University of Hawaii

GENERAL CATALOGUE

1960-1961
1960–1961 CALENDAR

First Semester

September 19–20, Monday and Tuesday ... Orientation of freshmen
September 19, Monday ... Registration of seniors
September 20, Tuesday ... Registration of juniors
September 21, Wednesday ... Registration of sophomores
September 22–23, Thursday and Friday ... Registration of freshmen
September 24, Saturday ... 8:00 A.M. to 1:00 P.M. Registration of graduate and unclassified students and auditors
September 26, Monday ... 2:30 to 5:00 P.M. Registration of graduate and unclassified students and auditors
September 26, Monday ... Instruction begins
October 1, Saturday ... Primary Election Day (holiday)
October 3, Monday ... Last day of registration for credit
October 17, Monday ... Last day of withdrawal from courses without "grade" penalty
November 4, Friday ... First deficiency reports due
November 8, Tuesday ... General Election Day (holiday)
November 11, Friday ... Veterans' Day (holiday)
November 23, Wednesday ... Last day for removal of "Incompletes"
November 24–26, Thursday through Saturday ... Thanksgiving recess
December 9, Friday ... Second deficiency reports due
December 12, Monday ... Last day of withdrawal from courses
December 21, Wednesday ... Last day of instruction before Christmas recess
January 5, Thursday ... Instruction resumes
January 24, Tuesday ... Last day of instruction, first semester
January 25, Wednesday ... Final examinations begin
January 31, Tuesday ... First semester ends

Second Semester

February 7, Tuesday ... Registration of seniors and juniors
February 8, Wednesday ... Registration of sophomores
February 9–10, Thursday and Friday ... Registration of freshmen
February 11, Saturday ... 8:00 A.M. to 1:00 P.M. Registration of graduate and unclassified students and auditors
February 13, Monday ... 2:30 to 5:00 P.M. Registration of graduate and unclassified students and auditors
February 13, Monday ... Instruction begins
February 20, Monday ... Last day of registration for credit
February 22, Wednesday ... Presidents' Day (holiday)
March 6, Monday ... Last day of withdrawal from courses without "grade" penalty
March 24, Friday ... First deficiency reports due
March 24, Friday ... Last day for removal of "Incompletes"
March 27–April 1, Monday through Saturday ... Easter recess
May 5, Friday ... Second deficiency reports due
May 8, Monday ... Last day for withdrawal from courses
May 30, Tuesday ... Memorial Day (holiday)
June 6, Tuesday ... Last day of instruction
June 7, Wednesday ... Final examinations begin
June 12, Monday ... Holiday following Kamehameha Day
June 14, Wednesday ... Second semester ends
June 18, Sunday ... Commencement

1961–1962

September 18–23, Monday through Saturday ... Registration
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BOARD OF REGENTS

TERM EXPIRES

J. Garner Anthony .................................................. 1961
Attorney, Robertson, Castle & Anthony, Honolulu

Reynolds G. Burkland ............................................. 1965
Administrative Assistant, Hawaiian Trust, Honolulu

Hung Wai Ching .................................................... 1965
Realtor, Honolulu

Walton M. Gordon, ex officio ..................................... —
Superintendent, Department of Public Instruction, Honolulu

Leslie A. Hicks ..................................................... 1961
Chairman, Finance Committee, Hawaiian Electric, Honolulu

Katsuyuki Izumi .................................................... 1961
Physician and Surgeon, Wailuku, Maui

Fred K. Lam ......................................................... 1965
Physician and Surgeon, Honolulu

Richard Penhallow ................................................ 1965
Manager, Parker Ranch, Kamuela, Hawaii

Laurence H. Snyder, ex officio ................................... —
President of the University, Honolulu

Philip E. Spalding ................................................ 1961
Chairman of the Board, Hawaiian Electric, Honolulu

Ronald Toyofuku ................................................... 1963
Superintendent, Lihue Plantation, Lihue, Kauai

OFFICERS OF THE BOARD

Philip E. Spalding ................................................. Chairman
Fred K. Lam ......................................................... Vice-Chairman

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

Gregg M. Sinclair, 1942–1955

Paul S. Bachman, July 1, 1955—January 9, 1957 (Deceased)
B.S. 1922, Ohio State; M.A. 1925, Ph.D. 1927, University of Washington
FACULTY AND STAFF
1959-1960

Administration

LAURENCE H. SNYDER, sc.d., President
WILLARD WILSON, ph.d., Provost
WILLIAM M. WACHTER, m.s., Administrative Vice-President
BRUCE E. WHITE, ph.d., Vice-President and Dean of the Faculties*
LEONARD D. TUTHILL, ph.d., Acting Dean of the Faculties (first semester 1959–60)
ROBERT W. HIATT, ph.d., Dean of the Graduate School and Director of Research
ALLAN F. SAUNDERS, ph.d., Dean of the College of Arts and Sciences
WILFRED J. HOLMES, m.s., Dean of the College of Engineering
HUBERT V. EVERLY, ph.d., Dean of the College of Education
MORTON M. ROSENBERG, ph.d., Dean of the College of Tropical Agriculture†
EDWIN C. PENDLETON, ph.d., Acting Dean, College of Business Administration
EDMUND F. SPELLACY, ph.d., Dean of the College of General Studies
VIRGINIA A. JONES, m.ed., Dean of the College of Nursing
HAROLD M. BITNER, ph.d., Dean of Student Personnel
SHUNZO SAKAMAKI, ph.d., Dean of the Summer Session
CARL G. STROVEN, ph.d., Librarian
GEORGE K. TANABE, b.b.a., Comptroller
EDWARD T. WHITE, m.a., Director, Office of Admissions and Records
THOMAS NICKERSON, b.a., Director, Office of Publications and Information
ROBERT M. KAMINS, ph.d., Director, Legislative Reference Bureau‡
KENNETH K. LAU, ll.m., Acting Director, Legislative Reference Bureau (1959–60)
KATHARINE N. HANDLEY, m.s.w., Director, School of Social Work
ROGER L. MOSELEY, m.b.a., Director, Hilo Campus
Y. BARON GOTO, b.s., Director, Agricultural Extension Service
SHELLEY M. MARK, ph.d., Director, Economic Research Center‡
DANIEL M. SLATE, m.a., Acting Director, Economic Research Center (1959–60)

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

*On leave first semester 1959–60.
†Also designated as Director of the Hawaii Agricultural Experiment Station.
‡On leave 1959–60.
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

Edmondson, Charles H., Professor Emeritus of Zoology
Ph.B. 1903, M.S. 1904, Ph.D. 1906, Iowa

Eller, Willard H., Professor Emeritus of Physics
B.S. 1914, Ph.D. 1928, California; M.S. 1925, University of Washington

Henke, Louis A., Professor Emeritus of Agriculture
B.S. 1912, M.S. 1923, Wisconsin

Keller, Arthur R., Dean Emeritus, College of Applied Science
C.E. 1903, Cornell; LL.B. 1906, National University; M.S. 1916, Massachusetts Institute of Technology; M.S. in C.E. 1916, Harvard; Sc.D. (Hon.) 1942, Hawaii

Krauss, Frederick G., Professor Emeritus of Agriculture
Sc.D. (Hon.) 1921, Hawaii

Kuykendall, Ralph S., Professor Emeritus of History
B.A. 1910, College of the Pacific; M.A. 1921, California; L.H.D. 1956, Hawaii

Leebrick, Karl C., Professor Emeritus of Government
B.S. 1911, M.S. 1913, Ph.D. 1916, California

Luquisens, Huc-Mazelet, Professor Emeritus of Art
B.A. 1902, B.F.A. 1908, Yale

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
Sc.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

Wadsworth, Harold A., Dean Emeritus, College of Agriculture
B.S. 1916, California

Instruction

Abbott, Agatin T., Associate Professor of Geology
B.A. 1939, Minnesota; Ph.D. 1952, University of Washington

Abrums, Tom E., Instructor in English
B.A. 1932, M.A. 1933, Colorado

Acosta, Joseph, Assistant Professor of Education
B.A. 1954, Fresno State; M.A. 1958, University of the Philippines

Adam, Leona R., Assistant Professor of Nursing
B.S. 1944, Indiana
Adler, Jacob, *Associate Professor of Business*
B.S. 1933, Chicago; M.S. 1956, Ph.D. 1959, Columbia

Appalsa, Elaine E. (Mrs. Maximo), *Instructor in Education*
B.Ed. 1952, M.Ed. 1959, Hawaii

Ah Cook, Master Sergeant Almon L. F., *Instructor in Military Science*

Akamine, Ralph N., *Lecturer in Dental Hygiene*
D.D.S. 1946, Washington University; M.S. 1951, Illinois

Alden, Robert P., *Lecturer in Business*

Allen, Master Sergeant Oliver V., *Instructor in Military Science*

Alm, Julie N. (Mrs. Richard S.), *Instructor in Education*
B.S. 1943, M.A. 1947, Minnesota

Alm, Richard S., *Associate Professor of Education*
B.S. 1942, M.A. 1948, Ph.D. 1954, Minnesota

Amioka, Shiro, *Assistant Professor of Education*
B.Ed. 1949, M.Ed. 1952, Hawaii; Ph.D. 1959, Illinois

