Southern California
- Carr, Albert B., Jr., *Assistant Professor of Education***  
B.S. 1950, Iona College; M.A. 1951, Ed.D. 1958, Columbia
- Carr, Elizabeth B. (Mrs.), *Professor of Speech***  
B.A. 1924, M.A. 1940, Oklahoma; Ph.D. 1953, Louisiana State
- Carr, Norma (Mrs. Albert B., Jr.), *Lecturer in Spanish***  
B.S. 1951, College of the City of New York; M.A. 1954, Columbia
- Carroll, Floyd, *Visiting Colleague, Animal Science***
- Cathcart, Staff Sergeant Matthew E., *Instructor in Air Science***
- Caughey, William A., *Instructor in Civil Engineering***  
B.S. 1927, M.S. 1929, Toledo
- Cence, Robert J., *Associate Professor of Physics***  
A.B. 1952, Ph.D. 1959, California at Berkeley
- Chaffee, Margaret H., *Lecturer in Psychology***  
B.A. 1961, Washburn University of Topeka
- Chai, Hi Chang, *Associate Professor of Engineering***  
B.S. 1953, Texas; M.S. 1954, Ph.D. 1957, Ohio State
- Chamberlain, Theodore K., *Assistant Professor of Geology***  
B.S. 1952, New Mexico; M.S. 1953, Ph.D. 1960, California Scripps Institution of Oceanography
- Chang, Chia-Ling, *Assistant Professor of Education***  
B.A. 1948, M.Ed. 1950, Smith College

- Chang, Hsuan, *Assistant Professor of Chinese*  
B.A. 1939, M.A. 1942, Catholic University at Peiping
- Chang, Lynette Y. C. (Mrs.), *Instructor in Education*  
B.Ed. 1954, M.Ed. 1960, Hawaii
- Chang, Raymond M., *Instructor in Physics*  
B.A. 1951, Hawaii; M.S. 1953, New York
- Chang, Thomas, *Lecturer in Educational Psychology*  
B.A. 1947, Hawaii; M.A. 1950, Columbia; Ph.D. 1957, Ohio State
- Chang, Vivian A. C., (Mrs. Thomas), *Instructor in Education*  
B.A. 1947, Hawaii; M.A. 1950, Columbia
- Chang, Walter T., *Instructor in Education*  
B.A. 1945, San Jose State College; M.A. 1959, San Francisco State College
- Chang, Winona L. (Mrs. Charles K. C.), *Assistant Professor of Education*  
B.Ed. 1949, Hawaii; M.Ed. 1957, Boston
- Chao, Shan Hsing, *Assistant Professor of Mathematics*  
B.S. 1943, National Sun Yat-sen University; M.S. 1960, Oklahoma
- Char, Beverly F., *Assistant Professor of Mathematics*  
B.A. 1954, Vassar
- Char, Evelyn L. (Mrs. Vernon), *Instructor in Nursing*  
B.S.N. 1957, Hawaii; M.S.N. 1958, Boston
- Charlot, Jean, *Senior Professor of Art*  
D.F.A. 1946, Grinnell College; L.L.D. 1956, St. Mary's College
- Cheng, Ch'eng-K'un, *Professor of Sociology*  
B.A. 1932, Yenching; M.A. 1937, Ph.D. 1945, University of Washington
- Cheng, Chung-ying, *Assistant Professor of Philosophy*  
B.A. 1956, National Taiwan University; M.A. 1958, University of Washington; Ph.D. 1964, Harvard
- Ching, Barbara K. (Mrs. John K. C.), *Instructor in Physics*  
B.A. 1959, M.S. 1961, Hawaii
- Ching, Donald K. F., *Lecturer in Personnel and Industrial Relations*  
B.A. 1951, Hawaii
- Chiol, Laure L. (Mrs.), *Instructor in French*  
LL.R. 1944, University of Strasbourg; M.A. 1956, California at Los Angeles
- Chiu, Arthur N. L., *Associate Professor of Engineering*  
B.A., B.S. 1952, Oregon State; M.S. 1953, Massachusetts Institute of Technology; Ph.D. 1961, Florida
- Chiu, Wan-Cheng, *Professor of Meteorology*  
B.S. 1941, National Central University; M.S. 1947, Ph.D. 1951, New York
- Chock, Alvin K., *Lecturer in Botany*  
B.A. 1951, M.S. 1953, Hawaii
- Chong, Theodora W., *Lecturer in Home Economics*  
B.S. 1961, Hawaii
- Chou, James C. S., *Assistant Professor of Engineering*  
B.S. 1941, National Institute of Technology (China); M.S. 1949, Georgia Institute of Technology
- Chow, Alfred V., *Assistant Professor of Electrical Engineering*  
B.S. 1953, California; M.S. 1958, California at Los Angeles
- Chrisman, Robert, *Instructor in English*  
B.A. 1958, California; M.A. 1960, San Francisco State

- Christopher, Phoebus M., *Instructor in Chemistry***  
B.A. 1949, Rutgers; M.S. 1954, Newark College of Engineering
- Chu, George W., *Professor of Microbiology and Zoology***  
B.A. 1928, Lingnan; M.S. 1931, Yenching; sc.D. 1934, Johns Hopkins
- Chui, Edward F., *Assistant Professor of Health and Physical Education***  
B.S. 1947, M.A. 1948, Ph.D. 1964, Iowa
- Chun, Dai Ho, *Professor of Education***  
B.A. 1930, M.A. 1937, Hawaii; Ph.D. 1947, Ohio State
- Chun, Kwock Bung, *Lecturer in Dental Hygiene***  
B.A. 1942, Hawaii; D.D.S. 1945, Pittsburgh
- Chung, Nae Hoon (Paul), *Assistant Professor of Economics***  
B.A. 1952, Chungang University; M.A. 1956, Ball State Teachers' College; Ph.D. 1962, Michigan
- Clark, Francis E., *Professor of Education***  
B.S. 1930, Northern State Teachers College; M.S. 1937, ed.D. 1948, Colorado
- Clark, Richard H., *Assistant Professor of Mathematics***  
B.S. 1940, Yale; M.A. 1949, Michigan
- Clark, Tony L., *Instructor in Physics (Hilo)***  
B.S. 1959, M.S. 1962, University of Washington
- Clay, Horace F., *Associate Professor of Horticulture***  
B.S. 1950, Hawaii; M.S. 1952, Massachusetts; Ph.D. 1958, Chicago
- Clayton, William Howard, *Associate Professor of Meteorology***  
B.S. 1949, Bucknell; Ph.D. 1956, Texas A and M
- Clopton, Robert W., *Senior Professor of Education***  
B.A. 1926, Maryville College; M.Ed. 1941, Hawaii; Ph.D. 1946, Northwestern
- Cobb, Estel H., *Associate Professor of Animal Science***  
B.S. 1948, Oklahoma State; M.S. 1952, Ph.D. 1958, Iowa State
- Cochran, Evelyn H., *Associate Professor of Social Work***  
B.A. 1927, Mississippi; M.A. 1932, Tulane
- Cody, William J. T., *Lecturer in Social Work***  
M.D. 1951, Tufts
- Coller, Richard W., *Lecturer in Anthropology (Hilo)***  
B.A. 1948, Ph.D. 1959, Minnesota; M.A. 1951, Hawaii
- Collier, Roy W., *Instructor, English Language Institute***  
B.S. 1950, Ohio State; M.A. 1958, University of the Pacific
- Collins, DWane R., *Professor of Education***  
B.A. 1930, State College of Iowa; M.S. 1938, State, University of Iowa; ed.D. 1941, Columbia
- Collins, Myrtle T. (Mrs. DWane), *Instructor in Education***  
B.A. 1937, State College of Iowa; M.A. 1960, Colorado College
- Congdon, Charles F., *Assistant Professor of Statistics***  
B.S. 1934, State Teachers College, West Chester, Pennsylvania; M.Ed. 1940, Hawaii; M.B.A. 1953, Columbia
- Contois, David E., *Assistant Professor of Microbiology***  
B.A. 1950, California at Los Angeles; M.S. 1952, Hawaii; Ph.D. 1958, California
- Converse, Major Stanley P., *Assistant Professor of Military Science***  
B.Ed. 1959, Omaha
- Cooil, Bruce J., *Professor of Plant Physiology***  
B.S. 1936, Washington State; M.S. 1939, Hawaii; Ph.D. 1947, California
- Cook, Sergeant Clark, *Instructor in Military Science***

- Cook, Maxwell A., *Associate Professor of Social Work*  
B.A. 1941, Florida; M.S.S.W. 1951, North Carolina
- Cooperrider, Tom S., *Assistant Professor of Botany*  
A.B. 1950, Denison; M.S. 1955, Ph.D. 1958, State University of Iowa
- Corba, Nicholas B., *Associate Professor of Engineering*  
B.S. 1940, California State College, California, Pennsylvania; M.Ed. 1952, Pittsburgh
- Corbin, Donald A., *Professor of Accounting and Business Economics*  
B.S. 1942, M.B.A. 1943, Ph.D. 1954, California
- Cowing, Cedric B., *Associate Professor of History*  
B.A. 1948, M.A. 1950, Stanford; Ph.D. 1956, Wisconsin
- Cox, Doak C., *Professor of Geology*  
B.S. 1938, Hawaii; M.S. 1941, Harvard
- Cox, J. Halley, *Professor of Art*  
B.A. 1933, San Jose State College; M.A. 1937 California
- Craig, Paul G., *Professor of Economics*  
B.A. 1950, Otterbein College; M.A. 1951, Ph.D. 1953, Ohio State
- Crain, Major Forest B., *Assistant Professor of Air Science*  
B.A. 1947, M.A. 1948, Texas
- Crockett, Ruth M. (Mrs. W. R.), *Instructor in Education*  
B.A. 1960, Beloit College; M.L.S. 1961, Illinois
- Croft, Kenneth, *Professor of Speech*  
B.A. 1939, Oklahoma; M.A. 1942, Michigan; M.A. 1949, Ph.D. 1953, Indiana
- Crooker, Elizabeth P. (Mrs. F. Deal), *Instructor in Education*  
B.A. 1931, Smith; M.A. 1933, Columbia
- Crossley, John B., *Professor of Education*  
B.A. 1929, Pomona; M.A. 1940, Claremont; D.Litt. 1945, Howard; Ed.D. 1950, California at Los Angeles
- Crowell, David H., *Professor of Psychology*  
B.A. 1941, Drew; Ph.D. 1950, Iowa
- Crowell, Doris C. (Mrs. David H.), *Lecturer in Psychology*  
B.A. 1947, Drew; M.A. 1950, State University of Iowa
- Crymes, Ruth H., *Assistant Professor of English*  
B.A. 1945, M.A. 1948, Oregon; Ph.D. 1963, Columbia
- Curtis, Delores M., *Assistant Professor of Education*  
B.S. 1951, Indiana State Teachers College; M.S. 1957, Ed.D. 1963, Illinois
- Cunningham, Carl R., *Lecturer in Music*  
B.Mus. 1952, Notre Dame
- Cutting, Windsor Cooper, *Professor of Pharmacology*  
B.A. 1928, M.D. 1932, Stanford
- Dauefer, Carl J., *Assistant Professor of Education*  
B.S. 1953, State Teachers College, Kutztown, Pa.; M.Ed. 1955, Temple
- Dangler, Edgar W., *Instructor in General Science*  
B.S. 1942, Maine; M.S. 1947, Minnesota
- Daniel, L. Scott, *Professor of Engineering*  
B.S. 1945, Montana State
- Das, Satyendranath, *Assistant Professor of Electrical Engineering*  
B.Sc. 1945, M.Sc. 1947, Calcutta; Ph.D. 1961, Battersea College of Technology
- Davi, Richard D., *Lecturer in Personnel and Industrial Relations*  
B.A. 1952, Portland

- Davis, Frances E., *Assistant Professor of Mathematics*  
B.S. 1936, Michigan State; M.A. 1941, Michigan
- Davis, Orrel, *Assistant Professor of Education*  
B.A. 1927, M.A. 1941, Northwestern
- Daws, A. Gavan, *Instructor in History*  
B.A. 1955, Melbourne; M.A. 1960, Hawaii
- Day, A. Grove, *Senior Professor of English*  
B.A. 1926, M.A. 1943, Ph.D. 1944, Stanford
- DeButts, Dale C., *Assistant Professor of Education*  
B.S. 1948, Iowa State
- DeMello, Eunice M. (Mrs. Wayne), *Lecturer in Education and Music*  
B.Ed. 1954, Hawaii, M.Mus. 1956, Northwestern
- Denney, Reuel N., *Professor of American Studies*  
B.A. 1932, Dartmouth College
- de Queljoe, David H., *Assistant Professor of Asian Languages*  
M.A. 1957, Ed.D. 1959, Columbia
- de Tsouloukidze, Theymouraz, *Instructor in Spanish*  
Ph.D. 1952, University of Madrid
- Dewey, Alice G., *Assistant Professor of Anthropology*  
B.A. 1950, M.A. 1954, Ph.D. 1959, Radcliffe College
- Diamond, A. Leonard, *Professor of Psychology*  
B.A. 1947, Cincinnati; M.A. 1949, Ph.D. 1951, Columbia
- Dickerson, William E., Ph.D., *Visiting Professor of Accounting* (first semester)  
Professor of Accounting, Ohio State University
- Dickinson, Carol V. (Mrs. Donald I.), *Lecturer in English*  
B.A. 1954, Drake
- Dickinson, Donald I., *Assistant Professor of English, Acting Director of English Language Institute*  
B.A. 1949, Colorado State; M.A. 1952, New Mexico
- Dien, Albert E., *Assistant Professor of Chinese*  
B.A. 1950, M.A. 1951, California
- Digman, John M., *Associate Professor of Psychology*  
B.A. 1948, Ph.D. 1951, Ohio State
- Dodge, Stanley D., *Professor of Geography*  
B.S. 1922, Ph.D. 1926, Chicago
- Dole, Arthur A., *Associate Professor of Psychology*  
B.A. 1946, Antioch College; M.A. 1949, Ph.D. 1951, Ohio State
- Dority, Guy H., *Instructor in Chemistry* (Hilo)  
B.Sc. 1954, Oglethorpe; M.A. 1959, North Carolina
- Doty, Maxwell S., *Professor of Botany*  
B.S. 1939, M.S. 1941, Oregon State; Ph.D. 1945, Stanford
- Downs, James B. T., *Professor of Engineering*  
M.E. 1934, M.S. 1938, Stevens Institute of Technology
- Drake, Margaret H. (Mrs.), *Instructor in Education*  
B.A. 1922, Drake; M.A. 1934, Columbia
- Dreier, John T., *Associate Professor of Drama and Theatre*  
B.F.A. 1948, M.F.A. 1949, Carnegie Institute of Technology; Ph.D. 1949, Denver

- Drenckhahn, Vivian V., *Associate Professor of Public Health*  
B.S. 1922, Minnesota; M.S. 1928, Cornell; M.P.H. 1933, Massachusetts Institute of Technology
- Droste, Howard M., *Assistant Professor of Art (Hilo)*  
B.A. 1951, M.F.A. 1953, University of Washington
- Droste, Yone (Mrs. Howard M.), *Instructor in English (Hilo)*  
A.B. 1941, MacMurray College; A.M. 1954, Boston
- Dullaghan, Edward M., *Instructor, English Language Institute*  
B.A. 1957, Queens College; M.A. 1962, New York
- Dungan, Norma L., *Instructor in Office Management*  
B.S. 1959, State Teachers College, Shippensburg, Pa.; M.B.A. 1960, Indiana
- Dunham, Arthur, *Professor of Social Work*  
A.B. 1914, Washington University; M.A. 1917, Illinois
- Dyer, Doris M. (Mrs. Wallace A.), *Instructor in Education*  
B.A. 1942, California at Santa Barbara
- Ecke, Gustav E. W., *Professor of Art*  
Ph.D. 1922, Erlangen
- Ecke, Yu-Ho Tseng, *Associate Professor of Art*  
Certificate 1942, Fugen University
- Eder, Margaret S. (Mrs.), *Assistant Professor of Home Economics*  
B.S. 1924, Minnesota; M.S. 1956, Ohio State
- Edwards, Carol S. (Mrs. Roger H.), *Instructor in Mathematics (Hilo)*  
B.A. 1960, California at Berkeley; M.A. 1962, Illinois
- Elbert, Samuel H., *Professor of Pacific Languages and Linguistics*  
B.A. 1928, Grinnell College; B.Lit. 1931, Columbia; Ph.D. 1950, Indiana
- Eldridge, Arthur C., *Assistant Professor of Meteorology*  
B.A. 1939, San Jose State College
- Elliott, Donald F., *Assistant Professor of Spanish*  
B.A. 1931, Monmouth College; M.A. 1936, Florida
- Elliott, Gordon J., *Instructor, English Language Institute*  
B.A. 1951, University of Washington
- Ellsworth, P. T., Ph.D., *Carnegie Visiting Professor of Economics*  
(first semester); *Visiting Professor of Economics* (second semester)  
Professor of Economics, University of Wisconsin
- Emerson, Hellen E., *Associate Professor of German*  
B.A. 1922, California; M.A. 1925, Ph.D. 1937, Wisconsin
- Emery, Betty K., *Instructor in Home Economics*  
B.A. 1959, M.S. 1960, Kansas State
- Engman, Charles A., Jr., *Associate Professor of Engineering*  
B.S. 1949, Hawaii; M.S. 1950, Illinois
- Erickson, Yvonne B. (Mrs. John A.), *Instructor in Education*  
B.Ed. 1949, Hawaii; M.A. 1952, George Peabody College for Teachers
- Ernest, Welden A., *Assistant Professor of History*  
B.A. 1953, Buffalo; M.A. 1954, Harvard
- Ernst, Earle, *Senior Professor of Drama and Theatre*  
B.A. 1933, Gettysburg College; M.A. 1937, Ph.D. 1940, Cornell
- Erwin, Susan C., *Instructor in Education*  
B.A. 1923, University of Washington; M.A. 1940, Middlebury College



- Estoque, Mariano A., *Professor of Meteorology***  
B.S. 1947, University of the Philippines; M.S. 1948, Ph.D. 1950, New York
- Etherington, A. Bruce, *Associate Professor of Art***  
B. Arch. 1947, Cornell
- Evans, John R., *Professor of Engineering***  
B.S. 1941, M.S. 1947, Michigan State
- Everly, Hubert V., *Professor of Education***  
B.Ed. 1934, M.Ed. 1938, Hawaii; Ph.D. 1946, Ohio State
- Everson, Marion T., *Assistant Professor of Art***  
B.S. 1945, M.S. 1952, Wisconsin; M.F.A. 1959, Cranbrook Academy of Art
- Ewbank, Henry L., Jr., *Associate Professor of Speech***  
B.A. 1947, M.A. 1948, Ph.D. 1952, Wisconsin
- Ewing, Claude H., *Professor of Education***  
Ph.B. 1933, Chicago; M.A. 1936, Colorado State College of Education; Ph.D. 1946, Northwestern
- Ezer, Melvin, *Assistant Professor of Education***  
B.A. 1950, California; M.Ed. 1951, Tufts; Ed.D. 1961, Harvard
- Fancher, Joanna E., *Instructor in Nursing***  
B.A. 1950, Houghton; M.N. 1953, Western Reserve; M.A. 1963, Columbia
- Fenton, Frank L., *Professor of English (Hilo)***  
A.B. 1923, M.A. 1925, Ph.D. 1941, Stanford
- Feraru, Anne Thompson, *Assistant Professor of Political Science***  
A.B. 1947, Wilson College; A.M. 1948, Columbia; Ph.D. 1951 l'Universite, Lyons
- Ferdun, Shelley Lynette, *Instructor in Nursing***  
B.S. 1960, Oregon
- Ferguson, John B., *Professor of Management and Industrial Relations***  
B.A. 1933, M.B.A. 1935, Stanford; Ph.D. 1960, Cornell
- Fergusson, Francis, D. Litt., *Carnegie Visiting Professor of Drama and Theatre (second semester)***  
Professor of Comparative Literature, Rutgers, The State University
- Fest, Thorrel B., *Professor of Speech***  
B.A. 1932, Iowa State Teachers College; M.Ph. 1938, Ph.D. 1953, Wisconsin
- Finney, Joseph C., *Lecturer in Psychology***  
B.A. 1946, Vanderbilt; M.D. 1949, Harvard; Ph.D. 1959, Stanford
- Fitzgerald, Donald, *Assistant Professor of Education***  
A.S.T.C. 1951, Sydney Teachers College; M.A. 1959, Ph.D. 1962, Illinois
- Fitzsimmons, Lorraine F. (Mrs.), *Assistant Professor of Education***  
B.A. 1929, M.A. 1931, Colorado State College of Education
- Fixler, L. Donald, *Associate Professor of Business Economics***  
B.A. 1952, Ph.D. 1960, New York; M.A. 1953, Southern Methodist
- Fogg, George G., *Instructor in Botany***  
A.B. 1960, Wabash College; M.S. 1962, Butler
- Force, Maryanne T. (Mrs. Roland W.), *Instructor in Anthropology***  
B.A. 1951, M.A. 1952, Stanford
- Forster, William O., *Instructor in General Science***  
B.S. 1950, M.A. 1953, Michigan State
- Fox, Robert L., *Associate Professor of Soil Science***  
B.S. 1948, M.A. 1950, Ph.D. 1954, Missouri
- Frank, Hilmer A., *Associate Professor of Food Science***  
B.A. 1949, Minnesota; M.S. 1952, Ph.D. 1954, Washington State

Frank, Marcella, *Assistant Professor of English, and English Language Institute*

B.S. 1945, M.A. 1947, Ph.D. 1963, Columbia

Frazier, Gordon, *Lecturer in Business Analysis and Statistics*

B.A. 1944, Park College (second semester)

Freeman, Frank S., *Professor of Education*

B.S. 1920, Ed.M. 1924, Ed.D. 1926, Harvard

Friedland, Ronald L., *Instructor in English*

B.A. 1959, Middlebury College; M.A. 1960, Columbia

Friedman, Harry J., *Associate Professor of Political Science*

B.Lit. 1948, Rutgers; M.S. 1949, Wisconsin; Ph.D. 1956, Pittsburgh

Friedman, Warren, *Instructor in English*

B.A. 1961, M.A. 1963, California

Friedson, Anthony M., *Assistant Professor of English*

A.B. 1951, Simpson College, Iowa; M.A. 1954, Ph.D. 1961, Iowa State

Frierson, James W., *Associate Professor of English*

B.A. 1929, LL.B. 1933, Tulane; Ph.D. 1950, Stanford

Frings, Hubert W., *Professor of Zoology*

B.S. 1936, Pennsylvania State; M.S. 1937, Oklahoma; Ph.D. 1940, Minnesota

Frodyma, Michael M., *Associate Professor of Chemistry*

B.S. 1942, Massachusetts; M.A. 1947, Columbia; M.S. 1949, Hawaii, Ph.D. 1952, George Washington