Anderson, Ronald S., *Carnegie Visiting Professor of Education*
B.A. 1929, M.A. 1946, Stanford; Ph.D. 1952, California (second semester 1959–60)

Ansberry, Merle, *Professor of Speech*
B.A. 1929, M.A. 1931, California; Ph.D. 1937, Wisconsin

Aoki, Mitsuo, *Assistant Professor of Religion*
B.A. 1940, Drury College; B.D. 1943, Chicago Theological Seminary

Arkoff, Abe, *Associate Professor of Psychology*
B.A. 1946, M.A. 1948, Ph.D. 1951, Iowa

Arnold, Master Sergeant Arthur K., *Instructor in Military Science*

Asato, James K., *Instructor in Health and Physical Education*
B.S. 1952, Hawaii; M.S. 1956, Illinois

Aspinwall, Dorothy B. (Mrs. Albion N.), *Professor of European Languages*
B.A. 1933, M.A. 1939, Alberta; Ph.D. 1948, University of Washington

Aten, Donald G., *Instructor in Education*
B.Ed. 1956, Hawaii; M.A. 1957, Columbia

Austin, Thomas S., *Associate Professor of Botany*
B.S. 1938, Grove City College; M.A. 1940, Buffalo; M.S. 1942, Yale

Avery, Don E., *Associate Professor of Engineering*
B.S. 1937, M.E. 1950, University of Washington

Avery, Donald M., *Lecturer in Business*
B.A. 1943, Stanford

Ayala, Anita A., *Instructor in Education*
B.A. 1930, New Mexico; M.A. 1936, National University of Mexico

Banner, Albert H., *Professor of Zoology*
B.S. 1935, Ph.D. 1943, University of Washington; M.S. 1940, Hawaii

Barnes, Master Sergeant Dwight T., *Instructor in Military Science*

Barros, Otomar J., *Assistant Professor of Sociology*
B.A., M.A. 1954, Colorado; Ph.D. 1958, Yale (on leave 1959–60)

Barrow, Mary L. (Mrs.), *Instructor in Home Economics*
B.A. 1919, Washington State

Beamer, Martha F. (Mrs. Milton D., Jr.), *Instructor in Health and Physical Education*
B.Ed. 1952, Hawaii
Becker, Robert R., *Assistant Professor of Music*
B.M. 1931, Denver; M.M. 1953, Illinois

Bell, Donald W., *Assistant Professor of Economics*
B.S. 1943, Montana State

Bellando, William P., *Lecturer in Dental Hygiene*

Bennett, Hannah L., *Assistant Professor of Education and Principal, Preschool*
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

Bernatowicz, Albert J., *Associate Professor of Botany*

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*

Bilger, Earl M., *Professor of Chemistry*
B.S. 1920, M.A. 1921, Wesleyan; ph.D. 1925, Yale (on leave 1959–60)

Bilous, Carolyn B. (Mrs. Nicholas), *Assistant Professor of Education*
B.S. 1938, Temple; M.A. 1949, Columbia

Bilsborrow, Eleanor J., *Assistant Professor of Speech*

Bitner, Harold M., *Professor of Psychology*
B.S. 1941, State Teachers College, Shippensburg, Pennsylvania; M.A. 1945, Duke; ph.D. 1951, Ohio State

Black, A. Duane, *Instructor in Speech (Hilo)*
B.S. 1954, Northwestern; M.A. 1958, Hawaii

Boatman, Elsie M. (Mrs.), *Associate Professor of Home Economics and Director of Food Service*
B.S. 1924, M.S. 1931, Iowa State

Bonk, William J., *Instructor in Anthropology and Sociology (Hilo)*
B.A. 1951, M.A. 1954, Hawaii

Boross, George, *Assistant Professor of Education*
B.Ed. 1958, Colorado State

Bouslog, Charles S., *Professor of English*
B.A. 1934, Indiana; M.A. 1948, Ph.D. 1951, Harvard (on leave second semester 1959–60)

Bowers, Neal M., *Professor of Geography*
B.S. 1938, Western Michigan College of Education; M.A. 1939, Ph.D. 1951, Michigan

Breneman, Lucille (Mrs. A. D.), *Assistant Professor of Speech*
B.A. 1935, Baylor; M.A. 1949, Hawaii

Brenneisen, Elizabeth K. (Mrs. Leo S.), *Instructor in English*
B.A. 1940, Kansas; M.A. 1950, Arizona; M.A. 1957, Hawaii (on leave second semester 1959–60)

Britten, Edward J., *Associate Professor of Agriculture*
B.S. 1940, M.S. 1941, Saskatchewan; Ph.D. 1944, Wisconsin

Brown, Dorothy S. (Mrs.), *Assistant Professor of English*
B.A. 1934, Hawaii; M.A. 1935, Stanford; Ph.D. 1956, University of Washington (on leave first semester 1959–60)
Brown, Robert E., *Instructor in Music*
B.A. 1952, M.Ed. 1958, Western Washington College of Education

Bruhn, William J., Jr., *Instructor in Health and Physical Education*
B.Ed. 1957, Hawaii

Bruyere, Lieutenant Colonel Walter R., *Associate Professor of Military Science*
B.S. 1939, Rutgers

Burkett, George L., *Instructor in European Languages*
B.A. 1941, M.A. 1950, Oklahoma; Diploma 1948, Paris

Bushnell, Oswald A., *Professor of Microbiology*
B.S. 1934, Hawaii; M.S. 1935, Ph.D. 1937, Wisconsin

Cabral, Master Sergeant Manuel P., *Instructor in Military Science*

Cabral, Master Sergeant Peter K., *Instructor in Military Science*

Campbell, Robert L., *Instructor in Education*
B.S. 1946, Illinois Institute of Technology; M.Ed. 1951, Louisiana State

Canfield, Claire, *Assistant Professor of Nursing*
B.S. 1947, Wayne; M.A. 1950, Columbia

Carlson, David S., *Assistant Professor of Economics and Business*
B.S. 1951, M.B.A. 1956, Wayne

Carpenter, Gilbert F., *Assistant Professor of Art*
B.A. 1942, Stanford

Carr, Albert B., Jr., *Assistant Professor of Education*
B.S. 1950, Iona College; M.A. 1951, Ed.D. 1958, Columbia

Carr, Elizabeth B. (Mrs.), *Associate Professor of Speech*
B.A. 1924, M.A. 1940, Oklahoma; Ph.D. 1953, Louisiana State

Carr, Norma E. (Mrs. Albert B., Jr.), *Lecturer in Spanish*
B.S. 1951, College of the City of New York; M.A. 1954, Columbia

Carter, Walter, *Professor of Entomology*
B.S. 1923, Montana; M.S. 1924, Ph.D. 1928, Minnesota

Castro, Evelyn H. (Mrs. William C.), *Instructor in English*
B.A. 1938, San Jose State College; M.A. 1948, Hawaii

Chaldecott, Dennis, *Instructor in English*
B.A. 1952, M.A. 1955, California at Los Angeles

Chang, Chia-Ling, *Assistant Professor of Education*
B.A. 1948, M.Ed. 1950, Smith College

Chang, Raymond M., *Instructor in Physics*
B.A. 1951, Hawaii; M.S. 1953, New York

Char, Evelyn L. (Mrs. Vernon), *Instructor in Nursing*
B.S. 1957, Hawaii; M.S. 1958, Boston

Charlot, Jean, *Senior Professor of Art*
D.F.A. 1946, Grinnell College; LL.D. 1956, St. Mary’s College (on leave 1959–60)

Cheng, Ch’eng-K’un, *Professor of Sociology*
B.A. 1932, Yenching; M.A. 1937, Ph.D. 1945, University of Washington

Chiu, Arthur N. L., *Associate Professor of Engineering*
B.A., B.S. 1952, Oregon State; M.S. 1953, Massachusetts Institute of Technology (on leave 1959–60)

Chou, James C. S., *Lecturer in Engineering*
B.S. 1941, National Institute of Technology (China); M.S. 1949, Georgia Institute of Technology
Chu, George W., Professor of Microbiology and Zoology
B.A. 1928, Lingnan; M.S. 1929, Yenching; Sc.D. 1934, Johns Hopkins

Chui, Edward F., Assistant Professor of Health and Physical Education
B.S. 1947, M.A. 1948, Iowa

Chun, Dai Ho, Professor of Education
B.A. 1930, M.A. 1937, Hawaii; Ph.D. 1947, Ohio State (on leave 1959–60)

Clark, Francis E., Professor of Education
B.S. 1950, 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

Clopton, Robert W., Professor of Education
B.A. 1926, Maryville College; M.Ed. 1941, Hawaii; Ph.D. 1946, Northwestern

Cobb, Estel H., Assistant Professor of Agriculture
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 (first semester 1959–60)

Comba, Paul G., Associate Professor of Mathematics
B.A. 1947, Bluffton College; Ph.D. 1951, California Institute of Technology

Congdon, Charles F., Assistant Professor of Business
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

Cook, Bruce J., Professor of Agriculture
B.S. 1936, Washington State; M.S. 1939, Hawaii; Ph.D. 1947, California