Fuchs, Roland J., *Associate Professor of Geography*

B.A. 1954, Columbia; M.A. 1957, Ph.D. 1959, Clark

Fujikawa, Asako (Mrs. James K.), *Instructor in Japanese*

B.A. 1932, Hawaii; M.A. 1956, Columbia; M.A. 1960, Ryukoku

Fujimura, Thomas H., *Professor of English*

B.A. 1942, California; M.A. 1943, Nebraska; Ph.D. 1950, Columbia

Fujioka, Norito, *Assistant Professor of Japanese*

B.A. 1948, M.A. 1952, Hawaii

Fujita, Shirley Y. (Mrs. Ichiro), *Assistant Professor of Education*

B.Ed. 1943, Hawaii; M.A. 1956, New York

Fukuda, Donald R., *Instructor in Education*

B.Ed. 1956, M.Ed. 1963, Hawaii

Fukuda, Mitsuno, *Junior Researcher in Microbiology*

B.A. 1933, Hawaii

Fukuda, Nobuko (Mrs. Robert T.), *Lecturer in Education (Hilo)*

B.Ed. 1943, M.A. 1961, Michigan State University

Fukui, Iris T. (Mrs. Rodney), *Assistant Professor of Education*

B.Ed. 1948, M.Ed. 1960, Hawaii

Fultz, Jane N. (Mrs. Paul D.), *Assistant Professor of Education*

B.Ed. 1938, Hawaii; M.A. 1939, Ohio State

Furer, Gloria S. (Mrs. Frederick H.), *Instructor in Home Economics*

B.S. 1945, Michigan State

Furukawa, Fred M., *Instructor in Health and Physical Education*

B.S. 1955, Hawaii

Furumoto, Augustine K., *Assistant Professor of Geology*

B.S. 1949, Dayton; M.S. 1955, Tokyo; Ph.D. 1961, St. Louis

Gadbois, George H., Jr., *Instructor in Political Science*

B.A. 1959, Marietta; M.A. 1962, Duke

- Garcia, Raymond A., *Instructor in Mathematics*  
Ed.B. 1958, M.A. 1961, Hawaii
- Garner, Jewell L. (Mrs. Jack W.), *Instructor in Education*  
B.S. 1952, M.Ed. 1956, Oregon
- Gasiorowski, Zygmunt, *Associate Professor of History*  
B.Sc. 1945, London; M.A. 1947, Ph.D. 1950, Berkeley
- Gates, Harold M., *Lecturer in Business Analysis and Statistics*  
B.S. 1959, Colorado
- Gavrell, Kenneth G., *Instructor in English*  
B.A. 1959, Fordham; M.A. 1963, New York
- Gay, May K., *Associate Professor of Health and Physical Education*  
B.A. 1923, Hawaii; M.A. 1925, Columbia
- Geil, John J., Jr., *Instructor in Education*  
B.S. in Ed. 1959, Kent State
- Geiser, Cynthia B. (Mrs. Ralph G.), *Assistant Professor of Education*  
B.A. 1926, Western State College of Colorado; M.A. 1929, Hawaii
- George, Dorothy I., *Associate Professor of English*  
B.A. 1936, Louisiana State Normal College; M.A. 1937, Ph.D. 1950, Louisiana State
- Gibson, Lillian R., *Instructor in Health and Physical Education*  
B.E. 1930, State Teachers College, La Crosse, Wisconsin
- Gilbert, James C., *Associate Professor of Horticulture*  
B.A. 1931, Pomona; M.A. 1933, Southern California; M.S. 1952, Ph.D. 1959, Hawaii
- Gillespie, Margaret C. (Mrs. Charles J.), *Assistant Professor of Education*  
B.Ed. 1952, M.Ed. 1957, Hawaii
- Gillett, Dorothy K. (Mrs. Milton A.), *Instructor in Music*  
B.S. 1940, Ohio State
- Gillett, George W., *Associate Professor of Botany*  
B.S. 1940, Iowa State College; M.F. 1949, Ph.D. 1954, California at Berkeley
- Gimigliano, A. James, *Assistant Professor of Philosophy*  
B.A. 1952, M.A. 1960, Ph.D. 1961, Columbia
- Glick, Clarence E., *Professor of Sociology*  
B.A. 1927, De Pauw; M.A. 1928, Ph.D. 1938, Chicago
- Glick, Doris L. (Mrs. Clarence), *Instructor in English*  
B.A. 1929, M.A. 1930, Ph.D. 1932, State University of Iowa
- Glissmeyer, Gloria, *Instructor in English*  
B.A. 1943, M.A. 1953, Utah
- Glynn, Samuel W., *Lecturer in Dental Hygiene*  
D.D.S. 1925, California
- Go, Mateo L. P., *Professor of Engineering*  
B.C.E. 1942, Ph.D. 1946, Cornell; S.M.C.E. 1943, Massachusetts Institute of Technology
- Gompertz, Kenneth A. M., *Assistant Professor of English*  
B. of J. 1953, M.A. 1956, Texas
- Goodman, Richard T., *Instructor, English Language Institute*  
A.B. 1953, Bowdoin College; M.A. 1959, Columbia
- Gordon, Morton J., *Assistant Professor of Speech*  
B.S. 1949, M.A. 1951, Columbia; M.A. 1955, Iowa
- Gorter, Wytze, *Professor of Economics*  
A.A. 1933, Marin Jr. College; A.B. 1936, Ph.D. 1948, Stanford

- Gortner, Susan R. (Mrs. Willis A.), *Assistant Professor of Nursing*  
B.A. 1953, Stanford; M.N. 1957, Western Reserve; Ph.D. 1964, California at Berkeley
- Gosline, William A., *Professor of Zoology*  
B.S. 1938, Harvard; Ph.D. 1941, Stanford
- Goto, Shosuke, *Associate Professor of Plant Pathology*  
B.S. 1941, M.S. 1943, University of Alberta; Ph.D. 1953, Minnesota
- Gott, Euyen, *Professor of Electrical Engineering*  
B.S. 1938, Kwangsi University; M.A. 1945, Stanford; D.Eng. 1959, Johns Hopkins
- Grace, George W., *Professor of Linguistics*  
Lic. 1948, University of Geneva; Ph.D. 1958, Columbia
- Graham, Ralph J., *Associate Professor of Drama and Theatre*  
B.A. 1937, Iowa
- Granborg, Bertil S. M., *Associate Professor of Electrical Engineering*  
Civing. E.E. 1953, R. Inst. of Techn., Stockholm; Ph.D. 1961, Wisconsin
- Grayson, Henry W., *Professor of Business Economics*  
B.A. 1937, University of Saskatchewan (Canada); M.A. 1947, Ph.D. 1950, University of Toronto (Canada)
- Green, Ernestene L., *Instructor in Anthropology*  
B.A. 1961, M.A. 1963, Arizona
- Greenberg, Marvin, *Assistant Professor of Education*  
B.S. 1957, New York; M.A. 1958, Ed.D. 1962, Columbia
- Gregory, Christopher, *Professor of Mathematics*  
B.S. 1938, M.S. 1939, Ph.D. 1941, California Institute of Technology
- Griffing, Augustus H., *Assistant Professor of English*  
B.A. 1929, Columbia; B.Th. 1934, Princeton; M.A. 1959, Hawaii
- Gross, Bertram, *Lecturer in Public Health*  
B.A. 1930, Dartmouth; M.S. 1941, North Carolina
- Gross, Yukie T. (Mrs. Bertram), *Associate Professor of Nursing*  
B.A. 1947, Wells College; M.N. 1950, M.S. (M.H.N.) 1954, Yale
- Gudeman, Howard E., *Lecturer in Psychology*  
B.A. 1950, Coe College; M.A. 1951, South Dakota; Ph.D. 1958, Kansas
- Guerrant, Edward O., *Professor of History*  
A.B. 1933, Davidson College; M.A. 1939, Ph.D. 1942, Southern California
- Gulati, Igbal Singh, *Associate Professor of Economics*  
B.A. 1941, M.A. 1949, Panjab University; Ph.D. 1955, London
- Gum, Lauretta Y. S., *Instructor in Education*  
B.Ed. 1958, Hawaii
- Gunderson, Robert G., Ph.D., *Visiting Professor of Speech* (second semester)  
Professor of Speech, Indiana University
- Gustuson, Donald I., *Associate Professor of Health and Physical Education*  
B.A. 1934, Whittier College; M.Ed. 1950, Hawaii; Ed.D. 1954, California at Los Angeles
- Haas, Michael, *Assistant Professor of Political Science*  
B.A. 1959, Ph.D. 1963, Stanford; M.A. 1960, Yale
- Haehnlen, Frederick P., Jr., *Assistant Professor of Education*  
B.A. 1949, Gettysburg College; M.Ed. 1955, Western Maryland College

- Halaby, Samia A., *Instructor in Art*  
B.S. 1959, Cincinnati; M.A. 1960, Michigan State; M.F.A. 1963, Indiana
- Hall, John B., *Assistant Professor of Biochemistry*  
A.B. 1957, Kansas; Ph.D. 1960, California
- Hamai, Herbert T., *Instructor in Health and Physical Education (Hilo)*  
B.Ed. 1957, Hawaii; M.S. 1959, Illinois
- Hamaker, Gene, *Associate Professor of American Studies*  
B.A. 1951, California at Berkeley; Ph.D. 1958, Nebraska
- Hamilton, Richard A., *Professor of Horticulture*  
B.S. 1937, North Dakota Agricultural College; M.S. 1940, Ohio State; Ph.D. 1953, Minnesota
- Hamilton, Thomas Hale, *Senior Professor of Political Science*  
B.A. 1936, DePauw; M.A. 1940, Ph.D. 1947, Chicago
- Hammerstrom, Technical Sergeant Duane E., *Instructor in Air Science*
- Handley, Katharine N. (Mrs.), *Professor of Social Work*  
B.A. 1923, Pomona; M.A. 1928, Stanford; M.S.W. 1942, Southern California
- Hanson, Sue K., *Instructor in Education*  
B.A. 1953, M.A. 1957, Wisconsin
- Haque, S. M. A., *Professor of Meteorology*  
B.S. 1944, M.S. 1946, Calcutta; Ph.D. 1950, London
- Haramoto, Frank H., *Assistant Professor of Entomology*  
B.S. 1949, M.S. 1953, Ph.D. 1964, Hawaii
- Hardy, D. Elmo, *Senior Professor of Entomology*  
B.A. 1937, Brigham Young; Ph.D. 1941, Kansas
- Harris, Yeuell Y., *Lecturer in Educational Psychology*  
B.A. 1937, King College; M.A. 1945, Duke; Ed.D. 1961, California
- Haselwood, Robert W., *Associate Professor of Engineering*  
B.A. 1934, Stanford; M.S. 1936, Harvard
- Haskins, Harriet Louise, *VRA Visiting Professor of Speech Pathology*
- Hayashi, Harry S., *Assistant Professor of Mathematics*  
B.A. 1953, Hawaii; M.A. 1957, Ph.D. 1962, Southern California (first semester)
- Hayes, Elizabeth Gentry (Mrs.), *Assistant Professor of English (Hilo)*  
A.B. 1949, M.A. 1952; Ph.D. 1964, Stanford
- Hayes, Eloise D. (Mrs.), *Associate Professor of Education*  
B.Ed. 1939, State Teachers College, St. Cloud, Minnesota; M.A. 1951, Ph.D. 1953, North Carolina
- Hayne, Paula J., *Instructor in Speech*  
B.F.A. 1956, M.F.A. 1958, Ohio
- Haynes, Richard P., *Assistant Professor of Philosophy*  
B.A. 1956, Pennsylvania State; M.A. 1958, Ph.D. 1961, Illinois
- Hazama, Dorothy O. (Mrs. Richard), *Instructor in Education*  
B.Ed. 1952, Hawaii; M.A. 1955, New York
- Hebert, Emery Jean, *Associate Professor of Management*  
B.S. 1953, Lamar State College of Technology; M.A. 1954, George Peabody College; Ph.D. 1962, Texas
- Hee, Harold S. Y., *Lecturer in Personnel and Industrial Relations*  
B.S. 1951, Cornell
- Hee, Yasuko I. (Mrs. Robert), *Instructor in Nursing*  
B.S. 1957, Hawaii; M.A. 1959, Columbia

- Hegglund, Frances R., *Assistant Professor of Nursing*  
B.S. 1956, Utah; M.A. 1958, P.M. 1960, Columbia
- Heidemann, Richard, *Assistant in Geophysics*  
B.S. 1958, Wisconsin
- Heiser, Merrill F., *Professor of English*  
B.A. 1934, M.A. 1935, Oberlin; Ph.D. 1947, Wisconsin
- Hensley, Roy J., *Associate Professor of Economics*  
B.S. 1942, Oregon; Ph.D. 1955, California at Berkeley
- Henthorn, William E., *Instructor in Asian Languages*  
B.A. 1957, California at Berkeley; Ph.D. 1963, Leiden
- Herand, Frank A., *Assistant Professor of Music*  
Ph.D. 1956, University of Zurich (Switzerland)
- Herrick, Colin J., *Professor of Psychology*  
B.A. 1924, Haverford College; M.A. 1934, Ph.D. 1939, Pennsylvania
- Herrick, Orpha E. (Mrs. Raymond B.), *Assistant Professor of Home Economics*  
B.S. 1949, Northwestern State College; M.S. 1954, Wisconsin
- Herrick, Raymond B., *Assistant Professor of Poultry Science*  
B.S. 1950, Northwestern State College; M.S. 1955, Ph.D. 1960, Wisconsin
- Hervey, Wesley D., *Assistant Professor of Speech*  
B.A. 1949, California; M.A. 1951, Hawaii
- Heye, Charles Frank, *Assistant Professor of Management*  
B.B.A. 1943, Texas; M.B.A. 1947, Maryland; Ph.D. 1963, Pennsylvania
- Hiatt, Robert W., *Senior Professor of Zoology*  
B.A. 1936, San Jose State College; Ph.D. 1941, California
- Higaki, Jane C. (Mrs.), *Junior Food Chemist*  
B.A. 1961, M.S. 1963, Hawaii
- Highlander, John P., *Associate Professor of Speech*  
B.A. 1942, M.A. 1947, State University of Iowa; Ph.D. 1953, Wisconsin
- Higuchi, Joyce N., *Instructor in Speech*  
B.Ed. 1959, Hawaii
- Hilker, Doris M., *Assistant Professor of Foods and Nutrition*  
B.S. 1949, Chicago; M.S. 1955, Loyola; Ph.D. 1958, Tulane
- Hine, Richard B., *Assistant Professor of Plant Pathology*  
B.A. 1952, California at Los Angeles; Ph.D. 1958, California at Davis
- Hirai, Bernice K. (Mrs. Henry T.), *Instructor in Japanese*  
B.Ed. 1946, M.Ed. 1961, Hawaii
- Hirata, Edward Y., *Lecturer in Civil Engineering*  
B.S. 1965, Hawaii
- Hiroki, Howard K., *Lecturer in Accounting*  
B.A. 1941, Hawaii; M.A. 1947, Minnesota
- Hirschy, Ira D., *Lecturer in Nursing*  
B.S. 1927, Jamestown College; M.A. 1929, M.D. 1933, M.P.H. 1942, Michigan
- Ho, Captain Walter T. M., *Instructor in Air Science*  
B.A. 1954, Michigan State College
- Hoffman, Doris J., *Instructor in Speech*  
B.S. 1959, Illinois State; M.A. 1964, Colorado
- Hoffman, Ronald, *Assistant Professor of Economics*  
B.S. 1956, California at Los Angeles; Ph.D. 1963, Johns Hopkins

**Hohl, Hans R., Assistant Professor of Microbiology**

Diploma 1957, Ph.D. 1960, Zurich

**Hollenberg, George J., Professor of Botany**

A.B. 1921, La Verne College; A.M. 1922, Manchester College; Ph.D. 1933, Stanford

**Hollingshead, Virginia (Mrs. Harry W.), Assistant Professor of English**

B.S. 1949, Pittsburgh; M.A. 1951, Hawaii; Ph.D. 1960, Washington

**Holmes, John R., Professor of Physics**

A.B. 1938, M.A. 1941, Ph.D. 1942, California at Berkeley

**Holmes, Wilfred J., Senior Professor of Engineering**

B.S. 1922, United States Naval Academy; M.S. 1929, Columbia

**Holton, James S., Associate Professor of Spanish**

B.A. 1948, San Diego State; M.A. 1951, Ph.D. 1956, California at Berkeley

**Holtzmann, Oliver V., Assistant Professor of Plant Pathology**

B.S. 1950, M.S. 1952, Colorado State; Ph.D. 1955, Washington State

**Hoofman, Earvel S., Assistant Professor of Education**

B.E. 1957, Colorado Agricultural and Mechanical College; M.E. 1958, Colorado State

**Hopkins, Mary E., Assistant Professor of Personnel and Industrial Relations**

B.A. 1940, M.A. 1958, Pittsburgh; Ph.D. 1963, Western Reserve

**Hopkins, Robert S., Instructor in Geography**

B.A. 1959, California at Los Angeles; M.A. 1960, Oklahoma

**Horan, Claude F., Professor of Art**

B.A. 1942, San Jose State College; M.A. 1946, Ohio State

**Hormann, Bernhard L., Professor of Sociology**

B.A. 1927, M.A. 1931, Hawaii; Ph.D. 1949, Chicago

**Hoshor, John P., Professor of Speech**

B.A. 1938, M.A. 1940, University of Washington; Ph.D. 1947, Iowa

**Hoslett, Schuyler, Professor of Management**

B.A. 1940, Park College; M.A. 1942, Ph.D. 1949, Ohio State; M.P.A. 1946, Harvard

**Howard, S. Alan, Assistant Professor of Anthropology**

B.A. 1955, M.A. 1958, Ph.D. 1962 Stanford

**Hsiao, Sidney C., Professor of Zoology**

B.A. 1928, Shanghai; M.A. 1933, Yenching; Ph.D. 1938, Harvard

**Hsie, Jen-yah, Professor of Microbiology**

B.S. 1938, Army Veterinary College; M.S. 1947, Michigan State; Ph.D. 1949, Maryland

**Hummel, Paul L., Assistant Professor of Civil Engineering**

B.S. 1957, Hawaii; M.S. 1960, Nebraska

**Hung, Fred C., Associate Professor of Economics**

B.A. 1947, St. John's, China; Ph.D. 1955, Washington

**Hungerford, C. Del, Assistant Professor of Education**

B.A. 1950, M.A. 1957, Whittier College

**Hunt, Maurice P., Professor of Education**

B.S. 1941, M.A. 1944, Ph.D. 1948, Ohio State

**Hunter, Charles H., Professor of History**

B.A. 1927, M.A. 1928, Ph.D. 1935, Stanford

**Huntsberry, William E., Associate Professor of English**

B.A. 1942, Michigan State Normal College; M.A. 1949, Hawaii

- Hylin, John W., *Assistant Professor of Agricultural Biochemistry*  
B.A. 1950, Marietta College; M.S. 1953, Purdue; Ph.D. 1957, Columbia
- Ige, Thomas H., *Professor of Economics*  
B.A. 1940, Hawaii; M.A. 1942, Ph.D. 1950, Wisconsin (on leave 1963-64)
- Iha, Franklin T., *Instructor in Mathematics*  
B.A. 1961, M.A. 1963, Hawaii
- Ihara, Teruo, *Assistant Professor of Education*  
B.S. 1940, Hawaii; M.A. 1949, Ph.D. 1959, Ohio State
- Ihrig, Judson L., *Associate Professor of Chemistry*  
B.S. 1949, Haverford College; M.A. 1951, Ph.D. 1952, Princeton
- Ikeda, Hiroko, *Assistant Professor of Japanese and Anthropology*  
B.A. 1936, Tokyo Joshi Daigaku (Women's Christian College); Ph.D. 1956, Indiana University
- In, Andrew W. S., *Associate Professor of Education*  
B.Ed. 1941, Hawaii; M.A. 1949, Ph.D. 1951, New York
- Inada, Kenneth K., *Assistant Professor of Philosophy*  
B.A. 1949, Hawaii; M.A. 1951, Chicago; Ph.D. 1960, Tokyo
- Ingledue, Jacquelyne L. (Mrs. Thomas C.), *Instructor in Health and Physical Education*  
B.S. 1955, Winthrop College; M.A. 1960, Stanford
- Ingleson, Lewis, *Instructor in Art*  
B.Arch. 1957, Southern California
- Inn, Agnes M. S., *Assistant Professor of Education*  
B.Ed. 1940, Hawaii; M.A. 1952, New York (on leave 1963-64)
- Inskeep, Richard G., *Associate Professor of Chemistry*  
B.A. 1944, Miami; M.S. 1947, Ph.D. 1949, Illinois
- Insko, Chester A., *Assistant Professor of Psychology*  
A.B. 1957, Ph.D. 1963, California; M.A. 1958, Boston
- Ishii, Mamoru, *Associate Professor of Plant Pathology*  
B.S. 1947, Hawaii; Ph.D. 1953, California
- Ishikawa, Howard K., *Lecturer in Education*  
B.A. 1952, M.A. 1953, Colorado State University (second semester)
- Ito, Isao, *Lecturer in Law*  
B.A. 1950, Hawaii; LL.B. 1953, Michigan
- Ives, Norman S., *Professor of Art*  
B.A. 1950, Wesleyan; B.A. 1951, M.F.A. 1952, Yale
- Iwanaga, Isaac I., *Instructor in Animal Science*  
B.S. 1928, Hawaii
- Iyer, Subramanya, *Associate Professor of Mechanical Engineering*  
B.S. 1947, M.S. 1948, Mysore; Ph.D. 1960, Illinois Institute of Technology
- Jackson, Ernest A., *Associate Professor of European Languages*  
B.A. 1948, Boston; M.A. 1951, Yale; Ph.D. 1962, Michigan
- Jackson, Lowell D., *Professor of Education*  
B.A. 1948, M.S. 1949, Ed.D. 1957, Southern California
- Jambor, Harold A., *Professor of Social Work*  
B.A. 1935, Reed College; M.A. 1939, Chicago
- Jay, Robert R., *Associate Professor of Anthropology*  
B.A. 1949, M.A. 1953, Ph.D. 1957, Harvard
- Jenkins, Esther C. (Mrs.), *Associate Professor of Education*  
B.A. 1931, Alderson-Broadbent College; M.A. 1947, Ohio State



- Jenkins, Rose C. (Mrs. Lucius F.), *Assistant in Education*  
R.N. 1933, Queen's Hospital School of Nursing
- Jenson, Clara A., *Associate Professor of European Languages*  
B.A. 1926, M.A. 1927, Wisconsin
- Jestes, Edward C., *Assistant Professor of Geology*  
B.A. 1954, M.A. 1958, California at Los Angeles
- Johnson, Donald D., *Professor of History*  
B.A. 1938, California at Los Angeles; M.A. 1941, Ph.D. 1946, Southern California
- Johnson, Harriet L., *Instructor in Education*  
B.S. 1938, M.A. 1948, Ohio State
- Johnson, Ray W., *Associate Professor of Education*  
B.A. 1927, College of Emporia; M.Ed. 1940, Ed.D. 1952, Southern California
- Johnson, Ronald C., *Associate Professor of Psychology*  
B.A. 1949, Ph.D. 1959, Minnesota; M.A. 1950, Denver
- Johnstone, James D., *Assistant Professor of Education*  
B.A. 1949, California at Santa Barbara; M.S. 1950, Ed.D. 1960, Southern California
- Jones, Virginia A., *Professor of Nursing*  
R.N. 1920, Reid Memorial Hospital School of Nursing; B.S. 1933, Indiana; M.Ed. 1944, Hawaii
- Kaina, Lorraine M., *Instructor in Education*  
B.S. 1951, Hawaii
- Kalani, Henry B., *Assistant Professor of Home Economics*  
B.A. 1952, Hawaii; B.S. 1956, Univ. of Denver; M.A. 1959, Michigan State
- Kamemoto, Fred I., *Assistant Professor of Zoology*  
A.B. 1950, M.S. 1951, George Washington; Ph.D. 1954, Purdue
- Kamemoto, Haruyuki, *Professor of Horticulture*  
B.S. 1944, M.S. 1947, Hawaii; Ph.D. 1950, Cornell
- Kamil, Mustafa, *Assistant Professor of History*  
B.A. 1946, University of Lucknow (India); M.A. 1947, Aligarh Muslim University (India); A.M. 1959, Harvard
- Kamins, Robert M., *Professor of Economics*  
B.A. 1940, M.A. 1948, Ph.D. 1950, Chicago
- Kanehiro, Yoshinori, *Assistant Professor of Soils*  
B.S. 1942, M.S. 1948, Hawaii
- Kau, Manuel C. W., *Lecturer in Dental Hygiene*  
D.D.S. 1948, Northwestern; M.P.H. 1959, Michigan
- Kawazoe, Alyce H., *Instructor in Education*  
B.Ed. 1959, M.A. 1963, Hawaii
- Kay, E. Alison, *Associate Professor of Science*  
B.A. 1950, Mills College; B.A. 1952, M.A. 1956, Cambridge; Ph.D. 1957, Hawaii
- Keaster, Jacqueline, *VRA Visiting Professor of Speech Pathology*
- Keeler, Joseph T., *Assistant Professor of Agricultural Economics*  
B.S. 1951, California; M.S. 1953, Illinois
- Keller, Larissa V. (Mrs. H. Austil), *Instructor in Russian*  
B.A. 1961, Hawaii; M.A. 1963, Middlebury College
- Kerr, Marian, *Assistant Professor of Music*  
B.M. 1929, M.M. 1944, Oberlin
- Kess, Joseph F., *Lecturer in Tagalog*  
B.S. 1962, Georgetown

- Kiefer, Edgar F., *Assistant Professor of Chemistry*  
B.S. 1957, Stanford; Ph.D. 1960, California Institute of Technology
- Kimura, Sueko M. (Mrs. Keichi), *Assistant Professor of Art*  
B.A. 1936, M.F.A. 1959, Hawaii
- Kinch, Donald M., *Professor of Agricultural Engineering*  
B.S. 1938, Nebraska; M.S. 1940, Minnesota; Ph.D. 1953, Michigan State
- Kingrey, Kenneth G., *Professor of Art*  
B.Ed. 1940, M.A. 1942, California at Los Angeles
- Kirkpatrick, Arthur L., *Assistant Professor of Business Economics and Foreign Trade*  
B.A. 1935, M.A. 1937, Illinois
- Kirkpatrick, Vivian B., *Associate Professor of Nursing*  
B.N. 1952, McGill; M.A. 1958, Ed.D. 1960, Columbia
- Kirtley, Bacil F., *Assistant Professor of English*  
B.A. 1949, M.A. 1950, Texas; Ph.D. 1955, Indiana
- Kiyosaki, Suyeko (Mrs. Thomas), *Instructor in Education*  
B.A. 1949, Hawaii (second semester)
- Klopf, Donald W., *Associate Professor of Speech*  
B.A. 1953, M.A. 1955, Hawaii; Ph.D. 1958, University of Washington
- Knowlton, Edgar C., *Associate Professor of European Languages*  
B.A. 1941, M.A. 1942, Harvard; Ph.D. 1959, Stanford
- Kobayashi, Hideo, *Instructor in Art*  
B.Arch. 1955, University of Washington
- Koehler, Dorothy I., *Instructor in Mathematics*  
B.A. 1940, Woman's College of the University of North Carolina; M.S. 1958, Kentucky
- Koga, Yoshi H. (Mrs. Kenneth K.), *Instructor in Dental Hygiene*  
B.Ed. 1951, Hawaii; M.A. 1953, Columbia
- Kohloss, Frederick H., *Lecturer in Mechanical Engineering*  
B.S. in M.E. 1943, Maryland; LL.B. 1949, George Washington; M.M.E. 1951, Delaware
- Komenaka, April Reiko, *Instructor in English*  
B.A. 1961, Hawaii; M.A. 1963, California
- Komuro, James T., *Instructor in Education*  
B.S. 1941, Ohio State
- Koo, Gladys Y. (Mrs. James), *Assistant Professor of Education and Principal, Elementary School*  
B.S. 1941, M.Ed. 1960, Hawaii
- Kop, Melba E. (Mrs. Wendell K. C.), *Instructor in Speech*  
B.Ed. 1958, M.A. 1962, Hawaii
- Korn, Alfons L., *Professor of English*  
B.A. 1927, Oregon; B.A. 1930, Oxford; M.A. 1937, California
- Kornhauser, David H., *Professor of Asian Studies*  
B.A. 1941, Bucknell; M.A. 1951, Ph.D. 1956, Michigan
- Kosaki, Richard H., *Associate Professor of Political Science*  
B.A. 1949, Hawaii; M.A. 1952, Ph.D. 1956, Minnesota
- Koshi, James H., *Associate Professor of Animal Science*  
B.S. 1948, Colorado State; Ph.D. 1955, Minnesota
- Kraemer, Hazel V. (Mrs. Erich), *Professor of Home Economics*  
A.B. 1934, M.A. 1938, Ph.D. 1945, California

- Krause, Ervin D., *Instructor in English*  
B.S. 1953, Iowa State; M.A. 1957, Nebraska
- Krause, Loretta (Mrs. Ervin D.), *Instructor in Speech*  
B.A. 1960, Minnesota; M.A. 1961, Nebraska
- Krauss, Irving, *Assistant Professor of Sociology*  
B.A. 1950, Ph.D. 1961, California; M.A. 1955, Chicago
- Krivoy, Glade A. (Mrs. Harold L.), *Instructor in English (Hilo)*  
B.A. 1943, Utah
- Kudar, John C., *Associate Professor of Physics*  
Ph.D. 1925, University of Szeged (Hungary)
- Kumabe, Kazuye T., *Assistant Professor of Social Work*  
A.B. 1943, Utah; M.S.W. 1960, Hawaii
- Kuramoto, Mae I. (Mrs. Allan), *Instructor in Nursing*  
B.S. 1956, Hawaii
- Kurokawa, Shozo, *Instructor in Japanese*  
B.A. 1954, Waseda University
- Kwok, D. Wynn-Ye, *Assistant Professor of History*  
B.A. 1954, Brown; M.A. 1956, Ph.D. 1959, Yale
- Kyselka, Will, *Assistant Professor of Education*  
B.S. 1947, M.S. 1949, M.A. 1951, Michigan
- Lackey, Curtis E., *Assistant Professor of Education*  
B.A. 1952, Fresno State College
- Laevastu, Taivo, *Associate Professor of Oceanography*  
M.S. 1954, Washington; Ph.D. 1960, University of Helsinki
- Lambert, Ronald T., *Assistant Professor of Education, Principal of University Elementary School*  
B.S. 1950, M.A. 1956, Ph.D. 1961, Minnesota (on leave 1963-64)
- Lamoureux, Charles H., *Assistant Professor of Botany*  
B.S. 1953, Rhode Island; M.S. 1955, Hawaii; Ph.D. 1961, California
- Lampard, William D., *Professor of Education*  
B.A. 1941, Chicago; M.A. 1947, Ed.D. 1952, Columbia (on leave 1963-64)
- Landsman, Jerome L., *Assistant Professor of Music*  
B.M. 1948, Eastman School of Music; M.M. 1949, Southern California
- Landstreet, J. Collins, *Instructor in General Engineering*  
B.S. 1924, United States Naval Academy
- Langhans, Edward A., *Associate Professor of Drama*  
B.A. 1948, M.A. 1949, Rochester; M.A. 1951, Hawaii; Ph.D. 1955, Yale
- Larm, Edwin, *Instructor in Education*  
B.Ed. 1950, Hawaii; M.A. 1956, Columbia
- Larsen, Christian L., *Professor of Government*  
B.A. 1930, M.A. 1932, Nebraska; Ph.D. 1937, California
- Larson, Harold O., *Associate Professor of Chemistry*  
B.S. 1943, Wisconsin; M.S. 1947, Purdue; Ph.D. 1950, Harvard
- Larson, Richard L., *Assistant Professor of English*  
A.B. 1949, A.M. 1950, Ph.D. 1963, Harvard
- Larson, Valentine K. (Mrs.), *Assistant Professor of Speech*  
B.A. 1935, Fresno State College; M.A. 1942, Southern California
- Last, Walter A., *Assistant Professor of Chemistry*  
B.A. 1955, Clare College, Cambridge; Ph.D. 1962, Birkbeck College, London

- Lau, Kenneth K., *Professor of Business*  
B.A. 1938, Hawaii; J.D. 1941, Michigan; LL.M. 1951, Harvard
- Lau, L. Stephen, *Associate Professor of Engineering*  
B.S. 1953, M.S. 1955, Ph.D. 1959, California
- Lavoie, Ronald L., *Assistant Professor of Meteorology*  
B.A. 1954, New Hampshire; M.S. 1956, Florida State
- Lavy, William F., *Instructor in Spanish and Music (Hilo)*  
B.M. 1927, M.M. 1929, Arrillaga Musical College
- Lebra, William P., *Associate Professor of Anthropology and Asian Studies*  
B.A. 1948, M.A. 1949, Minnesota; Ph.D. 1958, Harvard
- Lee, Corrine M. (Mrs. George), *Instructor in Dental Hygiene*  
B.Ed. 1950, Hawaii
- Lee, Oliver M., *Assistant Professor of Political Science*  
B.A. 1951, Harvard; M.A. 1955, Ph.D. 1962, Chicago
- Lee, Peter H., *Assistant Professor of Korean*  
B.A. 1951, College of St. Thomas; M.A. 1953, Yale; Ph.D. 1958, University of Munchen
- Lee, Richard K. C., *Professor of Public Health, Director of Medical and Public Health Activities*  
M.D. 1933, Tulane; D.P.H. 1938, Yale
- Lee, Samuel S. O., *Assistant Professor of Accounting*  
B.B.A. 1952, M.B.A. 1959, Hawaii
- Lefforge, Orland S., *Associate Professor of Speech*  
B.A. 1936, Manchester College; M.A. 1940, Ph.D. 1953, Wisconsin
- Leib, Amos P., *Associate Professor of English*  
B.S. 1938, Haverford College; M.A. 1947, Hawaii; Ph.D. 1963, Tulane
- Leib, Edna Lee (Mrs. Amos P.), *Assistant Professor of Education and Principal, Preschool*  
B.A. 1936, Meredith College; M.A. 1940, Iowa
- Leighly, John B., *Professor of Geography*  
A.B. 1923, Michigan; Ph.D. 1927, California
- Leong, Yau Sing, *Professor of Business Economics and Statistics*  
B.A. 1924, Hawaii; M.A. 1925, Ph.D. 1933, Columbia
- Leton, Donald A., *Associate Researcher in Education*  
B.S. 1947, Central State College; M.A. 1949, Ph.D. 1955, Minnesota
- Lewis, Jacqueline R., *Instructor in General Science*  
B.A. 1959, Chicago; M.A. 1961, De Paul
- Levi, Werner, *Professor of Political Science*  
J.D. 1934, University of Fribourg (Switzerland); M.A. 1943, Ph.D. 1944, Minnesota
- Levy, Alfred J., *Assistant Professor of English*  
B.A. 1949, Clark; M.A. 1950, Ph.D. 1957, Wisconsin
- Lichty, Lenna G. (Mrs. Forrest), *Instructor in English*  
B.S. in Ed. 1931, M.A. 1936, Southern California
- Lind, Andrew W., *Senior Professor of Sociology*  
B.A. 1924, M.A. 1925, University of Washington; Ph.D. 1931, Chicago
- Linn, James R. L., *Assistant Professor of Speech*  
B.A. 1949, M.A. 1950, Alberta; M.F.A. 1953, Hawaii
- Little, Harold Franklin, *Assistant Professor of Biology (Hilo)*  
B.A. 1954, Lycoming College; M.S. 1956, Ph.D. 1959, Pennsylvania State

- Liu, James J. Y., *Assistant Professor of Chinese*  
B.A. 1948, Catholic University of Peking; M.A. 1950, Bristol University
- Lo, Paul G., *Instructor in Chinese*  
B.A. 1956, Seattle Pacific College; M.A. 1962, Yale
- Lockhart, James A., *Associate Professor of Plant Physiology*  
B.S. 1949, M.S. 1952, Michigan State; Ph.D. 1954, California at Los Angeles
- Lockwood, George T., *Instructor in French*  
B.A. 1938, Duke; M.A. 1941, Pennsylvania
- Loh, Philip C. S., *Associate Professor of Microbiology*  
B.S. 1950, Morningside College; M.S. 1953, State University of Iowa, M.P.H. 1954, Ph.D. 1958, Michigan
- Lombardi, Frank, *Lecturer in Government*  
B.S. 1940, California
- Long, C. N. Hugh, *Visiting Professor of Physiology*  
D.Sc. Manchester; D.Sc. McGill
- Loo, Frederick S. W., *Instructor in Mathematics*  
B.S. 1940, Hawaii; M.A. 1941, Colorado State College
- Loomis, Harold G., *Assistant Professor of Mathematics (Hilo)*  
B.A. 1950, Stanford; M.S. 1952, Ph.D. 1957, Pennsylvania State
- Louis, Edith L. (Mrs. James L.), *Assistant Professor of Education*  
B.A. 1931, M.Ed. 1940, Hawaii
- Love, Lucile L., *Assistant Professor of Nursing*  
B.S., N.E. 1955, M.S.N. 1961, Catholic University of America
- Lovelady, Albert G., *Lecturer in Educational Psychology*  
B.A. 1942, George Pepperdine College; M.A. 1943, Southern California
- Lovett, E. D., *Professor of Public Health*  
B.S. 1927, M.D. 1934, Iowa
- Lowery, James K., *Professor of English*  
B.A. 1935, M.A. 1937, Ph.D. 1950, California at Los Angeles
- Lum, Cheong, *Assistant Professor of Education*  
B.Ed. 1952, Hawaii; M.A. 1958, New York
- Lum, Jean L. J., *Instructor in Nursing*  
B.S. 1960, Hawaii; M.S. 1961, California at San Francisco
- Lum, Lillian A. (Mrs. Hung Chiu), *Instructor in Education*  
B.A. 1935, M.Ed. 1960, Hawaii
- Lum, Richard S., *Instructor in Music*  
B.Ed. 1951, Hawaii; M.Mus.Ed. 1953, Northwestern
- Luomala, Katharine, *Professor of Anthropology*  
B.A. 1931, M.A. 1933, Ph.D. 1963, California
- Lutzky, Seymour E., *Associate Professor of American Studies, Director of Institute of American Studies*  
B.A., B.J. 1942, Missouri; M.A. 1948, Ph.D. 1951, State University of Iowa
- Lynch, Frank, *Professor of Anthropology*  
A.B. 1945, Ph.L. 1946, M.A. 1948, M.A. 1949, Woodstock College; S.T.B. 1951, S.T.L. 1953, Weston College; Ph.D. 1959, Chicago
- Lynd, Frederick T., *Lecturer in Animal Science*  
B.S. 1947, Washington State; D.V.M. 1953, Oklahoma State; M.S. 1959, Texas Agricultural and Mechanical College
- Lynn, David R., *Assistant Professor of Education*  
B.A. 1937, San Jose State College

- Macdonald, Gordon A., *Senior Professor of Geology and Geophysics*  
B.A. 1933, M.A. 1934, California at Los Angeles; Ph.D. 1938, California
- MacGregor, Beatrix B. (Mrs. Alex), *Instructor in Education*  
B.S. 1945, M.S. 1952, Trenton State College
- Mackay, Elizabeth, *Assistant Professor of Home Economics*  
B.S. 1933, Purdue; M.A. 1935, Ph.D. 1937, Wisconsin
- Maguire, Joseph P., *Professor of Classics*  
A.B. 1949, Holy Cross College; M.A. 1931, Ph.D. 1936, Yale
- Majors, Hughie L. (Miss), *Assistant Professor of Education*  
B.S. 1946, Georgia; M.A. 1952, New York
- Majoska, Alvin V., *Lecturer in Dental Hygiene*  
B.S. 1936, Rutgers; M.D. 1940, Pennsylvania
- Makela, Technical Sergeant Arnold L., *Instructor in Air Science*
- Maltby, Joseph, *Assistant Professor of English*  
B.A. 1952, M.A. 1954, Stanford
- Manchester, Curtis A., *Professor of Geography*  
B.A. 1935, M.A. 1938, Ph.D. 1946, Michigan
- Maney, Florence A. (Mrs. J. H.), *Assistant Professor of English*  
B.A. 1947, M.A. 1951, Hawaii
- Mann, J. Adin, *Assistant Professor of Chemistry*  
B.S. 1954, Iowa State; Ph.D. 1962
- Mann, Thelma T. (Mrs. Arthur F.), *Instructor in Education*  
B.Ed. 1943, Hawaii; M.A. 1951, Columbia
- Marder, Arthur J., *Senior Professor of History*  
B.A. 1931, M.A. 1932, Ph.D. 1936, Harvard
- Maretzki, Thomas W., *Associate Professor of Anthropology*  
B.A. 1951, Hawaii; Ph.D. 1957, Yale
- Margulies, Herbert F., *Associate Professor of History*  
B.A. 1950, Reed College; M.A. 1951, Ph.D. 1955, Wisconsin
- Mark, Janet C. (Mrs. Shelley M.), *Instructor, English Language Institute*  
B.A. 1944, Michigan; M.A. 1945, Columbia
- Mark, Shelley M., *Professor of Economics*  
B.A. 1943, Ph.D. 1956, Washington; M.S. 1944, Columbia (on leave 1963-64)
- Markey, Beatrice G. (Mrs. John L.), *Assistant Professor of Political Science (Hilo)*  
Ph.B. 1935, Chicago; M.S. 1952, D.P.A. 1956, Southern California
- Martin, Harold C., *Professor of Civil Engineering*  
B.S. 1934, M.S. 1937, New York; Ph.D. 1948, California Institute of Technology
- Martin, Robert M., *Professor of Education*  
B.S. 1937, Linfield College; M.A. 1946, Ph.D. 1949, University of Washington
- Mason, Leonard E., *Professor of Anthropology*  
B.A. 1935, M.A. 1941, Minnesota; Ph.D. 1955, Yale
- Mason, Richard G., *Assistant Professor of Drama and Theatre*  
B.A. 1950, Swarthmore; M.F.A. 1953, Yale
- Mathewson, Robert H., *Professor of Educational Psychology*  
B.S. 1922, Connecticut; M.A. 1932, Columbia; Ph.D. 1940, Yale
- Matsuda, Fujio, *Professor of Civil Engineering*  
B.S. 1949, Rose Polytechnic Institute; sc.D. 1952, Massachusetts Institute of Technology

- Matsumoto, Hiromu**, *Associate Professor of Agricultural Biochemistry*  
B.S. 1944, M.S. 1945, Hawaii; Ph.D. 1955, Purdue
- Matsunaga, Frederick M.**, *Instructor in Physics*  
B.A. 1959, M.S. 1960, Hawaii
- Matthews, Donald C.**, *Professor of Zoology*  
B.A. 1931, Ph.D. 1935, Wisconsin
- Matthews, Milton P.**, *Professor of Marketing*  
B.A. 1948, Utah; M.S. 1949, Ph.D. 1955, New York
- Maurer, Walter H.**, *Assistant Professor of Asian Studies*  
B.A. 1943, Vermont; Ph.D. 1950, Pennsylvania
- Maxwell, Richard B.**, *Instructor in English*  
A.B. 1958, M.A. 1961, San Jose State College
- McAllister, Howard C.**, *Associate Professor of Physics*  
B.S. 1948, M.S. 1950, Wyoming; Ph.D. 1959, Colorado
- McCabe, Sumie F. (Mrs. Thomas J.)**, *Assistant Professor of Speech*  
B.Ed. 1942, M.A. 1949, Hawaii
- McCarthy, Harold E.**, *Professor of Philosophy*  
B.A. 1937, M.A. 1942, Ph.D. 1947, California
- McCutcheon, Elizabeth N.**, *Assistant Professor of English*  
B.A. 1954, William Smith College; M.A. 1956, Ph.D. 1959, Wisconsin
- McCutcheon, James M.**, *Assistant Professor of History and Asian Studies*  
B.A. 1954, Hobart College; M.S. 1955, Ph.D. 1959, Wisconsin
- McElrath, Miles K., Jr.**, *Assistant Professor of Japanese*  
B.A. 1951, California; M.A. 1953, Yale; M.A. 1955, Michigan
- McGuire, Joseph W.**, *Professor of Economics*  
Ph.B. 1948, Marquette, M.B.A. 1950, Ph.D. 1952, Columbia
- McHenry, Silas L.**, *Professor of Poultry Science*  
B.S. 1939, M.S. 1958, Delaware, D.Ed. 1960, Pennsylvania State
- McIntosh, Robert W.**, *Professor of Hotel Management*  
B.S. 1940, M.S. 1949, Michigan State; Ph.D. 1956, Michigan
- McIntosh, Thelma A. (Mrs. Edward L.)**, *Associate Professor of Education*  
B.A. 1931, M.A. 1950, Ed.D. 1955, North Texas State College
- McKaughan, Howard P.**, *Associate Professor of Linguistics*  
B.A. 1945, California at Los Angeles; M.Th. 1946 Dallas Theological Seminary  
M.A. 1952, Ph.D. 1957, Cornell
- McKay, Harrison E.**, *Assistant Professor of Psychology (Hilo)*  
B.A. 1955, University of Washington; M.S. 1958, Ph.D. 1961, Purdue
- McKay, Robert H.**, *Assistant Professor of Biochemistry*  
B.S. 1953, University of Washington; Ph.D. 1959, California at Berkeley
- McMorrow, Bernard J.**, *Lecturer in Public Health*  
B.S. 1932, Massachusetts Institute of Technology; M.S. 1947, Harvard
- McVay, Harue O. (Mrs. Wade H., Jr.)**, *Assistant Professor of Art*  
B.A. 1950, Hawaii; M.A. 1951, Ohio State
- Meadows, Staff Sergeant Henry B.**, *Instructor in Air Science*
- Meadville, Lt. Colonel Harry W.**, *Professor of Air Science*  
Ph.D. 1961, Stanford
- Medley, Master Sergeant James B.**, *Instructor in Military Science*
- Meinecke, Fred K.**, *Instructor in Hawaiian*  
B.A. 1960, California

- Meinhart, Noreen T., *Instructor in Nursing*  
B.S. 1959, Boston College; M.S. 1960, Boston
- Meller, Norman, *Professor of Political Science*  
LL.B. 1936, B.A. 1942, California; M.A. 1951, Ph.D. 1955, Chicago
- Meredith, Gerald M., *Lecturer in Psychology*  
B.A. 1955, M.A. 1956, California
- Merritt, Fred C., *Associate Professor of Social Work*  
B.A. 1941, Montana; M.S.W. 1949, Denver
- Mertz, E. Richard, *Visiting Professor of Civil Engineering*  
B.S. 1933, Missouri School of Mines; M.S. 1939, Texas A&M; Ph.D. 1953, California at Los Angeles
- Meserve, Wilber E., *Professor of Electrical Engineering*  
B.S. 1923, M.S. 1926, Maine; M.E.E. 1929, Ph.D. 1933, Cornell
- Meyer, George A., *Professor of Education*  
B.S. 1926, Washington State; M.A. 1948, Ph.D. 1950, University of Washington
- Michalski, John, *Assistant Professor of European Languages*  
B.A. 1953, Toledo; M.A. 1954, Northwestern
- Mickelson, Peter, P., *Professor of Education*  
B.A. 1935, North Dakota Teachers College; M.A. 1939, Ph.D. 1941, Colorado
- Miller, Helen N. (Mrs. Robert L. R.), *Instructor in Education*  
B.Ed. 1951, Hawaii
- Miller, Herbert E., Ph.D., *Visiting Professor of Accounting* (second semester)  
Professor of Accounting, Michigan State University
- Miller, James W., *Assistant Professor of Education*  
B.Ed. 1953, Hawaii; M.Ed. 1957, Harvard
- Miller, Virginia N. (Mrs. Kleber R.), *Instructor in English*  
B.A. 1934, San Diego State College; M.S.S.A. 1938, Western Reserve
- Minor, William G., *Instructor in English*  
B.F.A. 1958, Hawaii; M.A. 1960, California; M.A. 1963, San Francisco State
- Mirikitani, Leatrice H. (Mrs. Richard S.), *Instructor in Japanese*  
B.Ed. 1945, M.Ed. 1961, Hawaii
- Mitchell, John B., *Lecturer in English*  
B.A. 1952, Stanford; M.A. 1956, Claremont
- Mitchell, John H., *Associate Professor of English*  
B.S. 1943, Bowdoin College; A.M. 1947, Harvard; Ph.D.-ABT 1948, Boston
- Mitchell, Wallace C., *Assistant Professor of Entomology*  
B.S. 1942, M.S. 1949, Ph.D. 1955, Iowa State College
- Mitsuda, Tetsuichi, *Associate Professor of Engineering*  
B.S. 1949, Rose Polytechnic Institute; M.S. 1952, Illinois
- Miura, Carole K. (Mrs.), *Instructor in Mathematics*  
B.A. 1960, Cornell; M.A. 1962, Hawaii
- Miwa, Ralph M., *Associate Professor of Political Science*  
B.A. 1948, M.A. 1950, Hawaii; Ph.D. 1953, Johns Hopkins
- Miyake, Iwao, *Professor of Physics*  
B.S. 1926, M.S. 1929, Hawaii
- Miyake, James S., *Assistant Professor of Sociology*  
B.S. 1949, M.Ed. 1950, Springfield College



- Mizuno, Amy H. (Mrs. Henry H.), *Instructor in Education*  
B.S. 1945, Utah; M.A. 1949, Columbia
- Moberly, Ralph M., Jr., *Associate Professor of Geology*  
B.A. 1950, Ph.D. 1956, Princeton
- Montana, Andrew F., *Assistant Professor of Chemistry (Hilo)*  
B.S. 1951, Seattle College; Ph.D. 1957, University of Washington
- Mookini, Edwin H., *Associate Professor of Mathematics*  
B.S. 1947, M.S. 1948, Chicago
- Moon, Carl A., *Instructor in English (Hilo)*  
B.A. 1949, Ohio State; M.A. 1951, Minnesota
- Moore, Anneliese W. (Mrs. Paul R.), *Instructor in European Languages*  
B.A. 1958, Hawaii; M.A. 1959, California
- Moore, Charles A., *Senior Professor of Philosophy*  
B.A. 1926, Ph.D. 1932, Yale
- Morales, Rosalina, *Instructor in Tagalog*  
B.S. 1953, University of the Philippines; M.A. 1957, Michigan
- Moriwaki, Takeshi, *Assistant Professor of Education*  
B.A. 1951, M.A. 1952, Ph.D. 1962, Indiana State College
- Mortensen, James K. P., *Instructor in English*  
B.A. 1957, M.A. 1959, Minnesota
- Morton, Newton E., *Professor of Genetics*  
B.A. 1951, Hawaii; M.S. 1952, Ph.D. 1955, Wisconsin
- Moseley, Roger L., *Assistant Professor of Management*  
B.A. 1951, University of Washington; M.B.A. 1953, Harvard
- Mower, Howard F., *Assistant Professor of Biochemistry*  
B.S. 1951, Ph.D. 1955, California Institute of Technology
- Mueller, Bertha, *Professor of European Languages*  
B.A. 1926, Northwestern; M.A. 1929, Ph.D. 1935, Wisconsin
- Mueller-Dombois, Dieter, *Assistant Professor of Botany*  
Diploma 1951, Landwirt; B.S. 1955, Stuttgart Hohenheim; Ph.D. 1960, British Columbia
- Muir, Barry S., *Assistant Professor of Zoology*  
B.A. 1956, M.A. 1958, Ph.D. 1961, Toronto
- Mullen, Major Evrette J., Jr., *Associate Professor of Air Science*  
B.A. 1949, Mississippi
- Munchmeyer, Frederick C., *Assistant Professor of Engineering*  
B.S. 1942, U.S. Coast Guard Academy; M.S. 1948, Massachusetts Institute of Technology
- Mundy, Millard C., *Instructor in Music*  
B.M. 1943, College of the Pacific
- Murakami, Dorothy K., *Instructor in Home Economics and Assistant Food Supervisor*  
B.S. 1951, Hawaii
- Murashige, Toshio, *Assistant Professor of Horticulture*  
B.S. 1952, Hawaii; M.S. 1954, Ohio State; Ph.D. 1958, Wisconsin
- Murphy, Richard E., *Associate Professor of Geography*  
B.A. 1943, St. Lawrence; M.A. 1952, George Washington; Ph.D. 1957, Clark
- Murphy, Thomas D., *Professor of History*  
B.A. 1933, M.A. 1934, Wesleyan; Ph.D. 1939, Yale

Murray, Anne F., *Instructor in General Science*

B.A. 1956, Radcliff; M.Ed. 1958, Boston

Myers, Ramon H., *Assistant Professor of Economics*

B.A. 1954, M.A. 1956, Ph.D. 1959, Washington

Nagley, Winfield E., *Professor of Philosophy*

B.A. 1940, Ph.D. 1947, Southern California; B.D. 1943, San Francisco Theological Seminary