Cooksey, Virginia T. (Mrs. Lewis), Assistant Professor of Home Economics
B.S. 1934, Iowa State; M.A. 1946, Columbia

Corba, Nicholas B., Assistant Professor of Engineering Graphics
B.S. 1940, State Teachers College, California, Pennsylvania; M.Ed. 1952, Pittsburgh

Cowling, Cedric B., Assistant Professor of History
B.A. 1948, M.A. 1950, Stanford; Ph.D. 1956, Wisconsin

Cox, J. Halley, Professor of Art
B.A. 1933, San Jose State College; M.A. 1937, California

Cranche, D. Eleanor, Instructor in Nursing
B.S. 1952, Pittsburgh; M.S. 1954, Yale

Crawford, Carolyn, Assistant Professor of Education
B.A. 1933, B.A. in L.S. 1934, Michigan; M.S. 1936, Western Reserve (on leave 1959–60)

Crocker, Elizabeth P. (Mrs. F. Deal), Instructor in Education
B.A. 1931, Smith; M.A. 1933, Columbia

Cross, Edmond, Associate Professor of Education
B.S. 1932, Kentucky; M.A. 1937, Ed.D. 1954, Columbia

Crosley, 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., Associate Professor of Psychology
B.A. 1941, Drew; Ph.D. 1948, Iowa
Crymes, Ruth H., Instructor in English
B.A. 1945, M.A. 1948, Oregon

Culkin, Mary A., Instructor in Economics and Business
B.S. 1951, Arkansas; M.B.Ed. 1956, Colorado

Daniel, L. Scott, Professor of Engineering
B.S. 1946, Montana State

Davi, Richard D., Lecturer in Business
B.A. 1952, Portland

Davis, Captain Donald D., Assistant Professor of Military Science
B.S. 1951, Oregon

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

Dawe, John H., Lecturer in Dental Hygiene
D.D.S. 1915, Washington University; L.D.S. 1918, University of Saskatchewan

Day, A. Grove, Professor of English
B.A. 1926, M.A. 1943, Ph.D. 1944, Stanford

Day, Virginia M. (Mrs. A. Grove), Lecturer in Spanish
B.A. 1927, Barnard

DeButts, Dale C., Assistant Professor of Education
B.S. 1948, Iowa State

Dedolph, Richard R., Assistant Professor of Agriculture
B.S. 1953, Minnesota; M.S. 1957, Ph.D. 1958, Maryland

Derstine, Virginia, Instructor in English
B.S. 1949, Pittsburgh; M.A. 1951, Hawaii

Diamond, A. Leonard, Associate Professor of Psychology
B.A. 1947, Cincinnati; M.A. 1949, Ph.D. 1951, Columbia

Digman, John M., Associate Professor of Psychology
B.A. 1946, Ph.D. 1951, Ohio State

Dohanian, Diran K., Assistant Professor of Art

Dole, Arthur A., Associate Professor of Psychology
B.A. 1946, Antioch College; M.A. 1949, Ph.D. 1951, Ohio State

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 (on leave 1959–60)

Droste, Howard M., Instructor in Art (Hilo)
B.A. 1952, M.F.A. 1954, University of Washington

Dzida, Joseph S., Assistant Professor of Education
B.A. 1953, Fresno State; M.A. 1958, Long Beach State

Easley, John A., Assistant Professor of Science (Hilo)
B.S. 1943, Wake Forest; M.Ed. 1952, Hawaii; Ph.D. 1955, Harvard (on leave 1959–60)

Ecke, Gustav E. W., Professor of Art
Ph.D. 1922, Erlangen (on leave first semester 1959–60)

Eidson, Technical Sergeant Hugh R., Instructor in Air Science
Elbert, Samuel H., *Professor of Pacific Languages and Linguistics*
B.A. 1928, Grinnell College; B.Lit. 1931, Columbia; Ph.D. 1950, Indiana

Emory, Kenneth P., *Professor of Anthropology*
B.A. 1920, Dartmouth; M.A. 1923, Harvard; Ph.D. 1946, Yale (on leave second semester 1959–60)

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, *Professor of Drama and Theatre*
B.A. 1933, Gettysburg College; M.A. 1937, Ph.D. 1940, Cornell

Esch, Technical Sergeant Frederick H., *Instructor in Air Science*
B.S. 1950, M.S. 1952, Utah

Evans, John R., *Associate 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

Ewing, Claude H., *Professor of Education*
B.A. 1933, Chicago; M.A. 1936, Colorado State College of Education; Ph.D. 1946, Northwestern

Feirer, John L., *Visiting Professor of Education*
B.S. 1936, Stout State College; M.A. 1939, Minnesota; Ed.D. 1946, Oklahoma

Ferguson, John B., *Associate Professor of Economics and Business*

Fitzsimmons, Lorraine F. (Mrs.), *Assistant Professor of Education*
B.A. 1929, M.A. 1931, Colorado State College of Education

Fleece, Jeffrey A., *Assistant Supervisor (General Studies)*
B.A. 1941, Central College, Missouri; M.A. 1942, Vanderbilt; Ph.D. 1952, Iowa

Flynn, Helen W. (Mrs.), *Instructor in Home Economics and Assistant Food Supervisor*
B.A. 1957, Iowa

Frierson, James W., *Assistant Professor of English*
B.A. 1929, LL.B. 1933, Tulane; Ph.D. 1950, Stanford

Frohyma, Michael M., *Associate Professor of Chemistry*
B.S. 1942, Massachusetts; M.A. 1947, Columbia; M.S. 1949, Hawaii; Ph.D. 1952, George Washington

Fujitaka, Olga B., *Assistant Professor of Nursing*
B.A. 1941, Marquette; M.A. 1944, New York

Fuchsin, Roland J., *Assistant Professor of Geography*
B.A. 1954, Columbia; M.A. 1957, Ph.D. 1959, Clark

Fujiimura, Thomas H., *Associate 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

Fulton, Captain James F., Jr., *Assistant Professor of Military Science*
B.A. 1951, The Citadel
Furer, Gloria S. (Mrs. Frederick H.), Lecturer in Home Economics
B.S. 1945, Michigan State

Furukawa, Fred M., Instructor in Health and Physical Education
B.S. 1953, Hawaii

Garner, Jewell L. (Mrs. Jack W.), Instructor in Education
B.S. 1952, M.Ed. 1956, Oregon

Gay, May K., Assistant Professor of Health and Physical Education
B.A. 1923, Hawaii; M.A. 1925, Columbia

Gedan, Joseph M., Assistant Professor of Business
LL.B. 1958, DePaul University

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.S. 1930, State Teachers College, La Crosse, Wisconsin

Gilbert, James C., Associate Professor of Agriculture
B.A. 1931, Pomona; M.A. 1933, Southern California; M.S. 1952, Ph.D. 1959, Hawaii

Gillespie, Margaret C. (Mrs. Charles J.), Instructor in Education
B.Ed. 1952, M.Ed. 1957, Hawaii

Gillett, Dorothy K. (Mrs. Milton A.), Instructor in Music
B.S. 1940, Ohio State

Gillette, Erma M. (Mrs. Glenn), Assistant in Education
R.N. 1937, Thomas D. Dee Memorial Hospital School of Nursing

Gipson, E. Harriet, Instructor in English
B.A. 1934, Oberlin; M.A. 1943, Bread Loaf School of English

Glick, Clarence E., Professor of Sociology
B.A. 1927, De Pauw; M.A. 1928, Ph.D. 1938, Chicago

Glick, Doris I. (Mrs. Clarence E.), Lecturer in English
B.A. 1929, M.A. 1930, Ph.D. 1932, Iowa

Glynn, Samuel W., Lecturer in Dental Hygiene
D.D.S. 1925, California

Go, Mateo I. P., Associate Professor of Engineering
B.C.E. 1942, Ph.D. 1946, Cornell; S.M.C.E. 1943, Massachusetts Institute of Technology

Good, Captain Kenneth N., Assistant Professor of Military Science
B.S. 1952, United States Military Academy

Gordon, Morton J., Assistant Professor of Speech
B.S. 1949, M.A. 1951, Columbia; M.A. 1955, Iowa

Gosline, William A., Professor of Zoology
B.S. 1938, Harvard; Ph.D. 1941, Stanford

Goto, Shosuke, Assistant Professor of Agriculture
B.S. 1941, M.S. 1943, University of Alberta; Ph.D. 1953, Minnesota

Goto, Y. Baron, Senior Professor of Agriculture
B.S. 1924, Hawaii

Gott, Euyuen, Associate Professor of Engineering
B.S. 1938, Kwangsi University; M.A. 1945, Stanford; D.Eng. 1959, Johns Hopkins

Green, Carleton, Professor of English and University Marshal
Green, Colonel Edward C., Jr., Professor of Air Science  
Ph.B. 1928, M.F. 1932, Yale

Gregory, Christopher, Professor of Mathematics  
B.S. 1938, M.S. 1939, Ph.D. 1941, California Institute of Technology

Grinder, Robert E., Assistant Professor of Psychology  

Gross, Yukie T. (Mrs. Bertram), Assistant Professor of Nursing  

Gruelle, Katherine B. (Mrs. Laurence N.), Associate Professor of Home Economics  
B.S. 1917, Ohio State; M.A. 1925, Columbia

Gudeman, Howard E., Lecturer in Psychology  
B.A. 1950, Coe College; M.A. 1951, South Dakota; Ph.D. 1958, Kansas

Gustafson, Myrtle, Instructor in Education  
B.A. 1922, Drake; M.A. 1932, California

Gustason, Donald I., Assistant Professor of Health and Physical Education  
B.A. 1934, Whittier College; M.Ed. 1950, Hawaii; Ed.D. 1954, California at Los Angeles

Haas, Valerie S., Lecturer in Latin  
B.A. 1944, Hunter College

Haehnlen, Frederick P., Jr., Instructor in Education  
B.A. 1949, Gettysburg College; M.Ed. 1955, Western Maryland College

Hamai, Herbert T., Instructor in Health and Physical Education (Hilo)  
B.Ed. 1957, Hawaii; M.S. 1959, Illinois

Hamilton, Richard A., Professor of Agriculture  
B.S. 1937, North Dakota Agricultural College; M.S. 1940, Ohio State; Ph.D. 1953, Minnesota

Handley, Katharine N. (Mrs.), Professor of Social Work  
B.A. 1923, Pomona; M.A. 1928, Stanford; M.S.W. 1942, Southern California

Hansen, Arthur H., Instructor in Art  
B.A. 1952, University of Washington; M.F.A. 1957, Minnesota

Hardy, D. Elmo, Professor of Entomology  
B.A. 1937, Brigham Young; Ph.D. 1941, Kansas

Harloe, Bartley M., Professor of Engineering and Mathematics and Director, Advanced Management Program  
B.S. 1917, United States Military Academy; C.B. 1922, Rensselaer

Harper, Ernest B., Visiting Professor of Social Work  
B.A., M.A. 1916, Virginia; Ph.D. 1922, Chicago

Harper, Lyssa C. (Mrs. Ernest B.), Lecturer in English  
Ph.B. 1920, Chicago

Harrison, James G., Lecturer in Nursing  
B.A. 1944, M.D. 1947, Duke

Haselwood, Robert W., Associate Professor of Engineering  
B.A. 1934, Stanford; M.S. 1936, Harvard

Hawkins, Captain Paul E., Assistant Professor of Air Science  
B.S. 1951, Utah

Hayes, Eloise D. (Mrs.), Assistant Professor of Education  
B.Ed. 1939, State Teachers College, St. Cloud, Minnesota; M.A. 1951, Ph.D. 1953, North Carolina
Hazama, Dorothy O. (Mrs. Richard), Instructor in Education
B.Ed. 1952, Hawaii; M.A. 1955, New York

Heiser, Merrill P., Professor of English
B.A. 1934, M.A. 1935, Oberlin; Ph.D. 1947, Wisconsin

Hendren, Master Sergeant William K., Instructor in Air Science

Hendrickson, Albert W., Lecturer in Business
B.S. 1930, M.A. 1941, Pennsylvania

Herrick, Colin J., Professor of Psychology
B.A. 1924, Haverford College; M.A. 1934, Ph.D. 1939, Pennsylvania

Hervey, Wesley D., Assistant Professor of Speech
B.A. 1949, California; M.A. 1951, Hawaii

Hiatt, Robert W., Senior Professor of Zoology
B.A. 1936, San Jose State College; Ph.D. 1941, California

Hines, Colonel John R., Professor of Military Science
B.S. 1937, United States Military Academy

Hirschy, Ira D., Lecturer in Nursing
B.S. 1927, Jamestown College; M.A. 1929, M.D. 1933, M.P.H. 1942, Michigan

Hiscock, Ira V., Carnegie Visiting Professor of Public Health
B.A. 1914, M.A. 1916, Sc.D. (Hon.) 1939, Wesleyan; M.P.H. 1921, M.A. (Hon.) 1931, Yale
(second semester 1959–60)

Hiu, Dawes N., Assistant Professor of Chemistry
B.A. 1950, Southern California; Ph.D. 1959, Hawaii

Holmes, Wilfred J., Senior Professor of Engineering and Mathematics
B.S. 1922, United States Naval Academy; M.S. 1929, Columbia

Hoofman, Earvel S., Assistant Professor of Education
B.E. 1957, Colorado Agricultural and Mechanical College; M.E. 1958, Colorado State

Horan, Claude F., Professor of Art
B.A. 1942, San Jose State College; M.A. 1946, Ohio State (on leave second semester 1959–60)

Hormann, Bernhard L., Professor of Sociology
B.A. 1927, M.A. 1931, Hawaii; Ph.D. 1949, Chicago

Hoshor, John P., Associate Professor of Speech
B.A. 1938, M.A. 1940, University of Washington; Ph.D. 1947, Iowa

Hsiao, Sidney C., Professor of Zoology
B.A. 1928, Shanghai; M.A. 1933, Yenching; Ph.D. 1938, Harvard

Hunter, Charles H., Professor of History
B.A. 1927, M.A. 1928, Ph.D. 1935, Stanford

Huntsberry, William E., Assistant Professor of English
B.A. 1942, Michigan State Normal College; M.A. 1949, Hawaii

Ige, Thomas H., Professor of Economics and Business and Director, Asian Studies Program
B.A. 1940, Hawaii; M.A. 1942, Ph.D. 1950, Wisconsin

Ihara, Teruo, Assistant Professor of Education
B.S. 1941, 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
B.A. 1936, Women's Christian College of Japan; Ph.D. 1956, Indiana

Imanaka, Yasuko, Instructor in Nursing
B.S. 1957, Hawaii; M.A. 1959, Columbia

In, Andrew W. S., Associate Professor of Education and Principal, High School
B.Ed. 1941, Hawaii; M.A. 1949, Ph.D. 1951, New York

Inada, Kenneth K., Instructor in Philosophy
B.A. 1949, Hawaii; M.A. 1951, Chicago; Ph.D. 1960, Tokyo

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

Inouye, Margaret A. (Mrs. Daniel K.), Instructor in Education
B.Ed. 1946, Hawaii; M.A. 1947, Columbia (on leave 1959-60)

Ito, Isao, Lecturer in Business
B.A. 1950, Hawaii; LL.B. 1953, Michigan

Ives, Major Robert N., Assistant Professor of Military Science
B.S. 1945, United States Military Academy

Iwanaga, Isaac I., Instructor in Agriculture
B.S. 1928, Hawaii

Jackson, Ernest A., Assistant Professor of European Languages
B.A. 1948, Boston; M.A. 1951, Yale

Jackson, Lowell D., Associate Professor of Education

Jambor, Harold A., Professor of Social Work
B.A. 1935, Reed College; M.A. 1939, Chicago

Jay, Robert R., Assistant Professor of Anthropology
B.A. 1949, M.A. 1953, Ph.D. 1957, Harvard

Jenkins, Esther C. (Mrs.), Assistant Professor of Education
B.A. 1931, Alderson-Broaddus 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., Assistant Professor of European Languages
B.A. 1926, M.A. 1927, Wisconsin

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

Johnston, Richard D., Associate Professor of Mechanical Engineering
B.S. 1940, California; M.S. 1954, California at Los Angeles

Jones, Virginia A., Professor of Nursing
R.N. 1920, Reid Memorial Hospital School of Nursing; B.S. 1933, Indiana; M.Ed. 1944, Hawaii

Kagawa, Grace O. (Mrs. Nelson), Lecturer in Medical Technology
B.A. 1941, Kansas
Kahananui, Dorothy M. (Mrs.), Assistant Professor of Music
B.S. 1931, New York; M.Ed. 1936, Hawaii

Kaina, Lorraine M., Instructor in Education
B.S. 1951, Hawaii

Kamemoto, Haruyuki, Professor of Agriculture
B.S. 1944, M.S. 1947, Hawaii; Ph.D. 1950, Cornell

Kamins, Robert M., Professor of Economics
B.A. 1940, M.A. 1948, Ph.D. 1950, Chicago (on leave 1959–60)

Kanemitsu, Daniel Y., Instructor in English (Hilo)
B.A. 1948, Hawaii; M.A. 1952, Columbia

Kara, E. Alison, Assistant Professor of Science
B.A. 1950, M.A. 1956, Mills College; B.A. 1952, Cambridge; Ph.D. 1957, Hawaii

Keeler, Joseph T., Assistant Professor of Agriculture
B.S. 1951, California; M.S. 1953, Illinois

Kerr, Marian, Assistant Professor of Music
B.M. 1929, M.M. 1944, Oberlin

Kim, Alice, Instructor in Nursing
B.S. 1954, M.S. 1958, California

Kimura, Sueko M. (Mrs. Keichi), Assistant Professor of Art
B.A. 1936, M.F.A. 1959, Hawaii (on leave first semester 1959–60)

Kinch, Donald M., Professor of Agriculture
B.S. 1938, Nebraska; M.S. 1940, Minnesota; Ph.D. 1953, Michigan State

Kingrey, Kenneth G., Associate Professor of Art
B.Ed. 1940, M.A. 1942, California at Los Angeles

Kirkpatrick, Arthur L., Assistant Professor of Economics

Klopf, Donald W., Assistant 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