Nagy, Albert M., *Assistant Professor of Mathematics*

A.B. 1936, M.A. 1938, Montclair State College

Najita, Joyce A., (Mrs. Kazutoshi), *Instructor in Business Mathematics*

B.B.A. 1954, M.B.A. 1958, Hawaii

Najita, Kazutoshi, *Assistant Professor of Electrical Engineering*

B.S. 1953, Illinois Institute of Technology; M.S. 1955, Brown

Najita, Shuku W. (Mrs. Masayuki), *Instructor in Nursing*

B.S., M.A. 1954, Columbia

Nakagawa, Noriyuki, *Instructor in Electrical Engineering*

B.S.E.E. 1944, Toyko University; M.S.E.E. 1954, Pennsylvania; M.S. 1959, Michigan

Nakamura, Irene H. (Mrs. Takeshi), *Instructor in Education*

B.Ed. 1943, Hawaii; M.Ed. 1963, Hawaii (on leave 1963-64)

Nakasone, Henry Y., *Assistant Professor of Horticulture*

B.A. 1943, M.S. 1952, Ph.D. 1960, Hawaii

Nakatsuji, Dorothy K. (Mrs. Ronald), *Instructor in Nursing*

B.S. 1955, M.S. 1962, Utah

Naluai, Sergeant First Class George E. N., *Instructor in Military Science*

Namba, Ryoji, *Associate Professor of Entomology*

B.S. 1948, M.S. 1950, Michigan State; Ph.D. 1953, Minnesota

Nardin, Mabelle B. (Mrs.), *Instructor, English Language Institute*

B.A. 1944, Stanford; M.A. 1957, Columbia

Nasse, John T., Jr., *Assistant Professor of Zoology*

B.A. 1956, Wesleyan; M.D. 1960, McGill

Naughton, John J., *Professor of Chemistry*

B.S. 1936, College of the City of New York; M.S. 1940, Ph.D. 1942, New York

Naya, Seiji, *Instructor in Economics*

B.B.A. 1958, Hawaii; M.A. 1961, Wisconsin

Neely, Robert T., *Instructor in French*

A.B. 1955, A.M. 1957, Colorado

Neff, Charles B., *Assistant Professor of Political Science*

B.A. 1954, Pomona College; M.A. 1959, Ph.D. 1961, Yale

Neff, Frederick C., *Professor of Education*

B.Sc. 1935, M.A. 1941, Ohio State; Ed.D. 1950, California at Los Angeles

Nelson, Torlef, *Associate Professor of Education*

B.S. 1942, M.S. 1947, Oregon; Ed.D. 1952, University of Washington

Neogy, Prithwish, *Associate Professor of Art*

B.A. 1940, Calcutta; M.A. 1948, Harvard

Newcomer, Lloyd R., *Associate Professor of Speech*

B.A. 1935, Wyoming; M.A. 1941, Southern California

Newton, Olive C. (Mrs. George S.), *Instructor in English*

B.A. 1931, Adrian College; M.A. 1942, Ohio State

Nichols, Marie H. (Mrs. Alan), *Professor of Speech*

A.B. 1931, M.A. 1936, Pittsburgh; Ph.D. 1945, Wisconsin

- Nishida, Toshiyuki, *Professor of Entomology*  
B.S. 1941, M.S. 1947, Hawaii; Ph.D. 1953, California
- Niwao, Jitsuo, *Lecturer in Civil Engineering (Hilo)*  
B.S. 1938, Carnegie Institute of Technology
- Nobuhara, Walter S., *Lecturer in Dental Hygiene*  
D.D.S. 1958, Michigan
- Noda, Daniel S., *Associate Professor of Education, Principal of University High School*  
B.Ed. 1941, Hawaii; Ph.D. 1952, Ohio State
- Noda, Kaoru, *Associate Professor of Science (Hilo)*  
B.A. 1950, Grinnell; M.S. 1953, Ph.D. 1956, Iowa State
- Noll, Staff Sergeant Clifford J., *Instructor in Air Science*
- Norris, Ben, *Professor of Art*  
B.A. 1931, Pomona
- Nose, Katashi, *Assistant Professor of Physics*  
B.S. 1937, Hawaii; Ed.M. 1961, Harvard
- Nouchi, Doris Y., *Instructor in Nursing*  
B.S. 1958, Hawaii; M.S. 1963, Wayne State
- Nunn, G. Raymond, *Professor of History*  
B.A. 1950, University of London; M.A. 1954, Ph.D. 1957, Michigan
- Oakes, William F., *Associate Professor of Psychology*  
B.A. 1951, M.A. 1952, Wichita; Ph.D. 1956, Minnesota
- O'Brien, Ethel M., *Assistant Professor of Health and Physical Education*  
B.A. 1937, California; M.Ed. 1950, Hawaii; Ed.D. 1958, Oregon
- Oda, Edith, *Instructor in Home Economics and Junior Food Service Specialist*  
B.S. 1960, University of Hawaii
- Ogata, Joyce, *Instructor in Education*  
B.Ed. 1963, Hawaii (second semester)
- Olive, Lindsay S., *Professor of Botany*  
A.B. 1938, M.A. 1940, Ph.D. 1942, North Carolina
- Orans, Martin, *Assistant Professor of Anthropology*  
B.A. 1951, M.A. 1953, Ph.D. 1962, Chicago
- Orgill, Montie M., *Assistant Professor of Meteorology*  
B.S. 1951, Brigham Young; M.S. 1957, Utah
- Ortelt, Judith A., *Instructor in Nursing*  
B.S. 1952, Geneve College; M.N. 1955, Western Reserve; M.A. 1963, Columbia
- Oshima, Harry T., *Professor of Economics*  
B.A. 1940, Hawaii; Ph.D. 1943, Columbia
- Oster, Irwin I., *Associate Professor of Genetics*  
B.Sc. 1950, Long Island University; Ph.D. 1956, Indiana
- Otagaki, Kenneth K., *Associate Professor of Animal Science*  
B.S. 1940, Hawaii; M.S. 1946, Iowa State; Ph.D. 1954, California
- O'Toole, William F., *Instructor in English*  
B.A. 1958, Clark; M.A. 1959, Connecticut
- Otterson, Peder A., *Associate Professor of Education*  
B.S. 1946, Minnesota; M.S. 1951, Illinois
- Ouchi, Shizuko (Mrs. Sugao), *Instructor in Education*  
B.A. 1934, Hawaii

- Oxford, Wayne H., *Instructor in Speech*  
B.A. 1954, M.A. 1960, California at Los Angeles
- Ozaki, Flora T. (Mrs. Tetsuo), *Assistant Professor of Nursing*  
B.S. 1948, Hawaii; M.A. 1954, Columbia
- Ozaki, Ronald H., *Lecturer in Social Work*  
B.A. 1951, Hawaii; M.S.W. 1955, D.S.W. 1960, Washington University
- Ozawa, Theodore Y., *Instructor in Education*  
B.A. 1954, B.Ed. 1959, M.Ed. 1963, Hawaii
- Palafox, Anastacio L., *Assistant Professor of Poultry Science*  
B.S. 1940, M.S. 1941, Washington State
- Pang, Morris S. Y., *Instructor in Education*  
B.Ed. 1950, M.Ed. 1962, Hawaii
- Pang, Violet F. (Mrs. Dick C.), *Instructor in Education*  
B.Ed. 1934, Hawaii
- Paolucci, Dominic A., *Lecturer in Mathematics*  
B.S. 1943, U.S. Naval Academy; M.A. 1952, Ph.D. 1961, Indiana
- Paratore, Angela, *Associate Professor of Speech*  
B.A. 1934, M.A. 1936, Wisconsin; Ph.D. 1950, Cornell
- Parkman, Ralph, *Professor of Mechanical Engineering*  
B.S. 1941, Pittsburgh; M.S. 1949, Ph.D. 1951, Stanford
- Patterson, Major William R., *Assistant Professor of Military Science*
- Paul, Ouida F., *Assistant Professor of Music*  
B.A. 1930, B.S. 1933, Huntingdon College; M.A. 1943, Ed.D. 1957, Columbia
- Pavlangos, Ruth A. (Mrs. Spyro G.), *Associate Professor of Classics*  
B.A. 1944, College of Wooster; M.A. 1947, Ph.D. 1951, Cincinnati
- Pendleton, Edwin C., *Professor of Business Economics and Industrial Relations*  
B.S. 1932, M.S. 1934, Ph.D. 1950, California
- Perry, Byrne, *Associate Professor of Civil Engineering*  
B.S. 1949, M.S. 1949, California Institute of Technology; Ph.D. 1957, Stanford
- Peterson, Karl G., *Professor of English*  
B.A. 1932, Oregon State; M.A. 1936, Oregon; Ph.D. 1949, Stanford
- Peterson, Vincent Z., *Professor of Physics*  
B.A. 1943, Pomona College; Ph.D. 1950, California
- Peterson, W. Wesley, *Professor of Electrical Engineering*  
B.A. 1948, B.S.E. 1949, M.S.E. 1950, Ph.D. 1954, Michigan
- Pfeiffer, William R., *Instructor in Music*  
B.Mus. 1932, Chicago Musical College; B.A. 1939, Hastings College
- Philipp, Elizabeth M. (Mrs. Perry F.), *Instructor in German*  
B.A. 1942, California
- Philipp, Perry F., *Professor of Agricultural Economics*  
B.S. 1940, Ph.D. 1951, California
- Phillips, Sergeant Gilbert, *Instructor in Military Science*
- Phipps, Katharine E. (Mrs.), *Instructor in Speech*  
B.A. 1927, M.A. 1953, Washington State
- Pickens, Alex L., *Associate Professor of Education*  
B.A. 1950, Southern Methodist; M.A. 1952, North Texas State College; Ed.D. 1954, Columbia
- Pic'l, Melvin E., *Instructor in Speech*  
B.A. 1958, M.A. 1962, Pepperdine College

- Pierson, Kathleen W. (Mrs. Roger J.), *Assistant Professor of Insurance*  
B.A. 1934, California at Los Angeles; M.A. 1948, Hawaii
- Pierson, Laura L., *Instructor in Speech*  
B.Ed. 1958, M.A. 1961, Hawaii
- Pietruszkiewicz, Anthony J., Jr., *Instructor in General Science (Hilo)*  
B.Ed. 1959, Hawaii
- Piianaia, Abraham, *Lecturer in Business Economics and Geography*  
B.A. 1953, Hawaii
- Pirie, Peter N. D., *Assistant Professor of Geography*  
B.A. 1953, M.A. 1954, Auckland University (New Zealand); Ph.D. 1964, Australian National University
- Plaister, Theodore H., *Assistant Professor, English Language Institute*  
B.S. 1950, California; M.A. 1960, Michigan
- Plucknett, Donald L., *Instructor in Agriculture*  
B.S. 1953, M.S. 1957, Nebraska; Ph.D. 1961, Hawaii
- Pong, William, *Associate Professor of Physics*  
B.S. 1951, M.S. 1952, Ph.D. 1954, Cincinnati
- Porter, M. Roseamonde, *Professor of Education*  
B.S. 1930, M.A. 1934, Ph.D. 1938, Ohio State
- Potter, Robert E., *Associate Professor of Education*  
A.B. 1947, M.Ed. 1948, Ohio; D.Ed. 1954, Illinois
- Poyzer, Marvin F., *Associate Professor of Education*  
B.S. 1938, North Dakota; M.A. 1948, Colorado State College of Education; ed.D. 1954, Bradley
- Pratt, Merrell, *Associate Professor of Marketing*  
B.A. 1950, Utah; M.B.A. 1954, Harvard; Ph.D. 1960, Ohio State
- Prescott, Stanley L., *Lecturer in Accounting*  
B.S. 1922, M.S. 1923, Utah State; Ph.D. 1936, Santo Tomas
- Putman, Edison W., *Associate Professor of Plant Physiology*  
B.A. 1942, Ph.D. 1952, California
- Ramage, Colin S., *Professor of Meteorology*  
B.A. 1940, Victoria University College; New Zealand; sc.D. 1961, New Zealand
- Rantala, John W., *Assistant Professor of Education*  
B.S. 1951, Stout Institute; M.Ed. 1953, Illinois
- Read, George W., *Instructor in General Science (Hilo)*  
B.A. 1956, M.A. 1962, Stanford
- Reck, Lawrence R., *Junior Specialist*  
B.Ed. 1959, Wisconsin State College; M.S. 1962, Wisconsin
- Reddin, Mary E., *Assistant Professor of Education*  
B.A. 1939, National College of Education; M.A. 1943, Northwestern (on leave 1963-64)
- Reed, Helen C., *Instructor in Education*  
B.Ed. 1931, National College of Education; M.A. 1947, Columbia
- Reese, Ernst S., *Assistant Professor of Zoology*  
B.A. 1953, Princeton; Ph.D. 1960, California at Los Angeles
- Reimers, Theresia E., *Instructor in German*  
B.A. 1952, M.A. 1953, Stanford
- Reis, Staff Sergeant John E. H., *Instructor in Air Science*
- Resnik, Michael D., *Assistant Professor of Philosophy*  
B.A. 1960, Yale; A.M. 1962, Ph.D. 1964, Harvard

- Rian, Esther I. (Mrs. Norman), *Lecturer in English*  
B.A. 1936, St. Olaf College
- Rian, Norman D., *Professor of Music*  
B.A. 1935, St. Olaf College; M.A. 1939, Eastman School of Music; ed.D. 1960, Columbia
- Richardson, Ova K., *Instructor in Business Analysis and Statistics*  
B.B.A. 1957, M.B.A. 1963, Hawaii
- Rick, DeLores F. (Mrs.), *Instructor, English Language Institute*  
B.A. 1944, Rice Institute
- Riddering, Kirk W., *Assistant Professor of Science*  
B.A. 1936, Eastern Michigan; M.S. 1939, Michigan
- Riddle, Charles W., *Associate Professor of Education*  
B.A. 1941, Oklahoma; B.D. 1944, Chicago Theological Seminary; M.Ed. 1951 ed.D. 1958, Colorado
- Ritter, E. Gene, *Assistant Professor of Speech*  
A.B. 1950, William Jewell College; M.A. 1956, Ph.D. 1962, Missouri
- Rives, Stanley G., *Assistant Professor of Speech*  
B.S. 1952, M.S. 1955, Illinois State Normal; Ph.D. Northwestern
- Roberts, Donald F., Jr., *Instructor in English*  
B.A. 1961, Columbia; M.A. 1963, California at Berkeley
- Roberts, Harold S., *Senior Professor of Business Economics and Industrial Relations*  
B.S.S. 1934, College of the City of New York; M.A. 1938, Ph.D. 1944 Columbia
- Roberts, Norman F., *Instructor, English Language Institute*  
B.A. 1960, M.A. 1963, Hawaii
- Robinson, Hester A., *Professor of Art*  
B.A. 1931, Miami University; M.A. 1939, Ohio State
- Roffe, Toshiko, *Assistant in Japanese*  
B.A. 1958, Rikkyo University
- Rogers, Kenneth, *Associate Professor of Mathematics*  
B.A. 1951, Trinity College, Cambridge; Ph.D. 1954, Cambridge
- Rogers, Margaret R. (Mrs. Bruce), *Lecturer in Zoology (Hilo)*  
B.A. 1955, Youngstown; M.S. 1957, Purdue
- Rogers, Terrence A., *Professor of Physiology*  
B.S. 1952, British Columbia; Ph.D. 1955, California
- Romanowski, Roman R., *Assistant Professor of Horticulture*  
B.S. 1953, M.S. 1957, Wisconsin; Ph.D. 1961, Cornell
- Roninger, Elizabeth, *Assistant Professor of Home Economics*  
B.S. 1933, Kansas State; M.A. 1946, Columbia
- Roode, Henrica, *Instructor in Nursing*  
R.N. 1948, University Hospital School of Utrecht; B.S. 1958, M.A. 1961, Columbia
- Roosman, R. Slamet, *Assistant Professor of Indonesian*  
Doctorandus in Indology 1956, University of Leyden, The Netherlands
- Rosen, Leon, *Lecturer in Public Health*  
A.B. 1945, M.D. 1948, M.P.H. 1950, California; Dr.P.H. 1953, Johns Hopkins
- Rosenberg, Morton M., *Senior Professor of Poultry Science*  
B.S. 1938, Rutgers; M.S. 1940, Texas Agricultural and Mechanical College; Ph.D. 1948, Wisconsin
- Ross, Edward, *Professor of Food Science*  
B.S. 1932, Pennsylvania State; Ph.D. 1937, California

**Ross, Ernest, *Associate Professor of Poultry Science***

B.S. 1946, Arizona; M.S. 1952, Ph.D. 1955, Ohio State

**Rouleau, Patricia A. (Mrs. Dallas), *Assistant in Education***

R.N. 1947, Washington University

**Rubio, Casimiro, *Lecturer in Spanish***

Ph.D. 1930, Gregorian

**Rudser, Captain John L., *Assistant Professor of Military Science***

B.A. 1953, North Carolina State College; M.C.E. 1958, Texas Agricultural and Mechanical College

**Russell, Armand K., *Assistant Professor of Music***

B.A. 1953, M.A. 1954, University of Washington; D.M.A. 1958, Eastman School of Music

**Ryan, Ione J. (Mrs. Edward), *Assistant Professor of Education***

B.Ed. 1948, Hawaii; M.P.H. 1949, Minnesota; Ed.D. 1960, Stanford (on leave 1963-64)

**Saake, Alvin C., *Professor of Health and Physical Education***

B.S. 1937, Ithaca College; M.A. 1946, Ed.D. 1954, New York

**Saclausa, John P., *Instructor in Music***

B.Ed. 1953, Hawaii; M.M. 1957, Eastman School of Music

**Sahara, Norman M., *Instructor of Civil Engineering***

B.S. 1962, Hawaii; M.S. 1963, Stanford

**Saigo, Yoshito, *Lecturer in Japanese (Hilo)***

B.A. 1931, Hawaii

**Saiki, Patsy S. (Mrs. Kiyoto), *Instructor in Education***

B.Ed. 1954, M.Ed. 1959, Hawaii

**Sakai, May H., *Instructor in Nursing***

B.S.N. 1953, Marquette; M.S. 1961, Colorado

**Sakamaki, Shunzo, *Professor of History***

B.A. 1927, M.A. 1928, Hawaii; Ph.D. 1939, Columbia

**Sakamoto, Soichi, *Assistant Professor of Health and Physical Education***

B.Ed. 1948, Hawaii

**Sakou, Toshitsugu, *Assistant Professor of Civil Engineering***

B.S. 1957, M.S. 1959, Tokyo; Ph.D. 1963, Texas A&M

**Sakumoto, Raymond E., *Instructor in Sociology***

B.A. 1955, M.A. 1957, Hawaii

**Saksena, S. K., *Professor of Philosophy***

B.A. 1925, M.A. 1927, Allahabad University; Ph.D. 1939, University of London

**Sanderson, Sarah E., (Mrs. Richard) *Instructor in Speech***

A.B. 1953, Fairmont State College; M.A. 1955, Bowling Green State

**Sandoval, Barbara A., *Instructor in Education***

B.Ed. 1961, Hawaii

**Sasai, Jane Y. (Mrs. Calvin), *Instructor in Education***

B.Ed. 1961, Hawaii; M.A. 1962, San Jose State College

**Sasaki, Kyohei, *Associate Professor of Business Analysis and Statistics***

B.A. 1944, Tokyo Imperial University; Ph.D. 1954, Columbia

**Sato, Edward H., *Assistant Professor of Education***

B.S. 1950, George Washington; M.S. 1951, REC.D. 1962, Indiana

**Sato, Jessie J. (Mrs. Shigeji), *Instructor in Education and in Home Economics***

- B.S. 1944, Hawaii; M.A. 1950, Columbia  
**Sato, Ryuzo, Assistant Professor of Economics**  
B. ECON. 1954, Hitotsubashi University (Japan); M.B.A. 1959, Detroit; Ph.D. 1961, Johns Hopkins
- Saunders, Allan F., Senior Professor of Political Science**  
B.A. 1918, Amherst; M.A. 1920, Ph.D. 1927, Wisconsin
- Saunders, Harold W., Professor of Sociology**  
B.A. 1930, Penn College; M.A. 1936, Ph.D. 1942, State University of Iowa
- Sawada, Sumi, Instructor in Japanese**  
B.A. 1948, Toyko Joshidaigaku
- Sax, Gilbert, Associate Professor of Education**  
B.A. 1953, M.A. 1956, California at Los Angeles; Ph.D. 1958, Southern California
- Schaleger, Larry L., Assistant Professor of Chemistry**  
B.A. 1957, Grinnell; Ph.D. 1961, Minnesota
- Scheuer, Paul J., Professor of Chemistry**  
B.S. 1943, Northeastern University; M.A. 1947, Ph.D. 1950, Harvard
- Schnack, George F., Lecturer in Public Health**  
A.B. 1939, A.M. 1940, Stanford; M.D. 1951, Johns Hopkins
- Schuman, Frederick Lewis, Visiting Professor of Political Science**
- Schuman, Robert C., Instructor in Education**  
B.F.A. 1950, Pratt Institute; M.Ed. 1959, Hawaii
- Schütz, Albert J., Assistant Professor of Speech and Linguistics**  
B.S. 1958, Purdue; Ph.D. 1962, Cornell
- Scott, Burton A., Jr., Assistant Professor of Management**  
B.B.A. 1951, Emory; M.A. 1958, American University
- Scott, Ewing C., Professor of Chemistry**  
A.B. 1916, Stanford; Ph.D. 1928, Chicago
- Scott, Frank S., Professor of Agricultural Economics**  
B.S. 1943, Oregon State; M.A. 1947, Missouri; Ph.D. 1953, Illinois
- Scott, J. Reid, Associate Professor of Spanish**  
B.A. 1950, M.A. 1952, Ph.D. 1962, California at Berkeley (first semester)
- Scott, Robert L., Assistant Professor of English**  
B.S. 1950, Willamette; M.A. 1953, Hawaii
- Seckel, Gunter R., Lecturer in Oceanography**  
B.S. 1950, M.S. 1954, University of Washington
- Seglem, Glenn A., Instructor, English Language Institute**  
B.A. 1958, University of Washington
- Seichi, George M., Instructor in Health and Physical Education**  
B.Ed. 1962, Hawaii
- Seifert, Friedrich, Assistant Professor of Religion**  
Th.D. 1959, Pacific School of Religion
- Seo, Kap-Kyung, Assistant Professor of Business Economics**  
B.A. 1956, South Carolina; M.B.A. 1957, Xavier; Ph.D. 1960, Cincinnati
- Serna, Ven, Instructor in Spanish**  
B.A. 1946, M.A. 1952, California at Berkeley
- Seto, Hugo, Lecturer in Finance**  
B.B.A. 1953, Michigan
- Shen, Yao, Professor of Asian Studies and Chinese**  
B.A. 1935, Yenching; M.A. 1938, Mills College; Ed.D. 1944, Michigan



- Shepard, R. Frederick, *Lecturer in Public Health*  
A.B. 1948, Harvard; M.D. 1952, Tufts College Medical School
- Sherman, Benjamin A., *Lecturer in Dental Hygiene*  
B.S. 1942, California; D.D.S. 1950, Southern California
- Sherman, G. Donald, *Senior Professor of Soil Science*  
B.S. 1941, M.S. 1937, Minnesota; Ph.D. 1940, Michigan State
- Sherman, Martin, *Professor of Entomology*  
B.S. 1941, M.S. 1943, Rutgers; Ph.D. 1948, Cornell
- Shimazu, S. Don, *Lecturer in Civil Engineering*  
B.S. 1949, Rose Polytechnic Institute; M.S. 1950, Illinois
- Shinoda, Minoru, *Associate Professor of History*  
B.A. 1937, Hawaii; Ph.D. 1957, Columbia
- Shishido, Betty S. (Mrs. Kazuo), *Instructor in Education*  
B.Ed. 1955, Hawaii
- Shorb, William H., *Instructor in Education*  
B.S. 1948, Ohio State; M.A. 1953, Columbia
- Silberman, Laurence H., *Lecturer in Personnel and Industrial Relations*  
B.A. 1957, Dartmouth College; LL.B. 1961, Harvard
- Simpson, Captain Charles E., Jr., *Assistant Professor of Military Science*  
B.B.A. 1956, Hawaii
- Simpson, Robert J., *Associate Professor of Education*  
B.A. 1949, East Michigan College; M.A. 1953, Michigan; Ed.D. 1961, Wayne State
- Simon, George K., *Assistant Professor of English*  
A.B. 1952, Whitman College; M.A. 1957, Washington State; Ph.D. 1963, Minnesota
- Sinclair, Marjorie P. (Mrs. Gregg M.), *Assistant Professor of English*  
B.A. 1935, M.A. 1937, Mills College
- Sioson, Frederico M., *Assistant Professor of Mathematics*  
B.S. 1953, Philippines; M.S. 1956, Michigan State; Ph.D. 1960, California
- Sittler, Richard C., *Associate Professor and Director, English Language Institute*  
B.A. 1946, M.A. 1948, Ph.D. 1953, Iowa State
- Siu, James K. M., *Instructor in Mathematics*  
B.A. 1953, M.A. 1956, Hawaii
- Slate, Daniel M., *Associate Professor of Business Economics, Director of Bureau of Business Research*  
B.S. 1952, M.A. 1956, Ph.D. 1961, University of Washington
- Sloan, John H., *Assistant Professor of Speech*  
B.A. 1954, Marietta College; M.A. 1956, Alabama; Ph.D. 1961, Illinois
- Smith, Albert C., *Professor of Botany*  
B.A. 1926, Columbia College; Ph.D. 1933, Columbia
- Smith, Barbara B., *Professor of Music*  
B.A. 1942, Pomona; M.M. 1943, Eastman School of Music
- Smith, Clarence L., *Associate Professor of Zoology*  
B.A. 1949, Cornell; M.S. 1951, Tulane; Ph.D. 1959, Michigan
- Smith, Elsie R. (Mrs. W. Wayne), *Associate Professor of Nursing*  
B.S. 1940, M.S. 1942, Idaho
- Smith, Hugh F., *Instructor in General Engineering*  
B.S. 1942, Texas
- Smith, James R., Jr., *Instructor in Education*  
B.A. 1957, M.A. 1959, Wyoming