Koga, Yoshi H. (Mrs. Kenneth K.), Instructor in Dental Hygiene
B.Ed. 1951, Hawaii; M.A. 1953, Columbia

Kohloss, Frederick H., Lecturer in Engineering
B.S. 1943, Maryland; LL.B. 1949, George Washington; M.M.E. 1951, Delaware

Korn, Alfonso L., Professor of English
B.A. 1927, Oregon; B.A. 1930, Oxford; M.A. 1937, California

Kosaki, Richard H., Assistant Professor of Government
B.A. 1949, Hawaii; M.A. 1952, Ph.D. 1956, Minnesota (on leave 1959–60)

Koshi, James H., Associate Professor of Agriculture
B.S. 1948, Colorado State; Ph.D. 1955, Minnesota

Kramer, Charlotte E. (Mrs. John, Jr.), Assistant Professor of Education

Krauss, Irving, Assistant Professor of Sociology
B.A. 1950, California; M.A. 1955, Chicago
Kudar, John C., Associate Professor of Physics  
Ph.D. 1925, University of Szeged (Hungary)

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

Lachman, Roy, Assistant Professor of Psychology (Hilo)  
B.S. 1955, Brooklyn College; Ph.D. 1960, New York

Lamoureux, Charles H., Assistant Professor of Botany  
B.S. 1953, Rhode Island; M.S. 1955, Hawaii; Ph.D. 1959, California

Lampard, William D., Associate Professor of Education  

Landstreet, J. Collins, Lecturer in Engineering  
B.S. 1924, United States Naval Academy

Lane, Irwin E., Instructor in Botany  
B.S. 1948, Cornell; M.S. 1950, Hawaii

Langhans, Edward A., Assistant Professor of Drama  
B.A. 1948, M.A. 1949, Rochester; M.A. 1951, Hawaii; Ph.D. 1955, Yale

Lantz, Priscilla, Assistant Professor of Education  
B.S. 1928, M.A. 1937, Boston; B.S. 1947, Columbia

Larm, Edwin, Instructor in Education  
B.Ed. 1950, Hawaii; M.A. 1956, Columbia

Larson, Harold O., Assistant Professor of Chemistry  
B.S. 1943, Wisconsin; M.S. 1947, Purdue; Ph.D. 1950, Harvard

Larson, Valentine K. (Mrs.), Assistant Professor of Speech  
B.A. 1935, Fresno State College; M.A. 1942, Southern California

Lau, Kenneth K., Professor of Business  
B.A. 1938, Hawaii; J.D. 1941, Michigan; LL.M. 1951, Harvard

Lau, Leung-Ku S., Assistant Professor of Engineering  
B.S. 1953, M.S. 1955, Ph.D. 1959, California

Lavy, William F., Instructor in Spanish and Music (Hilo)  
B.M. 1928, M.M. 1929, Arrillaga Musical College

Lee, Bessie B. S., Instructor in Business  
B.B.A. 1955, Hawaii

Lee, Samuel S. O., Instructor in Economics and Business  
B.B.A. 1952, M.B.A. 1959, Hawaii

Lee, T. Samuel, Lecturer in Korean  
B.A. 1940, Parsons College; B.D. 1943, Louisville Presbyterian Seminary

Lefforge, Orland S., Associate Professor of Speech  
B.A. 1936, Manchester College; M.A. 1940, Ph.D. 1953, Wisconsin

Leib, Amos P., Assistant Professor of English  
B.S. 1938, Haverford College; M.A. 1947, Hawaii

Leib, Edna L. (Mrs. Amos P.), Assistant Professor of Education  
B.A. 1936, Meredith College; M.A. 1940, Iowa

Leong, Cynthia F. (Mrs. Wallace T.), Instructor in Mathematics  
B.A. 1950, Hawaii
Leong, Yau Sing, Professor of Economics  
B.A. 1924, Hawaii; M.A. 1925, Ph.D. 1933, Columbia

Levine, Max, Research Associate in Microbiology  
B.S. 1912, Massachusetts Institute of Technology; Ph.D. 1922, Iowa

Lewis, Helen M. (Mrs.), Instructor in Speech  
B.A. 1926, Stanford; M.A. 1949, Hawaii

Lin, Ronald, Instructor in Speech  
B.A. 1953, Hawaii

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. 1955, Hawaii

Livesay, Thayne M., Senior Professor of Psychology and Editor, University Catalogue  
B.A. 1917, Pacific University; M.A. 1921, Ph.D. 1931, University of Washington

Louis, Edith L. (Mrs. James L.), Instructor in Education  
B.A. 1931, M.Ed. 1940, Hawaii

Lowers, James K., Associate Professor of English  
B.A. 1935, M.A. 1937, Ph.D. 1950, California at Los Angeles

Luke, Kan Jung, Lecturer in Business  

Lum, Lillian A. (Mrs. Hung C.), Instructor in Education  
B.A. 1935, Hawaii

Lum, Walter B. S., Lecturer in Civil Engineering  
B.S. in C.E. 1945, Purdue

Luomala, Katharine, Professor of Anthropology  
B.A. 1931, M.A. 1933, Ph.D. 1936, California (on leave second semester 1959–60)

Lynd, Frederick T., Lecturer in Agriculture  
B.S. 1947, Washington State; D.V.M. 1953, Oklahoma State; M.S. 1959, Texas Agricultural and Mechanical College (first semester 1959–60)

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

Majoska, Alvin V., Lecturer in Dental Hygiene  
B.S. 1936, Rutgers; M.D. 1940, Pennsylvania

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, Thelma T. (Mrs. Arthur F.), Instructor in Education  
B.Ed. 1943, Hawaii; M.A. 1951, Columbia

Marder, Arthur J., Senior Professor of History  

Margulies, Herbert F., Assistant Professor of History  
B.A. 1940, Reed College; M.A. 1951, Ph.D. 1955, Wisconsin

Mark, Shelley M., Associate Professor of Economics  
B.A. 1943, Ph.D. 1956, University of Washington; M.S. 1944, Columbia (on leave 1959–60)
Martin, Robert M., Associate 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

Matsuda, Fujio, Associate Professor of Civil Engineering
B.S. 1949, Rose Polytechnic Institute; Sc.D. 1952, Massachusetts Institute of Technology

Matsui, Helen Y., Instructor in Education
B.Ed. 1952, Hawaii; M.A. 1958, Columbia (on leave 1959-60)

Matsumoto, Joyce A., Junior Researcher in Economics and Business

Matthews, Donald C., Professor of Zoology
B.A. 1931, Ph.D. 1935, Wisconsin

Maxwell, Stanley L., Assistant Professor of Education
B.S. 1950, Healds Engineering College

McAllister, Howard C., Assistant Professor of Physics
B.S. 1948, M.S. 1950, Wyoming; Ph.D. 1959, Colorado

McCabe, Sumie F. (Mrs. Thomas J.), Instructor in Speech
B.Ed. 1942, Hawaii

McCarthy, Harold E., Professor of Philosophy
B.A. 1937, M.A. 1942, Ph.D. 1947, California

McCaskill, Major John C., Assistant Professor of Military Science
B.A. 1933, Presbyterian College

McClain, First Lieutenant John D., Jr., Assistant Professor of Air Science
B.A. 1955, Emory

McElrath, Miles K., Jr., Assistant Professor of Japanese
B.A. 1951, California; M.A. 1953, Yale; M.A. 1955, Michigan

McGowan, M. Leone, Instructor in Education
B.E. 1940, Northern Illinois State University; M.A. 1952, Northwestern

McGuire, Donald C., Associate Professor of Agriculture
B.S. 1947, University of Washington; Ph.D. 1950, California

McIntosh, Thelma A. (Mrs. Edward L.), Assistant Professor of Education

McLaren, Kazue (Mrs. Dallas), Supervisor in Nursing
B.S. 1951, Hawaii; M.P.H. 1958, California

McVay, Harue O. (Mrs. Wade H., Jr.), Instructor in Art
B.A. 1950, Hawaii; M.A. 1951, Ohio State

Meller, Norman, Professor of Government
LL.B. 1936, B.A. 1942, California; M.A. 1951, Ph.D. 1955, Chicago

Merritt, Fred C., Associate Professor of Social Work
B.A. 1941, Montana; M.S.W. 1949, Denver

Metzger, Paul H., Instructor in Physics
B.S. 1954, Southern Methodist; M.S. 1958, Massachusetts Institute of Technology

Meyer, George A., Associate Professor of Education
B.S. 1926, Washington State; M.A. 1948, Ph.D. 1950, University of Washington

Miller, Virginia N. (Mrs. Kleber R.), Instructor in English
B.A. 1934, San Diego State College; M.S.S.A. 1938, Western Reserve
Mink, Patsy T. (Mrs. John F.), *Lecturer in Business*
B.A. 1948, Hawaii; J.D. 1951, Chicago

Mitsuda, Tetsuichi, *Associate Professor of Engineering*
B.S. 1949, Rose Polytechnic Institute; M.S. 1952, Illinois

Miyake, Iwao, *Professor of Physics*
B.S. 1926, M.S. 1929, Hawaii

Miyake, James S., *Assistant Professor of Sociology*
B.S. 1949, M.A. 1950, Springfield College (on leave 1959–60)

Mizuno, Amy H. (Mrs. Henry H.), *Instructor in Education*
B.S. 1945, Utah; M.A. 1949, Columbia

Moberly, Ralph M., Jr., *Assistant Professor of Geology*
B.A. 1950, Ph.D. 1956, Princeton

Mollett, John A., *Assistant Professor of Agriculture*
B.S. 1945, M.S. 1949, University of Reading (England); Ph.D. 1957, California

Moomaw, James C., *Assistant Professor of Agriculture*
B.A. 1949, Carleton College; M.S. 1951, Idaho; Ph.D. 1957, Washington State

Moore, Anneliese W. (Mrs. Paul R.), *Instructor in French*
B.A. 1958, Hawaii

Moore, Charles A., *Senior Professor of Philosophy*
B.A. 1926, Ph.D. 1932, Yale

Morgan, Captain Rhonel E., *Assistant Professor of Air Science*
B.S. 1948, United States Military Academy

Mortensen, James K. P., *Instructor in English*
B.A. 1957, M.A. 1959, Minnesota

Moseley, Roger L., *Assistant Professor of Economics and Business (Hilo)*
B.A. 1951, University of Washington; M.B.A. 1953, Harvard

Mueller, Bertha, *Professor of European Languages*
B.A. 1926, Northwestern; M.A. 1929, Ph.D. 1935, Wisconsin (on leave second semester 1959–60)

Mun, Orville K. K., *Lecturer in Education*
B.A. 1951, M.A. 1952, Colorado State College of Education

Mundy, Millard C., *Instructor in Music*
B.M. 1943, College of the Pacific

Murai, Mary M., *Assistant Professor of Home Economics*
B.A. 1934, M.S. 1950, California (on leave 1959–60)

Murakami, Dorothy K., *Instructor in Home Economics and Assistant Food Supervisor*
B.S. 1951, Hawaii

Murphy, Thomas D., *Professor of History*
B.A. 1933, M.A. 1934, Wesleyan; Ph.D. 1939, Yale

Myers, Ramon H., *Assistant Professor of Economics and Business*
B.A. 1954, M.A. 1956, Ph.D. 1959, University of Washington

Nagley, Winfield E., *Associate 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*
B.A. 1936, M.A. 1938, Montclair State College

Najita, Kazutoshi, *Instructor in 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 (on leave second semester 1959–60)

Nakamura, Irene H. (Mrs. Takeshi), Instructor in Education
B.Ed. 1943, Hawaii

Nakamura, Rose S. (Mrs. Paul), Instructor in Health and Physical Education (Hilo)
B.S. 1950, Hawaii

Nakasone, Henry Y., Assistant Professor of Agriculture
B.A. 1943, M.S. 1952, Hawaii

Namba, Ryoji, Associate Professor of Entomology
B.S. 1948, M.S. 1950, Michigan State; Ph.D. 1953, Minnesota

Naughton, John J., Professor of Chemistry
B.S. 1942, M.S. 1947, Oregon; Ed.D. 1952, University of Washington

Newcomer, Lloyd R., Assistant Professor of Speech
B.A. 1935, Wyoming; M.A. 1941, Southern California (on leave first semester 1959–60)

Newton, Olive C. (Mrs. George S.), Instructor in English
B.A. 1931, Adrian College; M.A. 1942, Ohio State

Nightingale, Gladys G. (Mrs. Gordon T.), Assistant Professor of Education
B.S. 1941, M.S. 1943, California

Norris, Ben, Professor of Art
B.A. 1931, Pomona

O’Brien, Ethel M., Assistant Professor of Health and Physical Education
B.A. 1937, California; M.Ed. 1950, Hawaii; Ed.D. 1958, Oregon

O’Hagan, Virginia R. (Mrs.), Instructor in Education
B.A. 1940, California

Okino, Leila L., Instructor in Speech (Hilo)
B.A. 1936, Hawaii

Onouye, Jane T., Instructor in Education
B.Ed. 1951, Hawaii

Orgill, Montie M., Assistant Professor of Meteorology
B.S. 1951, Brigham Young; M.S. 1957, Utah

Orr, A. Dwight, Lecturer in Business

Otagaki, Kenneth K., Associate Professor of Agriculture
B.S. 1940, Hawaii; M.S. 1946, Iowa State; Ph.D. 1954, California

Otomo, Aiko, Instructor in Education
B.Ed. 1947, Hawaii; M.A. 1956, New York

Ouchi, Shizuko (Mrs. Sugao), Instructor in Education
B.A. 1934, Hawaii

Ozaki, Flora T. (Mrs. Tetsuo), Instructor in Nursing
B.S. 1948, Hawaii; M.A. 1954, Columbia

Palafox, Anastacio L., Assistant Professor of Agriculture
B.S. 1940, M.S. 1941, Washington State

Pang, Morris S. Y., Instructor in Education
B.Ed. 1950, Hawaii (on leave 1959–60)
Pang, Violet F. (Mrs. Richard C.), Instructor in Education  
B.Ed. 1934, Hawaii

Partridge, Ralph E., Jr., Associate Professor of Engineering  
B.S. 1950, Worcester Polytechnic Institute; M.E. 1951, Ph.D. 1955, Yale

Pavlantos, Ruth A. (Mrs. Spyro G.), Assistant Professor of Classics  
B.A. 1944, College of Wooster; M.A. 1947, Ph.D. 1951, Cincinnati (on leave 1959–60)

Pendleton, Edwin C., Associate Professor of Economics and Business  
B.S. 1932, M.S. 1934, Ph.D. 1950, California

Perkins, Captain Daniel C., Assistant Professor of Air Science  
B.S. 1952, Texas Agricultural and Mechanical College; M.S. 1954, Trinity University

Philipp, Perry F., Professor of Agriculture  
B.S. 1940, Ph.D. 1951, California

Phipps, Katharine E. (Mrs.), Instructor in Speech  
B.A. 1925, M.A. 1953, Washington State

Pierson, Kathleen W. (Mrs. Roger J.), Assistant Professor of Business  
B.A. 1934, California at Los Angeles; M.A. 1948, Hawaii

Piianaia, Abraham, Lecturer in Geography and Economics  
B.A. 1953, Hawaii

Poling, Staff Sergeant Richard B., Instructor in Air Science

Poole, Charles F., Lecturer in Agriculture  
B.S. 1920, M.S. 1926, Hawaii; Ph.D. 1930, California (second semester 1959–60)

Porter, M. Roseamonde, Professor of Education  
B.S. 1930, M.A. 1934, Ph.D. 1938, Ohio State

Prescott, Stanley L., Lecturer in Business  
B.S. 1922, M.S. 1923, Utah State; Ph.D. 1936, Santo Tomas

Putman, Edison W., Associate Professor of Botany  
B.A. 1942, Ph.D. 1952, California

Ramage, Colin S., Professor of Meteorology  
B.S. 1940, Victoria University College, New Zealand

Rathburn, Ione J., Assistant Professor of Health and Physical Education  
B.ed. 1948, Hawaii; M.P.H. 1949, Minnesota

Reddin, Mary E., Assistant Professor of Education  
B.A. 1939, National College of Education; M.A. 1943, Northwestern

Reed, Helen C., Instructor in Education  
B.ed. 1951, National College of Education; M.A. 1947, Columbia

Reichert, Susan L., Instructor in Nursing  
B.A. 1953, Stanford; M.N. 1957, Western Reserve

Rian, Norman D., Professor of Music  
B.A. 1935, St. Olaf College; M.A. 1939, Eastman School of Music (on leave 1959–60)

Riffenburgh, Robert H., Assistant Professor of Mathematics  
B.S. 1951, M.S. 1953, William and Mary; Ph.D. 1957, Virginia Polytechnic Institute

Ringer, Joan L., Instructor in Home Economics and Assistant Food Supervisor  
B.A. 1935, Indiana