- Smith, Jimmie B., *Associate Professor of Genetics*  
B.S. 1950, Oklahoma State; M.S. 1952, North Carolina State; Ph.D. 1959, Cornell
- Smith, Joseph F., *Senior Professor of Speech*  
B.A. 1918, Utah; M.A. 1926, Illinois
- Smokoska, MSgt. Marvin L., *Instructor in Air Science*
- Snow, Captain Clayton C., *Assistant Professor of Air Science*  
B.S. 1950, Syracuse
- Snow, Isabel L., *Assistant Professor of Education*  
B.A. 1922, Wellesley; M.A. 1927, Columbia
- Snyder, Laurence H., *Senior Professor of Zoology*  
B.S. 1922, Sc.D. (Hon.) 1947, Rutgers; M.S. 1924, Sc.D. 1926, Harvard; Sc.D. (Hon) 1960, Ohio State; H.H.D. 1962, North Carolina State
- Solheim II, Wilhelm G., *Assistant Professor of Anthropology*  
B.A. 1947, Wyoming; M.A. 1949, California; Ph.D. 1958, Arizona
- Solomon, John L., *Instructor in English*  
B.A. 1958, Bard College; M.A. 1960, Columbia
- Solomon, Margaret C. (Mrs.), *Instructor in English*  
B.A. 1960, Hawaii; M.A. 1961, California
- Sood, Satya P., *Assistant Professor of Chemistry (Hilo)*  
B.S. 1942, Punjab University; M.S. 1955, State University of New York; Ph.D. 1963, Hawaii
- Soong, Charles B., Jr., *Instructor, English Language Institute*  
B.A. 1937, Yenching University (China); M.A. 1947, Claremont Graduate School
- Southwood, Billie G., *Lecturer in Secondary Education*  
B.S. 1957, M.A. 1958, Indiana State Teachers College (first semester)
- Spangler, Richard C., *Associate Professor of Business Economics*  
B.A. 1948, M.A. 1950, Ph.D. 1955, California at Los Angeles
- Sparks, Robert A., *Associate Professor of Chemistry*  
B.S. 1950, M.S. 1953, Ph.D. 1958, California at Los Angeles
- Spellacy, Edmund F., *Professor of Political Science*  
B.A. 1927, M.A. 1931, Stanford; Ph.D. 1935, Harvard
- Spencer, Margaret I., *Instructor in Chinese*  
B.A. 1952, Minnesota; M.A. 1961, Michigan
- Spiller, John H., *Assistant Professor of Mathematics*  
B.S. 1925, United States Naval Academy; M.S. 1933, Massachusetts Institute of Technology
- Spoehr, Alexander, *Professor of Anthropology*  
B.A. 1934, Ph.D. 1940, Chicago
- Stalker, John N., *Professor of History, Director of Overseas Operations Program*  
B.A. 1943, College of Wooster; M.A. 1948, Ph.D. 1950, Wisconsin
- Standal, Bluebell R. (Mrs. S. W.), *Assistant Professor of Foods and Nutrition*  
B.S. 1942, University of Calcutta; M.S. 1948, Ph.D. 1952, California
- Stanley, Richard W., *Assistant Professor of Animal Science*  
B.S. 1956, M.S. 1958, Ph.D. 1961, Pennsylvania State
- Stanley, William E., *Lecturer in Environmental Health and Sanitary Engineering*  
B.S. 1912, Kansas State; M.S. 1916, Purdue

**Stasack, Edward A., *Assistant Professor of Art***

B.F.A. 1955, M.F.A. 1956, Illinois

**Stater, Gordon, *Instructor in Education***

B.S. 1952, California at Los Angeles; M.S. 1957, Los Angeles State College

**Stauffer, Robert B., *Professor of Political Science***

B.S. 1942, State Teachers College, West Chester, Pennsylvania; M.S. 1947, Oklahoma; Ph.D. 1954, Minnesota (on leave 1963-64)

**Steiger, Walter R., *Associate Professor of Physics***

B.S. 1948, Massachusetts Institute of Technology; M.S. 1950, Hawaii; Ph.D. 1953, Cincinnati

**Steinberg, Miho (Mrs. Danny), *Instructor English Language Institute***

B.A. 1957, Kyoto Women's University (Japan); M.A. 1961, Michigan

**Stellmacher, Herbert B., *Assistant Professor of Marketing***

B.A. 1935, Texas; M.B.A. 1952, Southern Methodist (on leave 1964-65)

**Stempel, Daniel, *Professor of English***

B.A. 1941, College of the City of New York; M.A. 1942, Ph.D. 1949, Harvard

**Stene, Edwin O., Ph.D., *Carnegie Visiting Professor of Political Science*  
(second semester)**

Professor of Political Science, University of Kansas

**Stenger, Victor J., *Assistant Professor of Physics***

B.S. 1956, Newark; M.S. 1959, Ph.D. 1963, California at Los Angeles

**Stephens, Stanley G., *Professor of Genetics***

B.A. 1933, M.A. 1936, University of Cambridge; Ph.D. 1938, University of Edinburgh

**Stephenson, John R., *Lecturer in Microbiology***

B.A. 1951, M.D. 1956, California at Los Angeles

**Stillians, Bruce M., *Assistant Professor of English***

B.A. 1952, M.A. 1955, State University of Iowa

**Stoll, Frances Agnes, *Professor of Dental Hygiene***

B.S. 1944, M.A. 1945, Ph.D. 1949, Columbia (second semester)

**Strandtmann, Russell W., *Lecturer in Entomology***

B.S. 1935, Southwest Texas State College; M.S. 1937, Texas Agricultural and Mechanical College; Ph.D. 1944, Ohio State

**Street, John M., *Assistant Professor of Geography***

B.A. 1948, Ph.D. 1960, California

**Story, C. Dale, *Assistant Professor of Political Science***

B.A. 1950, M.A. 1953, Ph.D. 1958, Oklahoma

**Stroven, Carl G., *Senior Professor of English***

B.A. 1926, M.A. 1928, Stanford; Ph.D. 1939, Duke

**Stueber, Ralph K., *Assistant Professor of Education***

B.S. 1950, M.S. 1955, Wisconsin

**Stuiver, Willem, *Associate Professor of Engineering***

Ir. 1951, Delft; Ph.D. 1960, Stanford

**Summersgill, Travis L., *Associate Professor of English***

B.A. 1939, Bucknell; M.A. 1940, Ph.D. 1948, Harvard

**Sullivan, Betty Chapson, *Lecturer in Art***

B.A. 1957, M.A. 1961, Hawaii

**Swann, Floyd T., *Assistant Professor of Economics and Business* (Hilo)**

B.S. 1951, M.B.A. 1955, Miami

**Takasaki, Richard S., *Professor of Social Work***

B.S. 1940, Hawaii; M.A. 1949, Columbia; M.P.A. 1960, Harvard

- Tamashiro, Minoru, *Assistant Professor of Entomology*  
B.S. 1951, M.S. 1954, Hawaii; Ph.D. 1960, California
- Tanimoto, Captain Robert H., *Assistant Professor of Military Science*  
B.A. 1954, Hawaii
- Tatham, Elaine L. (Mrs. Clifford B.), *Instructor in Mathematics*  
B.A. 1958, Carleton College; M.A. 1960, Kansas
- Tatsuguchi, Roland K., *Instructor in Japanese*  
B.A. 1954, Baker; M.A. 1955, Kansas; M.A. 1958, Ryukoku University (Japan)
- Taussig, Bessie B. S. (Mrs. Russell), *Assistant Professor of Accounting*  
B.B.A. 1955, Hawaii
- Taussig, Russell, *Professor of Finance*  
B.S. 1941, M.B.A. 1947, Ph.D. California
- Teege, Richard L., *Lecturer in Dental Hygiene*  
B.S., D.D.S. 1937, LL.B. 1952, Southern California
- Teewan, T. Foster, *Assistant Professor of English*  
B.A. 1936, College of Puget Sound; M.A. 1949, Ph.D. 1957, University of Washington
- Terry, Betty G. (Mrs. Ray), *Instructor in Education*  
B.A. 1954, Antioch; M.Ed. 1962, Wittenberg
- Tester, Albert L., *Senior Professor of Zoology*  
B.A. 1931, M.A. 1932, Ph.D. 1936, Toronto
- Thawisomboon, Sanit, *Assistant Professor of Thai*  
B.A. 1935, Chulalongkorn University, Bangkok; M.A. 1956, London
- Theuma, Jean R., *Instructor in French*  
Diploma 1961, Sorbonne; B.A. 1962, Hawaii
- Thiel, Robert A., *Instructor, English Language Institute*  
A.A. 1958, Ventura (Cal.); B.A. 1960, M.A. 1963, California at Los Angeles
- Thomas, Lawrence G., Ph.D., *Carnegie Visiting Professor of Education*  
(first semester)  
Professor of Education, Stanford University
- Thompson, Donnis H., *Instructor in Health and Physical Education*  
B.S. 1955, M.S. 1959, George Williams College
- Thompson, William Y., *Lecturer in Engineering* (Hilo)  
B.S. 1950, Hawaii
- Threlkeld, Garland M., *Instructor in Education*  
B.S. 1954, North Texas State College
- Tindall, Jean, *Instructor in Education*  
B.A. 1948, New Mexico; M.A. 1952, Columbia
- Tinker, Spencer W., *Associate Researcher in Education*  
B.S. 1931, University of Washington, M.S. 1934, Hawaii (on leave 1963-64)
- Tinniswood, William W., *Professor of Engineering*  
B.S. 1938, California; M.S. 1948, Idaho
- Tokuyama, George H., *Lecturer in Public Health*  
B.A. 1947, Hawaii; M.P.H. 1956, California
- Tom, Albert Q. Y., *Lecturer in Environmental Health and Sanitary Engineering*  
B.S. 1944, Hawaii; M.S. 1948, Sc.D. 1951, Massachusetts Institute of Technology
- Tom, Chow Loy, *Assistant Professor of Education*  
B.Ed. 1941, Hawaii; B.S. 1945, M.S. 1953, Illinois

- Tominaga, Henry K.**, *Instructor in Education*  
B.S. 1953, Springfield College; M.S. 1954, Pennsylvania State
- Tompkins, Richard F.**, *Instructor in Education*  
B.A. 1955, Michigan State
- Topham, Helen A.**, *Assistant Professor of English*  
B.A. 1935, Rutgers; M.A. 1950, M.F.A. 1956, Hawaii
- Topping, Donald M.**, *Assistant Professor, English Language Institute*  
A.B. 1954, M.A. 1956, Kentucky; Ph.D. 1963, Michigan State
- Tosun, Edward A.**, *Lecturer in Spanish*  
License in Letters 1955, University of Istanbul (Turkey)
- Townes, Stanmore B.**, *Professor of Mathematics*  
B.A. 1921, M.A. 1923, Oklahoma; Ph.D. 1930, Chicago
- Townsley, Sidney J.**, *Associate Professor of Marine Zoology*  
B.A. 1948, California; M.S. 1950, Hawaii; Ph.D. 1954, Yale
- Toyota, Winifred K. (Mrs. Ralph H.)**, *Assistant Professor of Education*  
B.Ed. 1946, Hawaii; M.A. 1950, New York (on leave 1963-64)
- Trapido, Joel**, *Professor of Drama and Theatre*  
B.A. 1935, Ph.D. 1942, Cornell; M.A. 1936, New York
- Tsuzaki, Stanley M.**, *Assistant Professor of Linguistics*  
B.A. 1952, Hawaii; M.A. 1954, Colorado State; M.S. 1961, Ph.D. 1963, Michigan
- Tull, Christine L. (Mrs.)**, *Associate Professor of Home Economics*  
B.S. 1928, William and Mary; M.A. 1949, New York
- Tulyathorn, Prasit**, *Assistant in Asian Languages*  
B.A. 1958, Chulalongkorn University (Thailand)
- Turnbull, Murray**, *Professor of Art*  
B.F.A. 1941, Nebraska; M.A. 1949, Denver (on leave 1963-64)
- Tuthill, Leonard D.**, *Professor of Entomology*  
B.A. 1929, M.A. 1930, Kansas; Ph.D. 1941, Iowa State
- Tuttle, Daniel W.**, *Associate Professor of Government*  
B.A. 1945, Illinois College; M.A. 1946, Ph.D. 1964, Minnesota
- Uchima, Floyd Y.**, *Instructor in Music*  
B.Ed. 1950, Hawaii; M.MUS. Ed. 1951, Northwestern
- Uehara, Betty K.**, *Assistant Professor in Education*  
B.Ed. 1947, Hawaii; M.A. 1958, New York (on leave 1963-64)
- Uehara, Goro**, *Assistant Professor of Soils*  
B.S. 1951, M.S. 1955, Hawaii; Ph.D. 1959, Michigan State
- Ullman, Lucille A. (Mrs. Henry)**, *Instructor in Nursing*  
B.S. 1955, University of Washington; M.S. 1961, California at Los Angeles
- Umbel, Oma**, *Associate Professor of Home Economics*  
B.S. 1932, West Virginia; M.S. 1933, New York
- Uppal, Joginder S.**, *Assistant Professor of Economics*  
B.A. 1950, M.A. 1952, Punjab University; M.A. 1961, Minnesota
- Usher, Marie L.**, *Instructor in Botany*  
B.A. 1956, M.A. 1960, University of Toronto, Canada
- Uyehara, Yukuo**, *Professor of Japanese*  
B.A. 1931, M.A. 1936, Hawaii
- Van Degrift, Paul D.**, *Assistant Professor of Health and Physical Education*  
D.O. 1939, College of Osteopathic Physicians and Surgeons; M.D. 1962, California College of Medicine

- Vanderslice, Ralph L., *Instructor in Speech*  
B.A. 1951, M.A. 1955, Michigan State
- van Weel, Pieter B., *Professor of Zoology*  
Ph.D. 1937, State University of Utrecht
- van't Woudt, Bessel D., *Assistant Professor of Agricultural Engineering*  
B.Sc. 1948, M.Sc. 1949, Ph.D. 1955, New Zealand
- Vasconcellos, Henry B., *Associate Professor of Health and Physical Education*  
B.A. 1941, M.A. 1959, San Jose State College
- Vaughan, John D., *Assistant Professor of Chemistry*  
B.S. 1950, College of William and Mary Ph.D. 1954, Illinois
- Vaught, Raymond, *Professor of Music*  
B.A. 1938, M.A. 1940, Idaho, M.M. 1946, Eastman School of Music; Ph.D. 1959, Stanford
- Vella, Dorothy Burgeson, *Instructor in English*  
B.A. 1941, Western Reserve; M.A. 1942, Radcliff
- Vella, Walter F., *Associate Professor of History*  
B.A. 1947, M.A. 1950, Ph.D. 1954, California
- Vinacke, W. Edgar, *Professor of Psychology*  
B.A. 1939, Cincinnati; Ph.D. 1942, Columbia
- Vinacke, Winifred (Mrs. W. Edgar), *Instructor in Home Economics*  
B.A. 1936, M.A. 1942, Arizona
- Vine, Richard W., *Professor of Music*  
B.M. 1936, St. Olaf College; M.M. 1938, MacPhail College of Music
- Voegelin, Charles F., *Professor of Linguistics*  
B.A. 1927, Stanford; Ph.D. 1932, California
- Wachter, William M., *Professor of Engineering*  
B.S. 1939, Oregon State; M.S. 1941, Iowa
- Wakai, Warren T., *Lecturer in Dental Hygiene*  
B.S. 1943, Hawaii; M.A. 1948, Michigan; D.D.S. 1952, Maryland
- Walker, Ernest K., *Assistant Professor of Engineering*  
B.E. 1952, M.S. 1957, Southern California
- Walker, Joyce L. (Mrs. Robert J.), *Instructor in Speech* (Hilo)  
B.A. 1954, Whitman; M.A. 1961, Hawaii (on leave 1964-65)
- Wallace, Gordon D., *Lecturer in Public Health*  
B.S. 1952, D.V.M. 1954, Colorado State; M.P.H. 1962, California
- Wallenstein, Beatrice E., *Assistant Professor of Hotel Management and Tourism*  
Lic. es Sc. Soc. 1950, University of Geneva
- Wallrabenstein, Paul P., *Lecturer in Agricultural Economics*  
Ph.D. 1941, Ohio State (second semester)
- Walsh, Winifred A., *Associate Professor of Social Work*  
B.S. 1936, Nevada; M.A. 1943, Chicago
- Wan, Grace J. F., *Instructor in Chinese*  
B.A. 1940, Yenching University (China); M.A. 1950, DePaul
- Wang, Jaw-Kai, *Assistant Professor of Agricultural Engineering*  
B.S. 1953, National Taiwan University; M.S. 1956, Ph.D. 1958, Michigan State
- Wang, Lu, *Instructor in Electrical Engineering*  
B.S. 1957, Taipei Inst. of Techn.; M.S. 1963, Hawaii

- Warner, Robert M., *Professor of Horticulture*  
B.A. 1930, Ohio Wesleyan; M.S. 1937, Ph.D. 1940, Iowa State
- Warsh, Louis P., *Assistant Professor of History and Political Science (Hilo)*  
B.A. 1947, California at Santa Barbara; M.A. 1950, California at Berkeley
- Washton, Nathan S., *Professor of Education*  
B.S. 1939, New York; M.A. 1941, Columbia; Ed.D. 1949, New York
- Watanabe, Kenichi, *Senior Professor of Physics*  
B.S. 1936, Ph.D. 1940, California Institute of Technology
- Watson, Donald P., *Professor of Horticulture*  
B.S.A. 1934, University of Toronto; M.S. 1937, London; Ph.D. 1948, Cornell
- Watson, Lorinda E., *Instructor in Speech*  
B.A. 1934, University of Washington; M.A. 1958, Hawaii
- Waugh, John L. T., *Associate Professor of Chemistry*  
B.S.C. 1943, Ph.D. 1949, University of Glasgow; A.R.I.C. 1943, London
- Wayman, Oliver, *Professor of Animal Science*  
B.S. 1947, Utah State; Ph.D. 1951, Cornell
- Weaver, Herbert B., *Professor of Psychology*  
B.A. 1933, M.A. 1934, Ph.D. 1942, Pennsylvania
- Weddle, Laurel E., *Assistant Professor of Home Economics*  
B.S. 1939, Texas Tech. College; M.S. 1954, University of Texas
- Wellein, Lawrence T., *Assistant Professor of English*  
B.A. 1949, M.A. 1950, Ph.D. 1959, University of Washington
- Wellington, Taeko I. (Mrs. George), *Instructor in Japanese*  
B.A. 1950, Keio University (Japan); M.S.J. 1954, Northwestern
- Westlake, James G., *Lecturer in Personnel and Industrial Relations*  
B.A. 1952, Hawaii
- Weinberg, Jerry L., *Assistant Professor of Astrophysics*  
B.A. 1958, St. Lawrence; Ph.D. 1963, Colorado
- Weinberg, Marcia H., *Lecturer in Business Analysis and Statistics*  
B.S. 1958, Miami; M.A. 1960, Colorado
- White, Harold A., *Assistant Professor of Mathematics*  
B.S. 1955, Fenn College; Ph.D. 1962, Chicago
- White, John A., *Professor of History*  
B.A. 1933, California; M.A. 1940, Columbia; Ph.D. 1947, Stanford
- White, Melvin R., *Professor of Speech*  
B.A. 1932, M.A. 1933, State University of Iowa; Ph.D. 1948, Wisconsin
- Whitman, Nancy C. (Mrs. Dana), *Assistant Professor of Education*  
A.B. 1954, A.M. 1956, Ph.D. 1961, Illinois
- Whitesell, Carol B. (Mrs. Craig D.), *Lecturer in Botany (Hilo)*  
B.A. 1956, Swarthmore College
- Whittier, Henry O., *Instructor in Botany*  
B.S.Ed. 1959, M.A. 1961, Miami
- Will, Richard Y., *Instructor in Education*  
B.A. 1952, Minnesota; B.Ed. 1957, M.Ed. 1960, Hawaii
- Williams, Dorothy D., *Instructor in Nursing*  
B.S. 1955, New York; M.S.N. 1961, Catholic University of America
- Williams, John A., *Assistant Professor of Civil Engineering*  
B.S. 1952, M.S. 1954, California

- Willocks, Jack P., *Lecturer in Civil Engineering* (Hilo)  
B.S. 1961, Hawaii
- Wilson, David E., *Assistant Professor of Mathematics*  
B.A. 1951, M.S. 1954, Kansas State College of Pittsburg
- Wilson, Robert S., *Lecturer in Psychology*  
B.A. 1946, Oklahoma; Ph.D. 1956, Denver
- Wilson, Warner R., *Assistant Professor of Psychology*  
B.A. 1956, Chicago; M.A. 1957, Arkansas; Ph.D. 1960, Northwestern
- Wilson, Willard, *Senior Professor of English*  
B.A. 1929, Occidental College; M.A. 1930, Columbia; Ph.D. 1939, Southern California; LL.D. (Hon.) 1961, Occidental College
- Winnick, Theodore, *Professor of Biochemistry*  
B.A. 1935, California at Los Angeles; Ph.D. 1939, California
- Winters, Lee E., Jr., *Associate Professor of English*  
B.A. 1947, Michigan; M.A. 1952, Ph.D. 1956, California
- Winters, Lily C. (Mrs. Lee E., Jr.), *Associate Professor of Chinese*  
B.A. 1937, Yenching; M.A. 1950, Hawaii
- Wise, John, *Visiting Professor of Economics*  
B.S. 1952, Ph.D. 1955, London
- Wiswell, Ella L. (Mrs. Frederick J.), *Associate Professor of European Languages*  
Diploma 1931, Paris; B.A. 1941, Hawaii
- Wittermans, Tamme, *Associate Professor of Sociology*  
Ph.D. 1955, University of London
- Wittich, Walter A., *Professor of Education*  
B.S. 1932, M.A. 1934, Ph.D. 1943, Wisconsin
- Wolf, William B., *Professor of Management*  
B.A. 1942, California; M.B.A. 1945, Northwestern; Ph.D. 1954, Chicago
- Wolfe, Martin S., *Assistant Professor of Education*  
B.S. 1950, M.Ed. 1951, Maryland; M.S. 1958, Ph.D. 1963, Illinois
- Won, Barbara Y. M., *Instructor in Education*  
B.Ed. 1955, Five-Year Diploma, 1955, M.Ed. 1963, Hawaii
- Won, George Y., *Assistant Professor of Sociology*  
B.A. 1955, M.A. 1957, Hawaii; Ph.D. 1962, Michigan State
- Wong, Euton S. Y., *Lecturer in Business Analysis and Statistics*  
B.A. 1954, B.B.A. 1960, Hawaii
- Wong, Helene H., *Associate Professor of Speech*  
B.A. 1942, M.A. 1947, Stanford; Ph.D. 1955, Louisiana State
- Wong, Ruth E. M. (Mrs. Arthur K. Y.), *Instructor in Mathematics*  
B.Ed. 1948, Hawaii; M.S. 1960, Illinois
- Wong, Samuel J., *Lecturer in Dental Hygiene*  
D.D.S. 1956, Creighton Dental School
- Woolf, Jeanne A. (Mrs.), *Lecturer in Psychology*  
M.A. 1956, Ph.D. 1960, Chicago
- Woollard, George P., *Professor of Geophysics*  
B.S. 1932, M.S. 1934, Georgia Institute of Technology; A.M. 1935, Ph.D. 1937, Princeton
- Worley, David H., *Instructor in English*  
B.A. 1962, Vanderbilt; M.A. 1963, Northwestern