Roberts, Harold S., Senior Professor of Business and Economics  
B.S.S. 1934, College of the City of New York; M.A. 1938, Ph.D. 1944, Columbia (on leave 1959–60)
Robinson, Hester A., Professor of Art  
B.A. 1931, Miami University; M.A. 1939, Ohio State  
Rogan, Major Clyde H., Associate Professor of Air Science  
B.S. 1929, Springfield College; M.A. 1933, Ph.D. 1942, Missouri  
Rosenberg, Morton M., Professor of Agriculture  
B.S. 1938, Rutgers; M.S. 1940, Texas Agricultural and Mechanical College; Ph.D. 1948, Wisconsin (on leave May–September 1960)  
Ross, Ernest, Assistant Professor of Agriculture  
B.S. 1946, Arizona; M.S. 1952, Ph.D. 1953, Ohio State  
Roth, Maybelle F. (Mrs.), Assistant Professor of European Languages  
B.S. 1921, Oregon State; B.A. 1933, California; M.Ed. 1936, Hawaii  
Saake, Alvin C., Associate Professor of Health and Physical Education  
Saclausa, John P., Instructor in Music  
B.Ed. 1953, Hawaii; M.M. 1957, Eastman School of Music  
Saigo, Yoshito, Lecturer in Japanese (Hilo)  
B.A. 1931, Hawaii  
St. Denis, Naomi K. (Mrs.), Instructor in Education  
B.A. 1932, Iowa (on leave 1959–60)  
Sakai, Hester K., Assistant Supervisor (General Studies)  
B.B.A. 1953, M.B.A. 1954, Hawaii  
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  
Sanner, Richard L., Instructor in Education  
B.S. 1949, Iowa State; M.A. 1953, Iowa  
Sato, Jessie J. (Mrs. Shigeji), Instructor in Education and in Home Economics  
B.S. 1944, Hawaii; M.A. 1950, Columbia  
Saunders, Allan F., Professor of Government  
B.A. 1918, Amherst; M.A. 1920, Ph.D. 1927, Wisconsin  
Sax, Gilbert, Assistant Professor of Education  
B.A. 1953, M.A. 1956, California at Los Angeles; Ph.D. 1958, Southern California  
Scanlan, Ross, Professor of Speech  
B.A. 1925, Ph.D. 1957, Cornell; M.A. 1927, Pittsburgh  
Scheuer, Paul J., Associate Professor of Chemistry  
B.S. 1943, Northeastern University; M.A. 1947, Ph.D. 1950, Harvard  
Schmidt, Amelia L., Instructor in Nursing  
B.A. 1949, Bluffton College; M.S. 1952, Western Reserve  
Schuman, Robert C., Instructor in Education  
B.F.A. 1950, Pratt Institute; M.Ed. 1959, Hawaii  
Scott, Frank S., Professor of Agriculture  
B.S. 1943, Oregon State; M.A. 1947, Missouri; Ph.D. 1953, Illinois  
Scott, Kathleen S. (Mrs. Robert L.), Instructor in Speech  
B.A. 1949, Willamette; M.A. 1953, Hawaii  
Scott, Robert L., Assistant Professor of English  
B.S. 1950, Willamette; M.A. 1953, Hawaii
Sereno, Kenneth K., Instructor in Speech
B.A. 1956, M.A. 1959, Hawaii

Sherman, Benjamin A., Lecturer in Dental Hygiene
B.S. 1942, California; D.D.S. 1950, Southern California

Sherman, G. Donald, Senior Professor of Agriculture
B.S. 1933, M.S. 1937, Minnesota; Ph.D. 1940, Michigan State

Sherman, Martin, Professor of Entomology
B.S. 1941, M.S. 1942, Rutgers; Ph.D. 1948, Cornell

Shim, Alvin T., Lecturer in Economics
B.A. 1949, Hawaii; LL.B. 1953, George Washington

Shinoda, Minoru, Assistant Professor of History
B.A. 1937, Hawaii; Ph.D. 1957, Columbia

Shoji, Kobe, Associate Professor of Botany
B.A. 1947, Pomona; Ph.D. 1950, California at Los Angeles

Shorb, William H., Instructor in Education
B.S. 1948, Ohio State; M.A. 1953, Columbia

Sidwell, Dorothy M., Assistant Professor of Home Economics
B.S. 1951, Ohio State; M.S. 1953, California

Sinclair, Marjorie P. (Mrs. Gregg M.), Instructor in English
B.A. 1935, M.A. 1937, Mills College

Singer, Elisabeth B. (Mrs. Allen O.), Instructor in European Languages
B.A. 1953, Hawaii

Siu, James K. M., Instructor in Mathematics
B.A. 1953, M.A. 1956, Hawaii

Slate, Daniel M., Assistant Professor of Economics and Business
B.S. 1952, M.A. 1956, University of Washington

Smith, Alpheus W., Lecturer in Business
B.A. 1919, Cornell; Ph.D. 1927, Harvard (second semester 1959–60)

Smith, Barbara B., Associate Professor of Music
B.A. 1942, Pomona; M.M. 1943, Eastman School of Music

Smith, Elsie R. (Mrs. W. Wayne), Assistant Professor of Nursing
B.S. 1940, M.S. 1942, Idaho

Smith, James R., Jr., Instructor in Education
B.A. 1957, M.A. 1959, Wyoming

Smith, Jimmie B., Assistant Professor of Botany
B.S. 1950, Oklahoma State; M.S. 1952, North Carolina College of Agriculture and Engineering; Ph.D. 1959, Cornell

Smith, Joseph F., Professor of Speech
B.A. 1918, Utah; M.A. 1926, Illinois (on exchange 1959–60)

Snow, Isabel L., Instructor in Education
B.A. 1922, Wellesley; M.A. 1927, Columbia

Snyder, Laurence H., Senior Professor of Zoology
B.S. 1922, Sc.D. (Hon.) 1926, Rutgers; M.S. 1924, Sc.D. 1926, Harvard

Southwood, Billy G., Lecturer in Education
B.S. 1957, M.A. 1958, Indiana State Teachers College

Spellacy, Edmund F., Professor of Government
B.A. 1927, M.A. 1931, Stanford; Ph.D. 1935, Harvard
Spiller, John H., Assistant Professor of Mathematics
B.S. 1925, United States Naval Academy; M.S. 1933, Massachusetts Institute of Technology

Spoehr, Alexander, Research Associate in Anthropology
B.A. 1934, Ph.D. 1940, Chicago

Stalker, John N., Associate Professor of History and Director, Overseas Operations Program
B.A. 1943, College of Wooster; M.A. 1948, Ph.D. 1950, Wisconsin

Stasack, Edward A., Instructor in Art

Stauffer, Robert B., Associate Professor of Government
B.S. 1942, State Teachers College, West Chester, Pennsylvania; M.A. 1947, Oklahoma; Ph.D. 1954, Minnesota

Steed, Louis M., Instructor in Speech
B.A. 1950, M.A. 1954, Hawaii

Steiger, Walter R., Associate Professor of Physics
B.S. 1948, Massachusetts Institute of Technology; M.S. 1950, Hawaii; Ph.D. 1953, Cincinnati (on leave 1959-60)

Stellmacher, Herbert B., Assistant Professor of Economics
B.A. 1935, Texas; M.B.A. 1952, Southern Methodist

Stempel, Daniel, Associate Professor of English
B.A. 1941, College of the City of New York; M.A. 1942, Ph.D. 1949, Harvard

Stroven, Carl G., Senior Professor of English
B.A. 1926, M.A. 1928, Stanford; Ph.D. 1939, Duke

Stubblefield, Esther M. (Mrs. Charles H.), Coordinator of Public Health Education
R.N. 1934, Oregon; B.S. 1955, Hawaii

Stueber, Ralph K., Assistant Professor of Education
B.S. 1950, M.S. 1955, Wisconsin

Sueoka, Toshiko I. (Mrs. George H.), Assistant Professor of Education
B.Ed. 1943, M.Ed. 1948, Hawaii (on leave second semester 1959-60)

Summersgill, Travis L., Associate Professor of English
B.A. 1939, Bucknell; M.A. 1940, Ph.D. 1948, Harvard

Tamashiro, Minoru, Assistant Professor of Entomology
B.S. 1951, M.S. 1954, Hawaii

Tanaka, Tokushi, Instructor in Agriculture
B.S. 1948, M.S. 1953, Hawaii

Tatsuoka, Maurice M., Assistant Professor of Science and Mathematics (Hilo)
B.S. 1945, Nagoya University; M.A. 1951, George Peabody College for Teachers; Ed.D. 1956, Harvard

Teevan, T. Foster, Assistant Professor of English
B.A. 1936, College of Puget Sound; M.A. 1949, Ph.D. 1957, University of Washington

Tester, Albert L., Senior Professor of Zoology
B.A. 1931, M.A. 1932, Ph.D. 1936, Toronto

Theuma, Jean R., Lecturer in French

Threlkeld, Garland M., Instructor in Education
B.S. 1954, North Texas State College

Thrombley, Woodworth G., Assistant Professor of Government
B.A. 1951, M.A. 1952, Ph.D. 1959, Indiana
Tilden, Irvin L., Director, Medical Technology Program
B.S. 1932, M.D. 1935, Nebraska

Tinker, Spencer W., Assistant Professor of Education
B.S. 1931, University of Washington; M.S. 1934, Hawaii

Tinniswood, William W., Professor of Engineering
B.S. 1938, California; M.S. 1948, Idaho

Tom, Chow Loy, Instructor in 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

Topham, Helen A., Instructor in English
B.A. 1935, Rutgers; M.A. 1950, M.F.A. 1956, Hawaii

Townes, Stanmore B., Professor of Mathematics
B.A. 1921, M.A. 1923, Oklahoma; Ph.D. 1930, Chicago

Townsley, Sidney J., Assistant Professor of Marine Zoology
B.A. 1948, California; M.S. 1950, Hawaii; Ph.D. 1954, Yale

Toyoda, Winifred K. (Mrs. Ralph H.), Instructor in Education
B.Ed. 1946, Hawaii; M.A. 1950, New York

Trapido, Joel, Professor of Drama and Theatre
B.A. 1935, Ph.D. 1942, Cornell; M.A. 1936, New York

Traut, Gladys M., Assistant Professor of Education and Principal, Elementary School
B.A. 1927, Michigan; M.A. 1929, Hawaii