- Worth, Robert M., *Professor of Public Health*  
A.B. 1950, California; M.D. 1954, California at San Francisco; M.P.H. 1958, Harvard; Ph.D. 1961, California
- Wulff, Louise Mead (Mrs. Philip S.), *Instructor in Medical Technology*  
B.S. 1932, Wisconsin
- Wyatt, Janet W., (Mrs. Clarence), *Instructor in English*  
B.A. 1939, B.S. 1941, New York State College for Teachers
- Yager, Norbert J., *Instructor in Latin*  
B.A. 1950, Sacred Heart Seminary; M.A. 1954, Detroit
- Yagi, Sergeant First Class Seisuki, *Instructor in Military Science*
- Yamamoto, George K., *Assistant Professor of Sociology*  
B.A. 1947, M.A. 1949, Hawaii
- Yamamoto, Harry, *Assistant Professor of Food Science*  
B.S. 1955, Hawaii; M.S. 1958, Illinois; Ph.D. 1962, California at Davis
- Yamamoto, Stanley I., *Instructor in Education*  
B.Ed. 1952, Hawaii
- Yamamura, Douglas S., *Professor of Sociology*  
B.Ed. 1938, M.Ed. 1951, Hawaii; Ph.D. 1949, University of Washington
- Yamane, Katherine H. (Mrs. Minoru), *Instructor in Health and Physical Education (Hilo)*  
B.S. 1954, Hawaii; M.Ed. 1955, Springfield College
- Yamane, Minoru, *Instructor in Health and Physical Education (Hilo)*  
B.S. 1952, M.Ed. 1953, Ohio
- Yamashita, Pearl N. (Mrs. Paul T.), *Instructor in Education*  
B.Ed. 1942, Hawaii; M.A. 1948, State University of Iowa
- Yamauchi, Hiroshi, *Associate Professor of Mathematics*  
B.S. 1947, Hawaii; M.A. 1948, Ph.D. 1950, Harvard
- Yang, Ching-Kun, *Professor of Sociology*  
B.A. 1932, M.A. 1934, Yenching; Ph.D. 1939, Michigan
- Yang, Sarah L. (Mrs.), *Assistant Professor of Education*  
B.A. 1931, Colorado State College of Education; M.Ed. 1952, Hawaii
- Yasuda, Kenichiro K., *Assistant Professor of Japanese*  
B.A. 1945, University of Washington; D.Litt. 1956, Tokyo
- Yasunobu, Kerry T., *Associate Professor of Biochemistry*  
B.S. 1950, Ph.D. 1954, University of Washington
- Yates, W. Ross, *Instructor in General Science*  
B.A. 1956, Municipal University of Omaha
- Yeh, Yeong-Her, *Instructor in Economics*  
B.A. 1955, Taiwan; M.A. 1959, Minnesota
- Yonan, Alan M., *Instructor in Speech (Hilo)*  
B.S. 1957, M.A. 1958, Michigan State
- Young, David Kenneth, *Instructor in General Science*  
B.S. 1960, Michigan State; M.A. 1962, William and Mary
- Young, Michiko, *Lecturer in Japanese*
- Yoshimori, Alice S., *Instructor in Education*  
B.Ed. 1949, Hawaii; M.A. 1958, Connecticut
- Younge, Otto R., *Professor of Agronomy*  
B.S. 1924, M.S. 1929, Alberta; Ph.D. 1934, Minnesota

- Yuasa, Ernest T., *Instructor of Civil Engineering*  
B.S. 1957, Hawaii; M.S. 1960, Southern California
- Yuen, Jack K., *Associate Professor of Engineering*  
B.S. 1951, Hawaii
- Yuen, Paul C., *Associate Professor of Electrical Engineering*  
B.S. 1953, Chicago; M.S. 1955, Ph.D. 1960, Illinois Institute of Technology
- Zaloha, Anne B., *Associate Professor of Social Work*  
Ph.B. 1925, Chicago, M.A. 1930, Northwestern
- Zane, Ah Chong, *Assistant Professor of Education*  
B.A. 1942, Santa Barbara State College; M.Ed. 1947, Missouri
- Zeitlin, Harry, *Associate Professor of Chemistry*  
B.A. 1937, Harvard; M.S. 1948, Ph.D. 1951, Hawaii

### College of General Studies 1964-65

- Cheh, Jen C., *Junior Specialist*  
B.A. 1940, National Peiping Normal University; M.A. 1945, New Mexico
- Fleece, Jeffrey A., *Associate Specialist*  
B.A. 1941, Central College, Missouri; M.A. 1942, Vanderbilt; Ph.D. 1952, Iowa
- Lardin, Colonel Harry E., *Program Coordinator*  
B.S. 1934, West Point
- Martin, Doris, *Assistant Specialist*  
B.S. 1952, New York; M.S. 1959, Boston; Ed.D. 1964, Columbia
- Marutani, Herbert K., *Junior Specialist*  
B.B.A. 1953, Hawaii; M.A. 1958, Illinois
- \*Moseley, Roger L., *Assistant Dean*
- Sakai, Hester H., *Assistant Specialist*  
B.B.A. 1953, M.B.A. 1954, Hawaii
- \*Spellacy, Edmund F., *Dean*

### Library 1964-65

- Bell, Janet E., *Assistant Library Specialist*  
B.A. 1932, Hawaii; B.S.L.S. 1933, University of Washington
- \*Cammack, Floyd M., *Assistant Librarian*
- Chong, Elizabeth F. Y., *Junior Library Specialist*  
B.A. 1950, Hawaii; M.S.L.S. 1952, Illinois
- Crozier, Virginia, *Junior Library Specialist*  
B.A. 1931, Pomona College; B.S.L.S. 1932, Emory
- Halsted, Clarissa H. (Mrs.), *Junior Library Specialist*  
Ph.B. 1929, Chicago
- Kittelson, David J., *Assistant Librarian Specialist (Hilo)*  
B.A. 1957, Hawaii; M.A. 1960, Minnesota

---

\*Degrees listed under "Instruction."

Saito, Shiro, *Junior Library Specialist*

B.Ed. 1951, Hawaii; M.A. 1956, Minnesota

Smith, Margaret H., *Junior Library Specialist*

Ed.B. 1936, Hawaii; M.A. 1937, Columbia; B.L.S. 1938, Pratt Institute

\*Stroven, Carl G., *Librarian*

Wright, Joyce M., *Associate Library Specialist*

B.A. 1938, B.A. 1939, (Librarianship), University of Washington

### **Pacific Biomedical Research Center 1964-65**

Cheng, Thomas C., *Associate Parasitologist*

A.B. 1954, Wayne State; M.S. 1956, Ph.D. 1958, Virginia

Clark, Warren A., *Research Associate*

\*Cutting, Windsor C., *Director*

\*Hohl, Hans R., *Electron Microscopist*

\*Rogers, Terence A., *Assistant Director*

Wolff, Robert J., *Associate Psychologist*

B.S. 1943, Utrecht; Ph.D. 1953, Michigan

Klemmer, Howard W., *Associate Microbiologist*

B.S. 1949, M.S. 1950, Saskatchewan; Ph.D. 1954, Wisconsin

### **Communications Center 1963-64**

Lubitz, Donald A., *Associate Director—Creative Graphics*

B.S. 1957, M.S. 1962, Wisconsin

Reed, Robert M., *Associate Director—Television*

B.A. 1956, State University of Iowa; M.A. 1958, Michigan

Sanderson, Richard A., *Associate Director—Audio-Visual Services*

B.A. 1952, Cornell; M.A. 1958, Ph.D. 1961, Southern California

\*Wittich, Walter, *Director*

### **Economic Research Center 1963-64**

Chun, Valentine, *Junior Economist*

Ph.D. 1955, M.A. 1959, Notre Dame

\*Chung, Nae Hoon (Paul), *Assistant Economist*

Fundaburk, Emma Lila, *Assistant Economist*

A.B. 1944, George Washington; M.A. 1946, Northwestern; Ph.D. 1963, Ohio State

\*Hensley, Roy J., *Associate Economist*

\*Hung, Fred C., *Acting Director*

McClure, George, *Junior Researcher*

B.A. 1957, Royal Military College; B.A. 1958, University of Western Ontario; M.A. 1961, California at Berkeley

\*Naya, Seiji, *Junior Economist*

Ono, Mitsuo, *Assistant Economic Statistician*

B.A. 1950, Hawaii; M.S. 1954, Columbia

\*Yeh, Yeong-Her, *Junior Economist*

\*Degrees listed under "Instruction."

### Bureau of Educational Research 1963-64

- \*Chang, Lynette, *Junior Researcher*
- \*Leton, Donald, *Acting Director*

### Engineering Experiment Station 1963-64

- \*Holmes, Wilfred J., *Acting Director*
- \*Perry, Byrne, *Associate Professor of Civil Engineering*
- \*Sakou, Toshitsugu, *Assistant Professor of Civil Engineering*

### Hawaii Institute of Geophysics 1964-65

- \*Adams, Carl W., *Assistant Professor of Meteorology*
- \*Barnes, Ira Lynus, *Assistant Professor of Chemistry and Geophysics*
- \*Chiu, Wan-Chang, *Professor of Meteorology*
- \*Clayton, William, *Associate Professor of Meteorology*
- \*Cox, Doak C., *Geophysicist*
- Ekern, Paul C., *Hydrologist*  
B.A. 1942, Westminster College; Ph.D. 1950, Wisconsin
- \*Furumoto, Augustine, *Assistant Seismologist*
- Garcia, Charles Jose, *Junior Physicist*
- Johnson, Rockne, *Associate Geophysicist*  
B.S. 1952, University of Washington
- Kowalski, Alexander, *Haleakala Observatory Station Chief*
- Krause, Otto John, *Research Associate*  
B.S. 1926, Electro-Technischer Institute (Germany)
- Kulkarni, Prabhaka, V., *Research Associate in Physics*  
B.S. 1950, M.S. 1952, Ph.D. 1958, Poona University
- \*Macdonald, Gordon A., *Senior Professor of Geology and Geophysics*
- Manghnani, Murli H., *Research Associate in Geophysics*  
B.S. 1957, M.S. 1958, Bihar University; A.I.S.M. 1958, Indian School of Mines;  
Ph.D. 1962, Montana State
- Milho, Alexander, *Junior Field Engineer*  
B.S. 1958, American Television Institute
- \*Moberly, Ralph M., Jr., *Associate Professor of Geology*
- \*Naughton, John L., *Professor of Chemistry*
- \*Ramage, Colin S., *Professor of Meteorology*
- Rhodes, Richard R., *Junior Geophysicist*  
B.F.A. 1958, Chicago
- Rose, John, *Associate Geophysicist*  
B.S. 1948, M.S. 1950, Ph.D. 1955, Wisconsin
- Shafer, Gerald Edward, *Research Associate*
- Sadler, James, *Visiting Colleague*  
B.S. 1941, Tennessee Polytechnic Institute; M.S. 1948, California at Los Angeles
- \*Steiger, Walter R., *Associate Professor of Physics*

---

\*Degrees listed under "Instruction."

Strange, William E., *Research Associate in Geophysics*

B.S. 1954, Baylor University

Thomas, Charles Ward, *Assistant Director and Geophysicist*

B.S. 1925, U.S. Coast Guard Academy; A.M. 1953, Washington; M.S. 1959, Maryland

Thompson, Noel, *Research Associate*

B.S. 1951, Wisconsin

Vitousek, Martin J., *Associate Geophysicist*

B.S. 1949, Ph.D. 1955, Stanford

\*Weinberg, Jerry L., *Assistant Professor of Astrophysics*

\*Woollard, George Prior, *Director*

Young, Edith H. (Mrs. I. C.), *Junior Researcher*

B.A. 1930, Oberlin

### **Industrial Relations Center 1964-65**

\*Ferguson, John B., *Assistant Director*

\*Najita, Joyce M., *Junior Researcher*

\*Roberts, Harold S., *Director*

### **Land Study Bureau 1964-65**

Baker, Harold L., *Land Economist*

B.S. 1939, Utah State Agricultural College; M.S. 1942, California

Fujimura, Faith N. (Mrs. Thomas H.), *Junior Specialist in Cartography*

B.A. 1950, Hawaii

Hogg, Howard C., *Junior Economist*

B.S. 1959, M.S. 1960, Oregon State College

Kuwahara, Iwao, *Junior Geographer*

B.A. 1950, Hawaii

Murabayashi, Edwin T., *Junior Specialist in Land Classification*

B.S. 1956, Washington State

Nunns, Frederick K., *Director and Researcher*

B.S. 1932, North Dakota Agricultural College; M.S. 1934, State College of Washington; M.S. 1943, Wisconsin

Ryan, Thomas M., *Junior Specialist in Land Classification*

B.S. 1954, California Polytechnic College; M.S. 1955, Ohio State (effective February 1, 1963)

Sahara, Tamotsu, *Specialist in Land Classification*

B.S. 1948, Hawaii

Vargha, Louis A., *Associate Researcher (Urban Economics)*

B.S. 1954, M.S. 1957, Michigan State

### **Legislative Reference Bureau 1964-65**

Dinell, Tom, *Director*

B.A. 1948, Brown; M.P.A. 1950, Michigan

Doi, Herman S., *Researcher*

A.B. 1950, Hawaii; LL.B. 1954, Minnesota

---

\*Degrees listed under "Instruction."

Hoppes, Muriel, *Junior Research Librarian*

B.A. 1956, Carleton College; M.A. 1959, Chicago

Kobayashi, Hanako, *Junior Research Librarian*

B.A. 1954, Hawaii; M.S. 1956, Simmons College

Merriwether, Michael A., *Assistant Researcher*

B.A. 1955, Reed College

Moore, Dorothy L., *Assistant Researcher*

A.B. 1957, Reed College; M.A. 1962, California

Putman, Patricia K., *Assistant Researcher*

B.A. 1944, LL.B. 1956, California

Spitz, Allan A., *Assistant Researcher*

B.A. 1952, New Mexico; M.A. 1954, Michigan State

### Hawaii Marine Laboratory 1964-65

\*Brock, Vernon E., *Director*

Chin, Byong Han, *Junior Marine Biochemist*

B.S. 1957, Yonsei University, Seoul; M.S. 1964, Hawaii

Helfrich, Philip, *Assistant Marine Biologist, and Assistant Director*

B.S. 1951, Santa Clara; Ph.D. 1958, Hawaii

Tsutsumi, Junzo, *Junior Marine Chemist*

B.A. 1960, M.S. 1962, Tokyo

### Peace Corps 1963-64

Bracher, George, *Medical and Health Coordinator*

B.A. 1930, M.D. 1934, Oregon

\*Coller, Richard W., *Area Studies Coordinator*

Cotter, Conrad P., *Librarian*

B.A. 1952, California; M.P.A. 1955, Cornell

Crowley, Dale P., *Assistant Linguistics Coordinator*

B.A. 1950, Bob Jones University, S.C.

D'Andrea, Vincent J., *Assessment Officer*

A.B. 1953, La Salle College; M.D. 1957, Temple

Englund, David L., *Associate Director*

B.A. 1956, Ohio State; M.A. 1962, Hawaii

Gomez, Lourdes, *Assistant to TESL Coordinator*

A.B., B.S., St. Paul College, Manila; M.S. Georgetown

Hamakawa, Kiyoshi, *Physical Training Co-Coordinator*

B.S., M.Ed., Springfield College

Kawachika, Edward, *Physical Training Co-Coordinator*

B.A. 1956, Ohio State

Kleman, John, *Assessment Officer*

B.A. 1957, M.A. 1959, Hawaii

Kramer, Raymond J., *Transition Training Coordinator*

B.S. 1955, San Jose State College

---

\*Degrees listed under "Instruction."

- MacDonald, W. Scott, *Field Assessment Officer*  
B.A. 1956, Ph.D. 1960, California at Los Angeles
- \*Maretzki, Thomas W., *Assessment Officer*
- Matayoshi, Mary Y., *Practice-Teaching Coordinator*  
B.A. 1952, Grinnell
- Parent, Roger O., *Technical Training Coordinator*  
B.A. 1961, St. Francis Xavier University, Nova Scotia
- Petersen, Robert O. H., *Assistant Linguistics Coordinator*  
B.A., University of Washington
- Politano, Anita T., *TEFL Coordinator*  
B.A. 1952, Barry College, Miami
- Sanborn, Kenneth O., *Assessment Officer*  
B.A. 1948, New Hampshire; Ph.D. 1955, Texas
- \*Stalker, John N., *Project Director*
- Takei, Yoshimitsu, *Specialties Supervisor of Technical Training*  
B.Ed. 1955, Hawaii
- \*Topping, Donald M., *Linguistics Coordinator*
- Zimm, Maurice, *Administrative Assistant*

### **Social Science Research Institute 1963-64**

- Kimura, Yukiko, *Junior Researcher*  
M.A. 1937, Oberlin; M.A. 1947, Hawaii; Ph.D. 1952, Chicago
- \*Lebra, William P., *Director*
- White, Elaine K. F., *Junior Researcher*  
B.A. 1946, M.A. 1958, Hawaii

### **Statistical and Computing Center 1963-64**

- Char, Beverly F., *Systems Analyst Programmer*  
B.A. 1954, Vassar
- Ho, Francis P. W., *Junior Computer Specialist*  
B.S. 1960, M.S. 1963, Hawaii
- Sparks, Robert A., *Director*  
B.S. 1950, M.S. 1953, Ph.D. 1958, California at Los Angeles
- Yee, Walter S., *Junior Computer Specialist and Assistant Director*  
B.S. 1960, Hawaii

### **Hawaii Agricultural Experiment Station 1963-64**

- \*Akamine, Ernest K., *Associate Plant Physiologist*
- Alicata, Joseph E., *Parasitologist*  
B.A. 1927, Grand Island College; M.A. 1928, Northwestern; Ph.D. 1934, George Washington
- Allen, Lyle, *Assistant Food Technologist*  
B.S. 1952, California State Polytechnic; M.S. 1958, Ph.D. 1962, Illinois  
(effective March 1, 1963)
- \*Arakagi, Minoru, *Assistant Plant Pathologist*

\*Degrees listed under "Instruction."

- \*Auer, Ludwig, *Assistant Agricultural Economist*  
B.S. 1957, M.S. 1959, Manitoba; Ph.D. 1963, Iowa State
- Awada, Minoru, *Assistant Plant Physiologist*  
B.S. 1938, M.S. 1949, Hawaii
- \*Barmettler, Edmund R., *Assistant Agricultural Economist*
- \*Beardsley, John W., *Assistant Entomologist*
- \*Bess, Henry A., *Senior Entomologist*
- Bowers, Francis A., *Assistant Horticulturist*  
B.S. 1924, Hawaii
- \*Brewbaker, James L., *Associate Horticulturist*
- \*Britten, Edward J., *Agronomist*
- Clements, Harry F., *Senior Plant Physiologist*  
B.S. 1924, M.S. 1925, Wisconsin; Ph.D. 1929, Chicago
- \*Cobb, Estel H., *Associate Animal Scientist*
- \*Coil, Bruce J., *Plant Physiologist*
- Crozier, Joseph, *Assistant Horticulturist*  
B.S. 1956, Florida; M.S. 1960, Cornell
- \*Fox, Robert L., *Associate Soil Scientist*
- Foytik, Jerry, *Agricultural Economist*  
A.B. 1936, M.A. 1940, Ph.D. 1949, California
- \*Frank, Hilmer A., *Associate Food Technologist*
- Fukunaga, Edward T., *Associate Horticulturist*  
B.S. 1934, M.S. 1935, Hawaii
- \*Gilbert, James C., *Associate Horticulturist*
- \*Goto, Shosuke, *Associate Plant Pathologist*
- Green, Richard E., *Assistant Agronomist*  
B.S. 1953, Colorado State; M.S. 1957, Nebraska; Ph.D. 1962, Iowa State
- \*Hamilton, Richard A., *Horticulturist*
- \*Haramoto, Frank H., *Assistant Entomologist*
- \*Hardy, D. Elmo, *Senior Entomologist*
- Hartman, Richard William, *Assistant Horticulturist*  
B.A. 1956, Rutgers; M.S. 1957, Virginia Polytechnic Institute; Ph.D. 1962, California at Los Angeles
- \*Herrick, Raymond B., *Assistant Poultry Scientist*
- \*Hilker, Doris M., *Assistant Nutritionist*
- \*Hine, Richard B., *Assistant Plant Pathologist*
- \*Holtzmann, Oliver V., *Assistant Plant Pathologist*
- \*Hylin, John W., *Assistant Biochemist*
- Ikawa, Haruyoshi, *Junior Soil Scientist*  
B.S. 1951, M.S. 1956, Hawaii
- \*Ishii, Mamoru, *Associate Plant Pathologist*
- Ishizaki, Stanley M., *Junior Analyst*  
B.S. 1959, M.S. 1963, Hawaii
- Ito, Phillip J., *Assistant Horticulturist (Hilo)*  
B.S. 1958, Hawaii; Ph.D. 1963, Minnesota
- Izuno, Takumi, *Assistant Horticulturist*  
B.S. 1950, Hawaii; Ph.D. 1960, Minnesota

---

\*Degrees listed under "Instruction."



- \*Kamemoto, Haruyuki, *Horticulturist*  
 Kamstra, Leslie D., *Researcher in Animal Science*  
 B.S. 1947, B.S. 1948, M.S. 1951, South Dakota State College; Ph.D. 1955,  
 Ohio State
- \*Kanehiro, Yoshinori, *Assistant Soil Scientist*  
 Kawanishi, Clinton Y., *Assistant in Entomology*  
 B.A. 1961, Hawaii
- Kawano, Yoshihiko, *Junior Chemist*  
 B.S. 1943, Nihon University; M.S. 1957, Hawaii
- \*Keeler, Joseph T., *Assistant Agricultural Economist*
- \*Kinch, Donald M., *Agricultural Engineer*  
 Larson, Arnold B., *Assistant Agricultural Economist*  
 B.S. 1949, M.S. 1951, Minnesota; Ph.D. 1960, Stanford
- Lichton, Ira J., *Associate Nutritionist*  
 Ph.B. 1949, Chicago; B.S. 1950, M.S. 1951, Ph.D. 1954, Illinois
- \*Lockhart, James A., *Associate Plant Physiologist*
- \*Matsumoto, Hiromu, *Associate Biochemist*  
 Matsusata, Yoshito, *Junior Soil Scientist*  
 B.S. 1930, M.S. 1952, Hawaii
- \*McConnell, Douglas J., *Assistant Agricultural Economist*
- \*Mitchell, Wallace C., *Assistant Entomologist*  
 Moore, Duane G., *Assistant Soil Scientist*  
 B.S. 1953, M.S. 1955, Ph.D. 1960, Wisconsin
- Morita, Kiyochi, *Assistant in Animal Science*  
 B.S. 1953, Hawaii
- \*Murashige, Toshio, *Assistant Horticulturist*  
 Nakamura, Martha T. (Mrs. Edward H.), *Junior Soil Scientist*  
 B.A. 1948, M.S. 1957, Hawaii
- \*Nakasone, Henry Y., *Assistant Horticulturist*  
 Nakata, Shigeru, *Assistant Plant Physiologist*  
 B.S. 1946, M.S. 1949, Hawaii
- \*Namba, Ryoji, *Associate Entomologist*
- \*Nishida, Toshiyuki, *Entomologist*
- \*Otagaki, Kenneth K., *Associate Animal Scientist*
- \*Palafox, Anastacio L., *Assistant Poultry Scientist*  
 Peters, Charles W., *Agricultural Economist*  
 B.S. 1932, M.S. 1939, Oregon State
- \*Philipp, Perry F., *Agricultural Economist*  
 Plucknett, Donald L., *Assistant Agronomist*  
 B.S. 1953, M.S. 1957, Nebraska; Ph.D. 1961, Hawaii
- \*Putman, Edison W., *Associate Plant Physiologist*  
 Raabe, Robert D., *Plant Pathologist*  
 B.S. 1948, Ph.D. 1951, Wisconsin
- Reimer, Diedrich, *Associate Animal Scientist*  
 B.S.A. 1950, Manitoba; M.S. 1955, Ph.D. 1959, Minnesota

---

\*Degrees listed under "Instruction."

- Rogers, Bruce J., *Associate Plant Physiologist*  
B.S.F. 1949, M.S.F. 1950, California; Ph.D. 1954, California Institute of Technology
- \*Romanowski, Roman R., *Assistant Horticulturist*
- \*Rosenberg, Morton M., *Director*
- \*Ross, Edward, *Food Technologist*
- \*Ross, Ernest, *Associate Poultry Scientist*
- Rotar, Peter P., *Assistant Agronomist*  
B.S. 1955, M.S. 1957, Washington State; Ph.D. 1960, Nebraska
- Rutschky, Charles W., *Entomologist*  
B.S. 1943, Pennsylvania State; Ph.D. 1949, Cornell
- \*Scott, Frank S., *Agricultural Economist*
- Sheehan, Thomas J., *Associate Horticulturist*  
A.B. 1948, Dartmouth College; M.S. 1951, Ph.D. 1952, Cornell
- \*Sherman, G. Donald, *Associate Director and Senior Soil Scientist*
- \*Sherman, Martin, *Entomologist*
- Sherrod, Lloyd B., *Assistant Animal Scientist*  
B.S. 1958, South Dakota State College; M.S. 1960, Arkansas; Ph.D. 1964, Oklahoma State
- \*Standal, Bluebell R. (Mrs. S. W.), *Assistant Nutritionist*
- \*Stanley, Richard W., *Assistant Animal Scientist*
- Swindale, Leslie D., *Soil Scientist*  
B.Sc. 1948, M.Sc. 1950, Victoria University College; Ph.D. 1955, Wisconsin
- Takahashi, Makoto, *Assistant Agronomist*  
B.S. 1928, M.S. 1937, Hawaii
- \*Tamashiro, Minoru, *Assistant Entomologist*
- Tamimi, Yusuf, *Assistant Agronomist*  
B.S. 1957, Purdue; M.S. 1959, New Mexico State; Ph.D. 1964, Hawaii
- Tanaka, Jack S., *Junior Horticulturist*  
B.S. 1951, M.S. 1960, Hawaii
- Trujillo, Eduardo E., *Assistant Plant Pathologist*  
B.S.A. 1956, M.S. 1957, Arkansas; Ph.D. 1962, California
- \*Uehara, Goro, *Assistant Soil Scientist*
- \*van't Woudt, Bessel D., *Assistant Agricultural Engineer*
- \*Wang, Jaw-Kai, *Assistant Agricultural Engineer*
- \*Warner, Robert M., *Horticulturist*
- \*Wayman, Oliver, *Animal Scientist*
- Wenkam, Nao (Mrs. R.), *Junior Nutritionist*  
B.S. 1948, M.S. 1950, Chicago
- Williams, David D. F., *Assistant Horticulturist*  
B.Sc. 1952, Reading University (England); Ph.D. 1961, Wisconsin
- \*Yamamoto, Harry Y., *Assistant Food Technologist*
- Young, Richard L., *Assistant Biochemist*  
B.S. 1954, Illinois; Ph.D. 1959, Brown
- \*Younge, Otto R., *Agronomist*

---

\*Degrees listed under "Instruction."

**Cooperative Extension Service 1963-64**

**Akana, David, *County Agent, South Oahu***

B.S. 1932, Hawaii; M.S. 1950, California

**Allen, Levice, (Mrs. Bob), *Assistant Specialist in Clothing***

B.S. 1937, Alabama; M.A. 1948, Columbia (effective Jan. 1963)

**Aoki, George M., *Associate County Agent, Hilo***

B.S. 1950, Hawaii

**Arakawa, George T., *Assistant County Agent***

B.S. 1960, Oregon State

**Blalock, John R., *County Agent, Molokai***

B.S. 1946, M.S. 1948, Massachusetts

**Boyer, Jere, *Assistant Specialist in Agricultural Economics***

B.S. 1955, M.S. 1957, Arizona

**Bradshaw, Blaine, *Assistant Specialist in Extension (Rural Area Development)***

B.S. 1939, M.S. 1962, Wyoming

**Chong, Wing You, *Associate County Agent, East Hawaii***

B.S. 1943, California

**Chun, Edwin Y., *County Agent, South Oahu***

B.S. 1933, Hawaii

**\*Clay, Horace F., *Associate Specialist in Horticulture***

**Doi, M. James, *Assistant County Agent, Maui***

B.S. 1942, Hawaii

**Doue, Stephen M., *Assistant Specialist in Agricultural Economics***

B.A. 1947, M.A. 1959, Hawaii

**Furr, Richard D., *Area Specialist in Livestock***

B.S. 1958, Sam Houston State; M.S. 1959, Ph.D. 1961, Oklahoma State

**Garcia, Clarence W., *Assistant County Agent, Kohala***

B.S. 1958, Hawaii

**Gascon, Helen S. (Mrs. Joseph E., Jr.), *Associate County Home Economist***

B.S. 1953, M.S. 1959, Hawaii

**Gitlin, Harris M., *Assistant Specialist in Agricultural Engineering***

B.S. Agr. 1940, B.Agr.Engr. 1941, Ohio State; M.S. 1962, Michigan State

**Goodell, Dale N., *Associate Director***

B.S. 1942, Iowa State; M.S. 1952, Minnesota

**Gutierrez, Jean (Mrs. Frank), *Assistant Specialist in Extension***

B.S. 1950, M.A. 1957, Hawaii

**Hansen, Harry L., *County Agent, Kauai***

B.S. 1942, Nevada

**Harrell, Gertrude P. (Mrs.), *State Extension Home Economist***

B.S. 1927, Georgia State College for Women; M.A. 1949, Columbia

**Higaki, Tadashi, *Assistant County Agent, Hilo***

B.A. 1958, M.S. 1961, Hawaii

**Hiroshige, Herbert M., *Assistant Specialist in Agricultural Economics***

B.S. 1934, California; M.A. 1950, Hawaii

---

\*Degrees listed under "Instruction."

- Hole, Phyllis A. (Mrs. Douglas), *Assistant County Home Economist*  
B.S. 1937, Utah State; M.S. 1961, Wisconsin
- Honma, Haruo, *County Agent, West Oahu*  
B.S. 1940, Hawaii; M.Ed. 1951, Colorado State; M.S. 1959, Michigan State
- Horimoto, Helene H., *Assistant Home Demonstration Agent, South Oahu*  
B.S. 1963, Hawaii
- Horio, Arleen Y., *Assistant County Home Economist*  
B.S. 1962, Hawaii
- Hugh, Williams I., *Assistant Swine Specialist*  
B.S.A. 1949, British Columbia; M.S. 1951, Ph.D. 1953, Minnesota
- Hunter, Miller T., *County Agent, Maui*  
B.S. 1940, M.S. 1952, Missouri
- Ikeda, Warren, *County Agent, Hilo*  
B.S. 1939, Hawaii
- Ikehara, Dennis, *County Extension Agent*  
B.S. 1961, Hawaii
- Ishida, Jack T., *Associate Specialist in Agricultural Economics*  
B.A. 1942, M.A. 1947, Hawaii; Ph.D. 1960, Purdue
- Ito, Mable I. (Mrs. George T.), *County Home Economist, Maui*  
B.S. 1941, Hawaii
- Iwane, John Y., *County Agent, Kona*  
B.S. 1940, Hawaii
- Jenkins, George H., *Associate Area Specialist, Animal Science*  
B.S. 1926, Oregon State
- Kamisato, Jane S., *Assistant County Home Economist*  
B.S. 1956, Kansas State; M.A. 1963, Maryland
- Kitagawa, Yukio, *Assistant County Agent, West Oahu*  
B.S. 1955, Hawaii
- \*Koshi, James H., *Area Specialist in Dairy Science*
- Kumabe, Bunki, *County Agent, East Oahu*  
B.S. 1942, Hawaii; M.S. 1953, Missouri
- Lenk, Sachiko (Mrs. John), *Home Economist, Kona*  
B.S. 1949, Hawaii; M.S. 1957, Pennsylvania State
- Lyman, Clarence, *Specialist in Pasture Management*  
B.S. 1938, M.S. 1941, Hawaii
- Maruyama, Charles I., *County Agent, Maui*  
B.S. 1935, Hawaii; M.S. 1962, Washington State
- Matsumoto, Dan K., *Associate County Agent, Honokaa*  
B.S. 1951, Hawaii; M.S. 1961, Michigan State
- Matsumoto, Eleanor A., *Specialist in Home Economics*  
B.S. 1941, Hawaii; M.A. 1953, Columbia
- Matsuura, Minoru, *County Agent, Kohala*  
B.S. 1938, Hawaii
- McCall, Wade W., *Associate Specialist in Soil Management*  
B.S. 1942, M.A. 1947, Florida; Ph.D. 1953, Michigan State
- \*McHenry, Silas L., *Associate Specialist in Poultry Husbandry*

---

\*Degrees listed under "Instruction."

- McMillan, Roger F. (Miss), *Associate Home Economist, East Oahu*  
B.S. 1944, Georgia
- Mihata, Kay E., *Assistant Home Demonstration Agent*  
B.S. 1963, Hawaii
- Mihata, Keichi, *County Agent, East Oahu*  
B.A. 1935, Hawaii
- Miyabara, Jean S., *Assistant Home Economist*  
B.S. 1960, Mankato State College
- Nakagawa, Yukio, *Assistant Specialist in Horticulture*  
B.S. 1940, Hawaii
- Nakasato, Masaru George, *County Agent Supervisor*  
B.S. 1951, Hawaii; M.S. 1961, Oregon State
- Nichols, Norman, *County Extension Agent*  
B.S. 1938, Nevada
- Okagawa, Tomoyuki, *Assistant County Agent, South Oahu*  
B.S. 1954, Hawaii
- Orr, Kathryn J., *Assistant Specialist in Foods and Nutrition*  
B.S. 1945, California; M.S. 1949, Michigan State
- Oshiro, June, *County Home Economist*  
B.S. 1962, Hawaii
- Ota, Robert M., *County Agent, Hilo*  
B.S. 1950, Colorado State; M.S. 1959, Purdue
- Penner, Ruth T., *Associate County Home Economist, South Oahu*  
B.S. 1943, Tennessee
- Reid, Vera Y., *Assistant Specialist in Home Management*  
B.S. 1942, Alabama Polytechnic Institute; M.S. 1959, Florida State
- Riley, Merrill K., *County Agent, East Oahu*  
B.S. 1927, Colorado College; M.S. 1929, South Dakota State College
- Schwartz, Lillian R. (Mrs.), *County Home Economist, West Oahu*  
B.S. 1931, Hastings College; M.S. 1961, Michigan State
- Shaddick, Phyllis Ann, *Assistant County Home Economist*  
B.S. 1958, Florida State
- Shigeta, Daniel T., *County Agent, Kula, Maui*  
B.S. 1950, Hawaii
- Shigeta, James Y., *Associate Specialist in Club Work*  
B.S. 1951, Maryland; M.S. 1958, Wisconsin
- Shirakawa, Takumi, *County Agent, Naalehu*  
B.S. 1948, Hawaii
- Stormont, John L., *Specialist in Club Work*  
B.S. 1928, Illinois; M.Ed. 1954, Cornell
- Sturdevant, Janice M. (Mrs. James), *Assistant Home Economist*  
B.S. 1955, Simmons College; M.A. 1958, Columbia
- Takahashi, T. Francis, *Assistant County Agent, Kauai*
- Takei, Shiro, *Assistant Specialist in Agricultural Economics*  
B.S. 1938, Hawaii; M.S. 1960, Michigan State
- Tanaka, Marlene M., *Assistant County Home Economist*  
B.S. 1962, Hawaii

---

\*Degrees listed under "Instruction."

Tanaka, Tokushi, *Assistant Specialist in Poultry Science*

B.S. 1948, M.S. 1953, Hawaii

Tashiro, Gladys (Mrs. Ben), *Assistant County Home Economist*

Teho, Fortunato, *Assistant Specialist in Visual Aids*

B.S. 1927, Hawaii

Tisher, Mildred E., *Home Economist, Molokai*

B.A. 1940, South Dakota State

Tolleth, Dorothy E., *Home Economist, Kauai*

B.S. 1929, Idaho

Vollrath, Harvey M., *Specialist in Animal Husbandry*

B.S. 1929, Colorado State; M.S. 1948, Minnesota

Yamamoto, Tamao, *Assistant County Agent, South Oahu*

B.S. 1957, Oregon State

Yee, Warren Y. J., *Assistant Specialist in Horticulture*

B.S. 1942, Hawaii; M.S. 1959, Purdue

Yonamine, Charles N., *Associate County Agent, West Oahu*

B.S. 1951, California State Polytechnic College

Young, Helen B. (Mrs. J. Bryant), *Associate Home Economist*

B.A. 1921, Tennessee

### Office of Student Personnel 1963-64

Aimoto, Dorothy R., *Junior Specialist in Student Personnel (East-West Center Housing Counselor)*

B.Ed. 1956, Hawaii

Allen, James G., *Director of Student Residences*

B.S. 1949, Wisconsin; M.S. 1954, Ph.D. 1960, Iowa State

\*Bitner, Harold M., *Dean of Student Personnel*

Char, Walter F., *Specialist in Student Personnel, Counseling and Testing Center (psychiatrist)*

M.D. 1945, Temple

Denny, James M., *Assistant Specialist in Student Personnel, Counseling and Testing Center*

A.B. 1951, Oberlin College; Ph.D. 1958, Western Reserve

Donahoe, Betty J. (Mrs. Peter A.), *Junior Specialist in Student Personnel (Hilo) (first semester)*

B.A. 1956, University of Washington; M.Ed. 1960, Harvard

Durkee, Peter E., *Assistant Specialist in Student Personnel*

B.A. 1953, M.A. 1957, Colgate

Fujikawa, Wallace A., *Resident Manager, High-Rise Residence Hall*

Fujita, George Y., *Assistant Specialist in Student Personnel, Counseling and Testing Center*

B.Ed. 1954, M.Ed. 1958, Hawaii; Ph.D. 1961, Minnesota

Fujitani, Shigeaki, *Junior Specialist in Student Personnel, Counseling and Testing Center*

B.A. 1955, Hawaii; M.A. 1957, New York

---

\*Degrees listed under "Instruction."

- Greene, Edward C., Jr., *Assistant Specialist in Student Personnel (Veterans and Selective Service Advisor, Financial Aid)*  
Ph.B. 1928, M.F. 1932, Yale
- Harada, Takeshi, *Junior Specialist in Student Personnel (Bureau of Student Activities)*  
B.S. 1951, Hawaii; M.S. 1955, Illinois
- Hogle, Frances deV. (Mrs.), *Resident Manager, Gateway House*
- Iams, Ruth W. (Mrs. James P.), *Assistant Specialist in Student Personnel, Counseling and Testing Center*  
Ph.B. 1933, Chicago; M.A. 1952, Hawaii
- Kaneshige, Edward S., *Assistant Specialist in Student Personnel, Counseling and Testing Center*  
B.A. 1950, Hawaii; M.A. 1954, Ed.D. 1959, Columbia
- Kim, Henry H., *Junior Specialist in Student Personnel (Housing)*  
B.A. 1960, Hawaii
- \*Lovett, E. D., *Director of Student Health Service*
- McArdle, H. Roy, *Assistant Specialist in Student Personnel (University Placement Counselor)*  
B.S. 1941, Columbia; M.B.A. 1962, Hawaii
- McIntyre, Veta F., *Head Resident, Frear Hall*  
B.A. 1928, Michigan
- McPherson, Mary Lou (Mrs.), *Assistant Specialist in Student Personnel, Bureau of Student Residences*  
B.S. 1933, Kansas State; M.A. 1955, Missouri
- Michel, John, *Director, Counseling and Testing Center*  
B.A. 1950, Lehigh; M.A. 1951, Georgia; Ph.D. 1958, Texas
- Mjedloff, Olga, *Junior Specialist in Student Personnel (Assistant Foreign Student Adviser)*  
B.A. 1941, California; M.A. 1948, George Washington
- Nakagami, Miyoko, *Junior Specialist in Student Personnel (Assistant Foreign Student Adviser)*  
B.Ed. 1938, Hawaii; M.A. 1954, Columbia
- Pauling, Linus C., Jr., *Specialist in Student Personnel (Psychiatrist)*  
M.D. 1952, Harvard
- Pisciotta, Joseph P., *Head Resident, Johnson Hall*
- Prentice, Yuriko, (Mrs. Lee), *Director, Bureau of Student Activities*  
B.A. 1955, Hawaii
- Tom, Juliette Y. L., *Junior Specialist in Student Personnel (ASUH Executive Secretary)*  
B.A. 1955, Colorado State
- Ushijima, Margaret (Mrs. John), *Junior Specialist in Student Personnel (Hilo)*  
B.A. 1949, Illinois Wesleyan; M.S. 1952, Smith
- Wery, Katherine H. (Mrs. Clay H.), *Junior Specialist in Student Personnel (Part-time Employment)*  
B.A. 1944, Westhampton College

---

\*Degrees listed under "Instruction."

- White, Edward T., *Director, Office of Admissions and Records*  
B.A. 1936, M.A. 1939, Columbia
- Will, Caroline F. (Mrs. Richard Y.), *Assistant Specialist in Student Personnel, Counseling and Testing Center*  
B.A. 1953, Minnesota; M.A. 1959, Hawaii
- Wong, Carolina D. (Mrs. Ronald H. L.), *University Physician*  
M.D. 1941, University of Santo Tomas
- Wong, Lawrence Y. W., *University Physician*  
B.S. 1951, M.S. 1953, M.D. 1958, Michigan
- Zeigler, A. Lee, *Assistant Specialist in Student Personnel (Foreign Student Advisor)*  
B.A. 1949, Stanford; M.S. 1950, New York

### Affiliate Graduate Faculty\*

- Anderson, E. J., Ph.D., *Head, Pathology Department*  
Pineapple Research Institute
- Apt, Walter J., Ph.D., *Nematologist*  
Pineapple Research Institute
- Ayres, A. S., Ph.D., *Senior Agronomist, Experiment Station*  
Hawaiian Sugar Planters' Association
- Barkley, Richard Andrew, Ph.D., *Chief, Oceanography Investigation*  
Honolulu Biological Laboratory, Bureau of Commercial Fisheries; U.S. Fish and Wildlife Service
- Baver, Leonard D., Ph.D., *Director Emeritus, and Consulting Scientist, Experiment Station*  
Hawaiian Sugar Planters' Association
- Bernstein, Leo, M.D., *Director*  
State Department of Health
- Boyle, Frank P., Ph.D., *Director, New Product Development and Inspection*  
Dole Corporation
- Chang, Jen-hu, Ph.D., *Senior Climatologist*  
Hawaiian Sugar Planters' Association
- Chang, Thomas M.C., Ph.D., *Director of Guidance*  
State Department of Education
- Connor, Angie, M.D., *Executive Officer, Mental Retardation Division*  
State Department of Health
- Cormack, Margaret, Ph.D., *Director, Reference Research and Information*  
Institute of Advanced Projects, East-West Center
- Cushing, Robert L., M.S., *Director, Experiment Station*  
Hawaiian Sugar Planters' Association
- Darroch, J. G., M.S., *Principal Statistician, Experiment Station*  
Hawaiian Sugar Planters' Association

---

\*Members of cooperating institutions available for service on graduate committees. They do not offer courses at the University.



- Dull, Gerald G., Ph.D., *Chemist*  
Pineapple Research Institute
- Ekern, Paul C., Ph.D., *Soil Physicist*  
Pineapple Research Institute
- Farden, Carl A., B.S., *Statistician*  
Pineapple Research Institute
- Felton, George E., Ph.D., *Technical Director*  
Dole Corporation
- Force, Roland W., Ph.D., *Director*  
Bernice P. Bishop Museum
- Forster, Raymond R., Ph.D., *Researcher*  
Bishop Museum
- Gortner, Willis A., Ph.D., *Head, Chemistry Department*  
Pineapple Research Institute
- Gowing, Donald P., Ph.D., *Plant Physiologist*  
Pineapple Research Institute
- Gressitt, J. Linsley, Ph.D., *Entomologist*  
Bernice P. Bishop Museum
- Gudeman, Howard E., Ph.D., *Director, Psychological Services and Training*  
State Hospital
- Halperin, Sidney L., Ph.D., *Clinical Psychologist*  
Tripler General Hospital
- Hanson, Noel S., Ph.D., *Principal Scientist—Weed Control, Experiment Station*  
Hawaiian Sugar Planters' Association
- Harris, Yenell Y., Ed.D., *Staff Specialist, Research and Statistics*  
State Department of Education
- Heinicke, Ralph M., Ph.D., *Director of Chemistry and Food Research*  
Dole Corporation
- Hendrickson, John R., Ph.D., *Vice Chancellor of Student Programs*  
East-West Center
- Hilton, H. Wayne, Ph.D., *Principal Chemist, Experiment Station*  
Hawaiian Sugar Planters' Association
- Johannessen, George A., Ph.D., *Head, Plant Breeding Department*  
Pineapple Research Institute
- Johnson, Charles, M.S., *Engineering Geologist*  
U. S. Corps of Army Engineers
- Johnson, Charles G., A.B., *Geologist*  
U. Geological Survey, U.S. Army, Pacific
- Joyce, C. R., Ph.D., *Medical Entomologist*  
U.S. Public Health Service
- Keiser, Irving, B.S., *Entomologist*  
Agricultural Research Service
- Kern, Jerome, Ph.D., *Research Bacteriologist*  
National Institutes of Health
- Kerns, Kenneth R., M.S., *Plant Breeder*  
Pineapple Research Institute

- Klemmer, H. W., Ph.D., *Microbiologist*  
Pineapple Research Institute
- Koike, Hideo, Ph.D., *Associate Pathologist, Experiment Station*  
Hawaiian Sugar Planters' Association
- Kondo, Yoshio, Ph.D., *Malacologist*  
Bernice P. Bishop Museum
- Krauss, Beatrice, M.S., *Plant Physiologist*  
Pineapple Research Institute
- Leeper, Robert W., Ph.D., *Organic Chemist*  
Pineapple Research Institute
- Lynd, Frederick T., D.V.M., M.S., *State Veterinary Pathologist and  
Chief of Bureau of Veterinary Laboratory*  
State Department of Agriculture and Conservation
- Magnuson, John J., Ph.D., *Chief, Behavior Program*  
Honolulu Biological Laboratory, Bureau of Commercial Fisheries, U.S. Fish  
and Wildlife Service
- Marr, John, M.A., *Hawaii Area Director*  
Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service
- McLaren, Kazue (Mrs.), MPH, *Public Health Nursing Supervisor*  
Kapahulu Health Center
- Mink, John F., M.S., *Hydrologist-Geologist*  
Board of Water Supply, City and County of Honolulu
- Mumaw, Charles E., Ph.D., *Director, Quality Control*  
Dole Corporation
- Nickell, Louis G., Ph.D., *Principal Physiologist and Biochemist,  
Experiment Station*  
Hawaiian Sugar Planters' Association
- Paty, Jeanne E., M.P.H., *Health Education Officer*  
State Department of Health
- Payne, John H., Ph.D., *Principal Technologist, Experiment Station*  
Hawaiian Sugar Planters' Association
- Price, Saul, B.S., *Research Meteorologist*  
Pacific Supervisory Office, U.S. Weather Bureau
- Quate, Larry, Ph.D., *Entomologist*  
Bernice P. Bishop Museum
- Rosen, Leon, M.D., *Head, Pacific Research Section*  
National Institute of Allergy and Infectious Diseases
- Rothschild, Brian J., Ph.D., *Chief, Skipjack Ecology Program*  
U.S. Bureau of Commercial Fisheries
- Sakimura, K., *Entomologist*  
Pineapple Research Institute
- Sanford, Wallace G., Ph.D., *Plant Physiologist and Head, Agronomy*  
Pineapple Research Institute
- Seckel, Gunter R., M.S., *Oceanographer*  
Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service
- Sinoto, Yoshihiko, Sc.D., *Fellow in Anthropology*  
Bernice P. Bishop Museum

**Spicer, Robert A., Ph.D., Consultant**

Lanakila Crafts

**Spiegelberg, Carl H., Ph.D., Pathologist**

Pineapple Research Institute

**Sprague, Lucian M., Ph.D., Chief, Subpopulations Investigations**

Honolulu Biological Lab., Bureau of Commercial Fisheries, U.S.F.W.S.

**Stanford, George, Ph.D., Principal Agronomist, Experiment Station**

Hawaiian Sugar Planters' Association

**Steiner, Loren F., M.S., Research Entomologist and Investigations**

*Leader*

Fruit Fly Laboratory, U.S. Department of Agriculture

**Stephenson, John R., M.D., Physician**

Department of Pediatrics, Straub Clinic

**Strasburg, Donald W., Ph.D., Fishery Research Biologist**

Honolulu Biological Lab., Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service

**Takata, Michio, M.S., Director, Division of Fish and Game**

State Department of Agriculture and Conservation

**Tom, Albert Q. Y., Ph.D., Vice President**

Sum, Low, Tom and Hara, Inc., Consulting Engineers

**Tribble, Roy T., M.S., Agricultural Engineer**

Pineapple Research Institute

**Wallrabenstein, Paul P., Ph.D., Agricultural Statistician-in-Charge**

Statistical Reporting Service, U.S. Department of Agriculture

**Warner, John N., Ph.D., Principal Geneticist, Experiment Station**

Hawaiian Sugar Planters' Association

**Wilcox, Kingston S., Ph.D., Director**

Bureau of Laboratories, State Department of Health

**Wilson, Nixon A., Ph.D., Acarologist**

Bernice P. Bishop Museum

**Wismer, Chester A., Ph.D., Senior Pathologist, Experiment Station**

Hawaiian Sugar Planters' Association

**Yoder, Paul E., Ph.D., Virologist**

State Department of Health

**Young, H. Y., M.A., Chemist**

Pineapple Research Institute

## SUMMARY OF ENROLLMENT FOR 1963-64

|   | 1ST<br>SEMESTER | 2ND<br>SEMESTER |
|---|-----------------|-----------------|
| <b>Graduate School</b>  |                 |                 |
| Advanced degree candidates.....                                   | 940             | 967             |
| Five-year diploma candidates.....                                 | 186             | 143             |
| Unclassified.....   | 805             | 828             |
| Professional Teaching Certificate.....                            | 23              | 4               |
|   | <u>1,954</u>    | <u>1,942</u>    |
| <b>College of Arts and Sciences</b>                               |                 |                 |
| Seniors.....  | 503             | 443             |
| Juniors.....  | 535             | 548             |
| Sophomores.....   | 777             | 732             |
| Freshmen.....   | 1,191           | 1,048           |
|   | <u>3,006</u>    | <u>2,771</u>    |
| <b>College of Engineering</b>                                     |                 |                 |
| Seniors.....  | 183             | 173             |
| Juniors.....  | 158             | 157             |
| Sophomores.....   | 190             | 171             |
| Freshmen.....   | 213             | 194             |
|   | <u>744</u>      | <u>695</u>      |
| <b>College of Education</b>                                       |                 |                 |
| Seniors.....  | 375             | 344             |
| Juniors.....  | 435             | 421             |
| Sophomores.....   | 429             | 433             |
| Freshmen.....   | 465             | 445             |
| Classified Professional Certificate.....                          | 71              | 71              |
| Professional Teaching Certificate.....                            | 11              | 1               |
|   | <u>1,786</u>    | <u>1,715</u>    |
| <b>College of Tropical Agriculture</b>                            |                 |                 |
| Seniors.....  | 65              | 64              |
| Juniors.....  | 84              | 84              |
| Sophomores.....   | 83              | 92              |
| Freshmen.....   | 95              | 100             |
|   | <u>327</u>      | <u>340</u>      |
| <b>College of Business Administration</b>                         |                 |                 |
| Seniors.....  | 208             | 181             |
| Juniors.....  | 286             | 282             |
| Sophomores.....   | 361             | 361             |
| Freshmen.....   | 373             | 345             |
|   | <u>1,228</u>    | <u>1,169</u>    |
| <b>College of Nursing</b>   |                 |                 |
| Seniors.....  | 53              | 48              |
| Juniors.....  | 62              | 53              |
| Sophomores.....   | 90              | 93              |
| Freshmen.....   | 105             | 91              |
| <b>TOTAL DEGREE AND DIPLOMA</b>                                   | <u>310</u>      | <u>285</u>      |
| <b>CANDIDATES</b> .....   | 8,445           | 8,013           |
| <b>College of General Studies (Total in credit courses)</b> ..... | 2,247           | 2,108           |
| <b>HILO CAMPUS</b> .....  | 355             | 347             |
| <b>GRAND TOTAL IN CREDIT COURSES</b> .....                        | <u>13,068</u>   | <u>12,327</u>   |



# INDEX

- Academic information, 18-41
- Academic year, 3, 9
- Academy of Arts, Honolulu, 12
- Accounting, courses in, 136-137
- Accreditation of the University, 8-9
- Administrative officers, University, 238-239
- Administrative organization, 7-8
- Admission requirements and procedures, 18-22
- Advanced standing, admission to, 21-22
- Affiliate graduate faculty, 299-302
- Agricultural biochemistry, courses in, 204
- Agricultural economics, courses in, 204-207
- Agricultural engineering, courses in, 207
- Agricultural Experiment Station, Hawaii, 8, 203
- Agricultural Extension Service (*See* Cooperative Extension Service)
- Agriculture, College of Tropical, 193-218
- Agriculture, courses in, 204
- Agriculture curricula, 193-203
- Agronomy, courses in, 207-209
- Air Science, courses in, 39
- American studies, courses in, 220
- American Studies, Institute of, 231
- Animal Science, courses in, 209-210
- Anthropology, courses in, 50-53
- Applied music, courses in, 103-107
- Aquarium, 9
- Arboretum, Lyon, 10
- Architecture (*See* Prearchitecture)
- Architecture, courses in, 54
- Art, courses in, 53-59
- Arts and Sciences, College of, 7, 42-132
- Asian and Pacific languages, courses in, 59-64
- Asian studies, courses in, 64-65
- Associated Students of the University of Hawaii, 13, 29
- Athletics and recreation, 14, 40
- Attendance at classes, 27
- Auditors, 18, 22
- Awards and prizes, 33-36
- Bacteriology (*See* Microbiology)
- Biochemistry and biophysics, courses in, 220-221
- Biological Laboratory, Honolulu, 13
- Biomedical Research Center, Pacific, 11
- Bishop Museum, Bernice Pauahi, 12
- Board of Athletic Control, 30, 40
- Board of Regents, 8, 237
- Botany, courses in, 65-67
- Buildings and campus, 7
- Business Administration, College of, 7, 8, 133-144
- Business analysis and statistics, courses in, 137-138
- Business economics, courses in, 138-139
- Business Research, Bureau of, 9
- Cafeteria, University, 15
- Calendar, University, 3
- Campus locations, 7
- Certificates (*See* Degrees, diplomas, and certificates)
- Changes in study programs, 22, 29
- Chemistry, courses in, 67-70
- Chinese, courses in, 59-60
- Civil engineering, courses in, 175-179
- Civil engineering curriculum, 171
- Clothing design, curricula, 202-203
- College aptitude tests, 16
- College of Arts and Sciences, 7, 42-132
- College of Business Administration, 7, 8, 133-144
- College of Education, 7, 145-169
- College of Engineering, 7, 8, 170-183
- College of General Studies 7, 27 184-185
- College of Nursing, 7, 186-192
- College of Tropical Agriculture, 7, 9, 193-218
- Colors, University, 8
- Communications Center, 9
- Composition, deficiency in, 24
- Computing Center, Statistical and, 12
- Control of the University, 7-8

- Cooperating institutions, 12-13  
Cooperative Extension Service, 8, 9, 203-204  
Counseling and Testing Center, 16  
Course examinations, 29  
Course numbering system, 41  
Courses, announcement of (*See* listings under individual departments)  
Credit by examination, 28  
Credits, 24-25  
Curricula:  
    College of Arts and Sciences, 42-50  
    College of Business Administration, 134-136  
    College of Education, 147-152  
    College of Engineering, 170-174  
    College of Nursing, 186-187  
    College of Tropical Agriculture, 193-203  
Deans' list, 34  
Degree requirements, undergraduate, 27-29  
Degrees, diplomas, and certificates:  
    bachelor of arts, 43-46  
    bachelor of business administration, 133  
    bachelor of education, 145  
    bachelor of fine arts, 47  
    bachelor of music, 47  
    bachelor of science, 48-49, 170, 186, 193  
    doctor of philosophy, 219  
    five-year diploma, 146  
    master's degree, 219  
    teacher's professional certificate, 146-147  
Dental hygiene, courses in, 189-190  
Dental hygiene curriculum, 188-189  
Dormitories, 14-15  
Drama and theatre, courses in, 70-71  
Early admission for superior high school students, 21  
East-West Center, 7, 230-234  
Economic Research Center, 9  
Economics, courses in, 72-75  
Economics, business (*See* Business economics)  
Education, College of, 7, 145-169  
Education, courses in, 154-169  
Educational administration, courses in, 154-155  
Educational psychology, courses in, 155-157  
Electrical engineering, courses in, 179-181  
Electrical Engineering curriculum, 172  
Elementary education curriculum, 149  
Elementary education, courses in, 157-159  
Engineering, College of, 7, 8, 170-183  
Engineering, courses in, 175-183  
Engineering curricula, 170-174  
English, courses in, 75-80  
English Language Institute, 36-37, 231  
Entomology, courses in, 210-211  
Entomology, U.S. Bureau of, 12  
European languages, courses in, 80-86  
Evening courses, 184-185  
Examination, admission by, 20  
Examination, credit by, 28  
Examinations, course, 29  
Expenses, student, 15  
    (*See also* Tuition and fees)  
Extension Service, Cooperative, 8, 9, 203-204  
Faculty and staff, 237-302  
Failure, academic, 25-27  
Fees and tuitions, 29-30  
Fellowships and scholarships, 31-32  
Finance, courses in, 139-140  
Financial obligations, 27  
Financial support, University, 8  
Fine Arts Program, 47  
Fish and Wildlife Service, U.S., 13  
Five-year diploma, 146  
Food science, courses in, 211-212  
Food services, 15  
Foods and nutrition and institution management, curricula, 201-202  
Frear Hall, 14  
French, courses in, 80-81  
Freshman orientation period, 21  
Fruit Fly Laboratory, 12  
Full-time students, definition of, 18  
Gateway House, 14-15  
General engineering, courses in, 181-182  
General engineering curriculum, 173  
General science, courses in, 86  
General Studies, College of, 7, 27, 184-185  
Genetics, courses in, 221

- Geography, courses in, 86-89  
Geology, courses in, 89-92  
Geophysics, Hawaii Institute of, 10  
German, courses in, 81-82  
Government (*See* Political Science)  
Grade-point ratios, 25  
Grades, 24-25  
Graduate School, 7, 8, 219-229  
Graduate students, 18, 22  
Graduation requirements, 27-29  
Great Plays Cycle, 14  
Greek, courses in, 83-84
- Hale Kahawai, 14  
Hawaii Agricultural Experiment Station, 8, 203  
Hawaii Institute of Geophysics, 10  
Hawaii Marine Laboratory, 10  
Hawaiian, courses in, 60  
Hawaiian Sugar Planters' Association, 12  
Health and physical education, courses in, 159-162  
Health requirements, 16-17  
Health Service, 16  
Hearing (*See* Speech and Hearing Clinic)  
Hemenway Union Building, 13  
Hilo campus, 7, 9  
Hindi, courses in, 61  
History and philosophy of education, courses in, 163-164  
History, courses in, 92-96  
History of the University, 7-8  
Home economics, courses in, 212-215  
Home economics curricula, 198-203  
Honolulu Academy of Arts, 12  
Honorary societies, 35-36  
Honors at graduation, 37-38  
    (*See also* Prizes and Awards)  
Honors courses, 38  
Horticulture, courses in, 215-216  
Hotel management and tourism, courses in, 140  
Housing, student, 14-15  
Human Relations Area Files, 10-11
- Institute of Advanced Projects, 232-233  
Institute of American Studies, 231  
Instructional staff, 241-285  
Insurance, courses in, 140-141  
Interdisciplinary studies, 96  
International Student Office, 15-16  
Italian, courses in, 83
- Japanese, courses in, 61-62  
Javanese, courses in, 63  
Johnson Hall, 14  
Journalism, courses in, 79-80
- Korean, courses in, 63
- Laboratory schools, College of Education, 152  
Land Study Bureau, 11  
Late registration, 23  
Latin, courses in, 83-84  
Law (*see* Prelegal program)  
Law, courses in, 141  
Legislative Reference Bureau, 7, 11  
Library facilities, 10  
Library fines, 27  
Library science, certification in, 153  
Library science, courses in, 165-166  
Library, Sinclair, 7, 10  
Linguistics, courses in, 223  
Literature (*see* English, courses in)  
Living accommodations, 14-15  
Loan funds, 33  
Lyon Arboretum, 10  
Lockers, book, 30
- Majors and requirements:  
    College of Arts and Sciences, 42-50  
    College of Business Administration, 134-136  
    College of Education, 147-152  
    College of Engineering, 170-174  
    College of Nursing, 186-187  
    College of Tropical Agriculture, 193-203  
Management, courses in, 141  
Marine Laboratory, Hawaii, 10  
Marketing, courses in, 142  
Mathematics, courses in, 96  
Mature persons, admission of, 22  
Maximum registration, 23
- "Incomplete" grades, 24  
Indonesian, courses in, 61  
Industrial education, courses in, 164-165  
Industrial Relations Center, 11  
Institute for Technical Interchange, 232



Mechanical engineering, courses in, 182-183

Mechanical engineering curriculum, 174

Medical technology, courses in, 191

Medical technology curriculum, 187-188

Medicine (*See* Premedicine)

Mentally retarded, certification in teaching, 153

Meteorology, courses in, 98-100

Microbiology, courses in, 100-102

Military science, courses in, 39-40

Military training, 38

Music, courses in, 102-107

National Defense Student Loans, 33

Noncredit courses, 184-185

Nursing, College of, 7, 186-192

Nursing, courses in, 191-192

Nursing curriculum, 186-187

Nutrition, courses in, 216-217

Oceanography, courses in, 223-225

Off-campus credit courses, 184-185

Office of Publications and Information, 11

Office of Student Personnel, 7, 8

Officers of the University, 8

Organization of the University, 7, 8

Orientation period (*See* Freshman orientation period)

Out-of-state students, 29

Overseas Operations Program, courses in, 225-226

Pacific and Asian Affairs Council, 12

Pacific Biomedical Research Center, 11

Pacific Islands studies, 219

Pacific languages (*See* Asian and Pacific languages)

Pali, courses in, 63

Part-time students, definition of, 18

Personnel and industrial relations, courses in, 143

Philosophy, courses in, 107-110

Physical education (*See* Health and physical education)

Physical education requirements, 40

Physics, courses in, 110-113

Pineapple Research Institute of Hawaii, 13

Placement Office, 16

Plant pathology, courses in, 217

Plant physiology, courses in, 217

Political science, courses in, 113-117

Portuguese, courses in, 84

Poultry science, courses in, 218

Prearchitectural program, 50

Pre dental preparation, 50

Premedical preparation, 49

Prepharmacy preparation, 50

Presidents of the University, former, 237

Prizes and awards, 33-36

Probation, academic, 26

Professional certificate, teachers', 146-147

Psychology, courses in, 117-120

Psychology, educational (*See* Educational psychology)

Public administration program, 50

Public health, courses in, 226-227

Publications and Information, Office of, 11

Reading Clinic, 152

Readmission, 26

Real estate, courses in, 143-144

Recreation curriculum, 150-151

Regents, Board of, 8

Registration, 22-23

Regular students, 18-22

Religion, courses in, 120-121

Requirements for admission (*See* admission requirements)

Requirements for continued registration, 25-27

Research and Service Operations, 9-12

Research, Office of, 7, 8

Reserve Officers' Training Corps (*See* Military Science and Air Science)

Residence accommodations, 14-15

Residence requirements, 28

Russian, courses in, 84-85

Sanskrit, courses in, 63

Scholarships and fellowships, 31-32

Scholastic standards, 24-25

School administration, certification in, 153

School counseling, certification in, 153

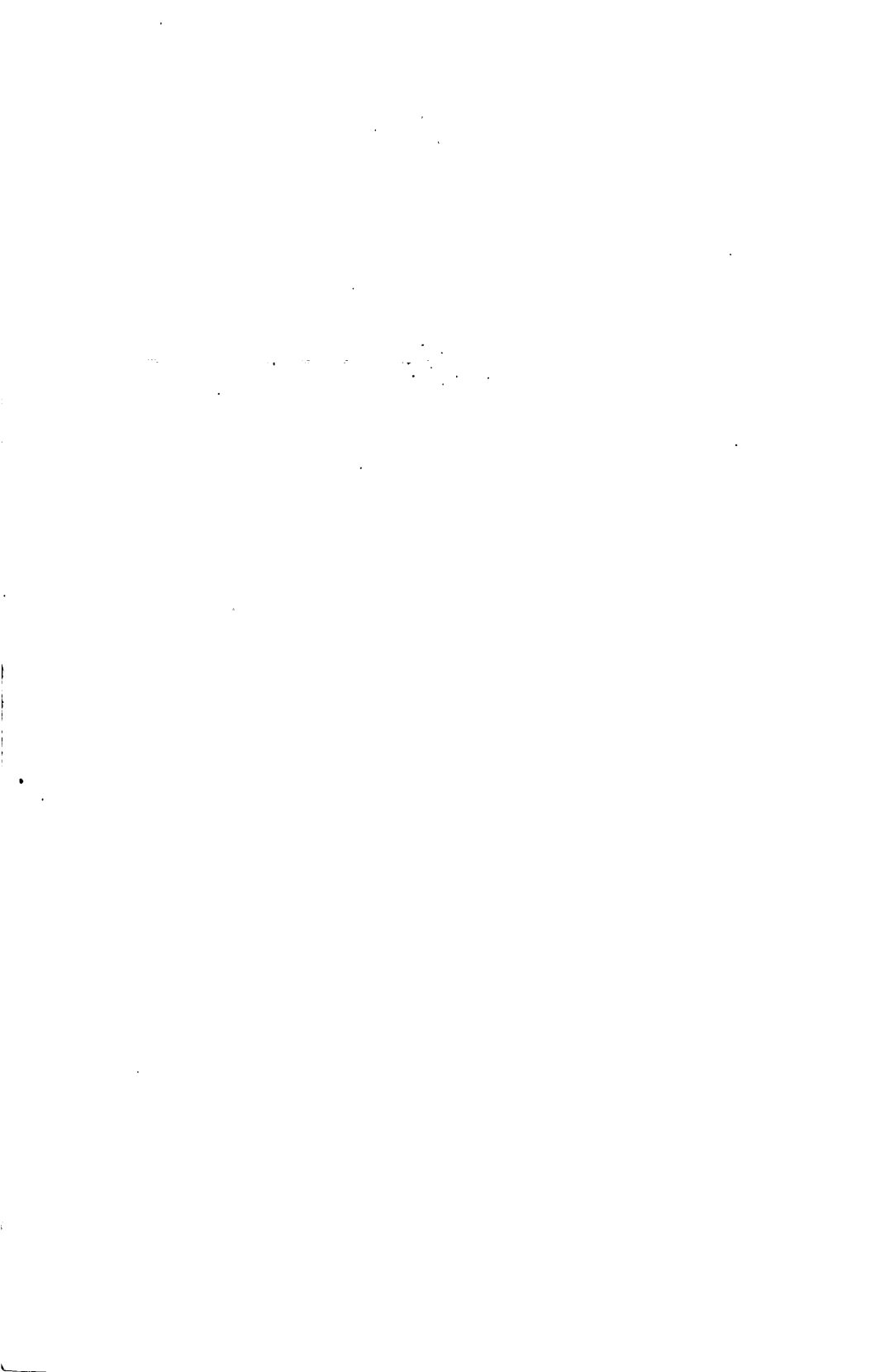
Science, general (*See* General science)

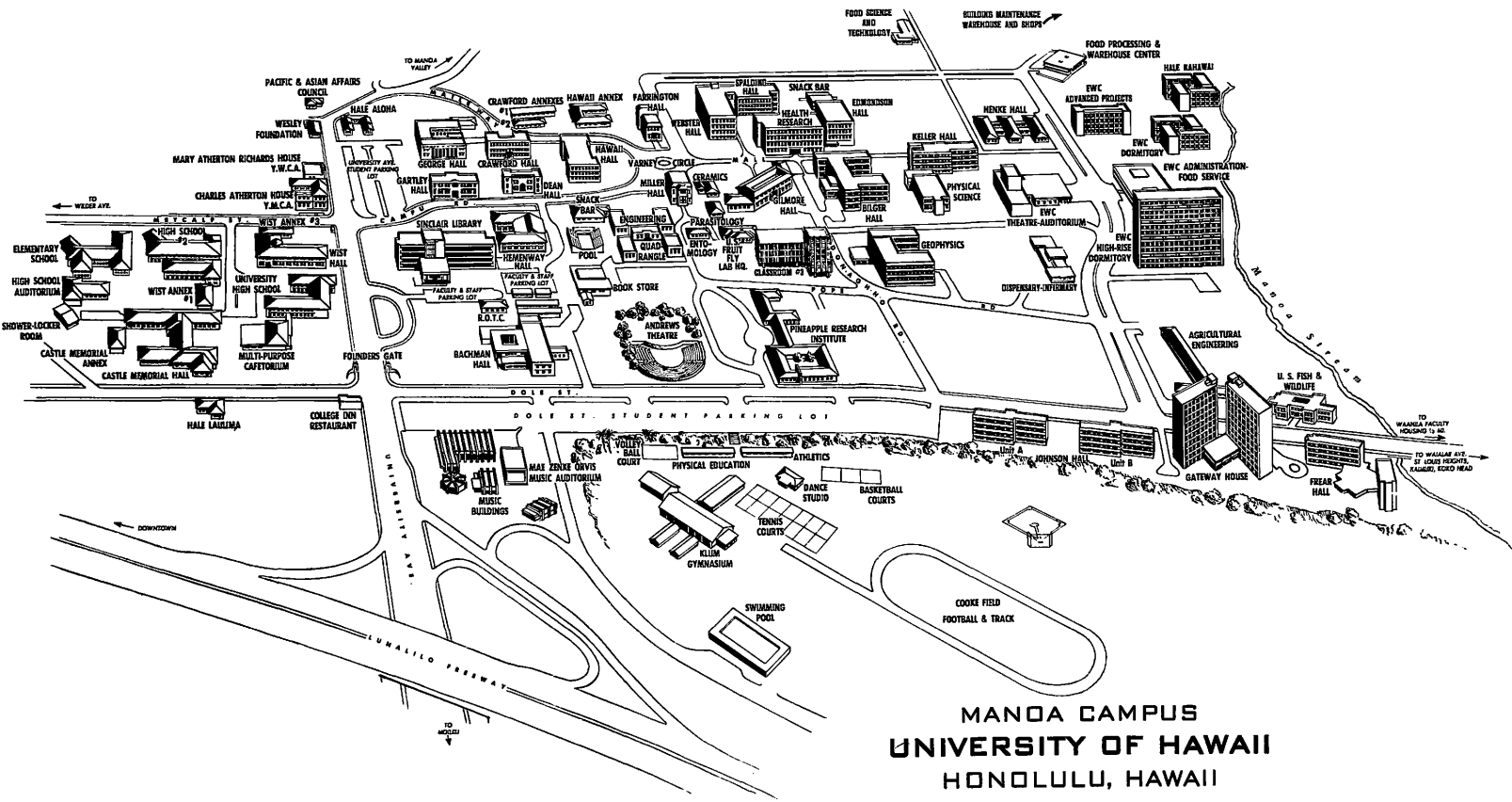
Seal of the University, 8

Secondary education curriculum, 149-150

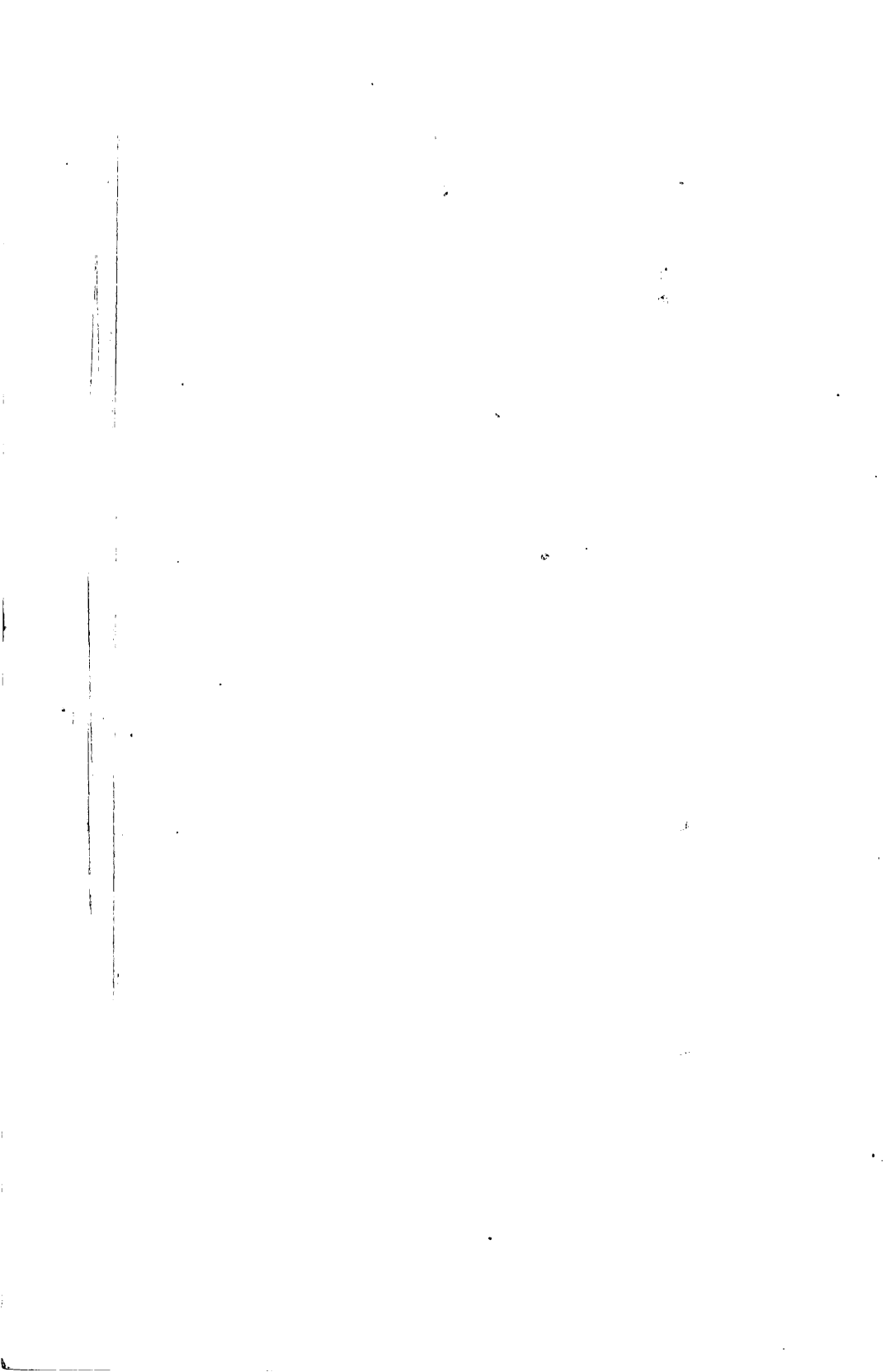
Secondary education, courses in, 166-169

- Selected Studies Program, 37  
Senate, University, 8  
Sinclair Library, 10  
Social Science Research Institute, 11  
Social sciences, courses in, 121  
Social work, courses in, 227-229  
Social Work, School of, 8  
Sociology, courses in, 121-125  
Spanish, courses in, 85-86  
Speech, courses in, 125-129  
Speech and Hearing Clinic, 11  
Sports, 40  
Statistical and Computing Center, 12  
Student activities, 12-17  
Student Activities, Bureau of, 13-14  
Student discipline, 27  
Student Health Service, 16-17  
Student housing, 14-15  
Student Personnel, Office of, 7, 8  
Student residences, 14-15  
Students, classification of, 18  
Summer session, 7, 9, 29  
Symbol of the University, 8
- Tagalog, courses in, 64  
Teachers' professional certificate, 146-147  
Thai, courses in, 64  
Theatre (*See* Drama and theatre)  
Theatre Group, 14  
Time limitation for baccalaureate degree, 28
- Traffic violations, 27  
Transcripts, 30  
Transfer by students between colleges of the University, 24  
Transfer to or from other institutions, 21, 22, 25  
Tropical Agriculture, College of, 7, 193-218  
Tuition and fees, 29-30
- Unclassified students, 18  
Unit of high school work, definition of, 19  
United States Fish and Wildlife Service, 13  
United States Geological Survey Volcano Observatory, 13  
University calendar, 3  
University of Hawaii Press, 12
- Veterans, tuition and fees, 29  
Visiting faculty, 240-241  
Vocational home economics education, 152  
Volcano observatory, 13
- Warnings of low scholarship, 26  
Weapons, prohibition of, 27  
Withdrawal by students, 23-24, 29
- Zoology, courses in, 129-132





MANOA CAMPUS  
UNIVERSITY OF HAWAII  
HONOLULU, HAWAII



UNIVERSITY OF HAWAII