Troxel, Captain Edwin N., Assistant Professor of Air Science
B.A. 1953, Oregon

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

Turnbull, Murray, Professor of Art
B.F.A. 1941, Nebraska; M.A. 1949, Denver

Tuthill, Leonard D., Professor of Entomology
B.A. 1929, M.A. 1930, Kansas; Ph.D. 1941, Iowa State

Tuttle, Daniel W., Assistant Professor of Government
B.A. 1945, Illinois College; M.A. 1946, Minnesota

Uchima, Floyd Y., Instructor in Music
B.Ed. 1950, Hawaii; M.Mus.Ed. 1951, Northwestern

Uehara, Betty K., Instructor in Education
B.Ed. 1947, Hawaii; M.A. 1958, New York

Umbel, Oma, Associate Professor of Home Economics
B.S. 1932, West Virginia; M.S. 1933, New York

Uyehara, Yukuo, Professor of Japanese
B.A. 1931, M.A. 1936, Hawaii

Vanderslice, Ralph L., Instructor in Speech
B.A. 1951, M.A. 1955, Michigan State

van der Veur, Paul W. J., Associate Professor of Government
B.A. 1949, Swarthmore; M.A. 1951, Minnesota; Ph.D. 1954, Cornell (on leave first semester 1959-60)
van Weel, Pieter B., *Professor of Zoology*
Ph.D. 1937, State University of Utrecht

van't Woudt, Bessel D., *Assistant Professor of Agriculture*
B.S. 1948, M.S. 1949, Victoria University College, New Zealand; Ph.D. 1952, Massey Agricultural College, New Zealand

Vasconcellos, Henry B., *Assistant Professor of Health and Physical Education*
B.A. 1941, M.A. 1959, San Jose State College

Vaught, Kathryn K. (Mrs. Raymond), *Lecturer in Music*
B.S. 1935, Idaho; M.A. 1938, North Carolina

Vaught, Raymond, *Associate Professor of Music*
B.A. 1938, M.A. 1940, Idaho; M.M. 1946, Eastman School of Music; Ph.D. 1959, Stanford

Veal, Sergeant James F., *Instructor in Military Science*

Vinacke, W. Edgar, *Professor of Psychology*
B.A. 1939, Cincinnati; Ph.D. 1942, Columbia (on leave second semester 1959-60)

Vine, Richard W., *Professor of Music*
B.M. 1936, St. Olaf College; M.M. 1938, MacPhail College of Music

Voss, Harwin L., *Instructor in Sociology*
B.A. 1954, North Central College; M.S. 1956, Wisconsin

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

Walsh, Winifred A., *Associate Professor of Social Work*
B.A. 1936, Nevada; M.A. 1943, Chicago (on leave 1959-60)

Wang, Jaw-Kai, *Assistant Professor of Agriculture*
B.S. 1953, National Taiwan University; M.S. 1956, Ph.D. 1958, Michigan State

Warsh, Louis P., *Assistant Professor of History and Government (Hilo)*
B.A. 1947, California (Santa Barbara); M.A. 1950, California

Watanabe, Kenichi, *Professor of Physics*
B.S. 1936, Ph.D. 1940, California Institute of Technology

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. 1943, Ph.D. 1949, University of Glasgow

Wayman, Oliver, *Professor of Agriculture*
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

Wentworth, Juliette (Mrs. Chester K.), *Lecturer in Geography (Hilo)*
B.A. 1928, Hawaii; M.S. 1931, Washington

White, Bruce E., *Senior Professor of Education*
B.A. 1923, Willamette; M.A. 1932, Ph.D. 1935, University of Washington (on leave first semester 1959-60)

White, Grace F. (Mrs. Bruce E.), *Instructor in Mathematics*
B.A. 1923, Willamette (on leave first semester 1959-60)
White, John A., Professor of History  
B.A. 1933, California; M.A. 1940, Columbia; Ph.D. 1947, Stanford

White, Paula S. (Mrs.), Instructor in English  
B.A. 1949, M.A. 1958, Hawaii

Wilson, Willard, Senior Professor of English  
B.A. 1929, Occidental College; M.A. 1930, Columbia; Ph.D. 1939, Southern California

Winter, Lothar G., Associate Professor of Economics  
B.A. 1952, M.B.A. 1954, Ph.D. 1956, University of Freiburg

Winters, Lee E., Jr., Assistant Professor of English  
B.A. 1947, Michigan; M.A. 1952, Ph.D. 1956, California

Winters, Lily C. (Mrs. Lee E., Jr.), Assistant Professor of Chinese  
B.A. 1937, Yenching; M.A. 1950, Hawaii

Wiswell, Ella L. (Mrs. Frederick J.), Assistant Professor of European Languages  
Diploma 1931, Paris; B.A. 1941, Hawaii

Wittermans, Elizabeth P. (Mrs. Tamme), Lecturer in Indonesian  
M.A. 1954, University of London (first semester 1959–60)

Wittermans, Tamme, Visiting Professor of Sociology  
Ph.D. 1955, University of London

Wong, Carolina D. (Mrs. Ronald H. L.), University Physician  
M.D. 1941, University of Santo Tomas

Wong, Helene H., Assistant 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 Education  
B.Ed. 1948, Hawaii (on leave 1959–60)

Wren, Technical Sergeant James, Instructor in Air Science

Wright, Joyce M., Assistant Professor of Library Science  
B.A. 1938 (French), B.A. 1939 (Librarianship), University of Washington

Yamamoto, George K., Assistant Professor of Sociology  
B.A. 1947, M.A. 1949, Hawaii (on leave 1959–60)

Yamamoto, Stanley I., Instructor in Education  
B.Ed. 1952, Hawaii

Yamamura, Douglas S., Associate Professor of Sociology  
B.Ed. 1938, M.Ed. 1941, Hawaii; Ph.D. 1949, University of Washington

Yamanaka, Tohru, Instructor in Business  
B.A. 1955, Hawaii; M.A. 1956, Northwestern

Yamanoha, Yone, Instructor in English (Hilo)  
B.A. 1941, MacMurray College; M.A. 1954, Boston

Yamauchi, Hiroshi, Assistant Professor of Mathematics  
B.S. 1947, Hawaii; M.A. 1948, Ph.D. 1950, Harvard

Yang, Sarah L. (Mrs.), Assistant Professor of Education  
B.A. 1931, Colorado State College of Education; M.Ed. 1952, Hawaii

Yarberry, R. Burl, Assistant Professor of English (Hilo)  
B.A. 1950, Western State College of Colorado; M.A. 1951, Arizona

Yasunobu, Kerry T., Assistant Professor of Chemistry  
B.S. 1950, Ph.D. 1954, University of Washington
Yates, W. Ross, Instructor in Science  
B.A. 1956, Municipal University of Omaha

Yonan, Alan M., Instructor in Speech  
B.A. 1957, M.A. 1958, Michigan State

Yoshimori, Alice S., Instructor in Education  
B.A. 1949, Hawaii; M.A. 1958, Connecticut

Young, Master Sergeant Harold S., Instructor in Military Science

Young, I. Carson, Assistant Professor of Mathematics  
B.A. 1929, Iowa; M.A. 1932, Toronto; M.S. 1934, Michigan

Young, Otto R., Professor of Agriculture  
B.S. 1924, M.S. 1929, Alberta; Ph.D. 1934, Minnesota

Yuen, Jack K., Assistant Professor of Engineering  
B.S. 1931, Hawaii

Zaloha, Anne B., Associate Professor of Social Work  
Ph.B. 1925, Chicago; M.A. 1930, Northwestern

Zeitlin, Harry, Associate Professor of Chemistry  
B.A. 1937, Harvard; M.S. 1948, Ph.D. 1951, Hawaii

Hawaii Agricultural Experiment Station

Acosta, Juan C., Assistant in Vegetable Crops  
B.S. 1956, M.S. 1959, University of the Philippines

Adamson, Lucile F., Assistant Nutritionist  
B.S. 1948, Kansas State; M.S. 1950, Iowa; Ph.D. 1956, California

Akamine, Ernest K., Assistant Plant Physiologist  
B.S. 1935, M.S. 1941, Hawaii

Alacara, Joseph E., Parasitologist  
B.A. 1927, Grand Island College; M.A. 1928, Northwestern; Ph.D. 1934, George Washington

Aragaki, Minoru, Junior Plant Pathologist  
B.S. 1950, M.S. 1954, Hawaii

Arganosa, Valentino G., Assistant in Animal Science  
B.S. 1956, University of the Philippines

Awada, Minoru, Assistant Plant Physiologist  
B.S. 1938, M.S. 1949, Hawaii

*Bess, Henry A., Senior Entomologist

Bowers, Francis A., Junior Horticulturist  
B.S. 1924, Hawaii

*Britten, Edward J., Associate Agronomist

Ching, Hilda L., Assistant Parasitologist  
B.A. 1956, M.S. 1957, Oregon State; Ph.D. 1959, Nebraska

Clements, Harry F., Senior Plant Physiologist  
B.S. 1924, M.S. 1923, Wisconsin; Ph.D. 1929, Chicago

*Cobb, Estel H., Assistant Animal Scientist

*Cool, Bruce J., Plant Physiologist

*Degrees listed under "Instruction."
*Dedolph, Richard R., Assistant Horticulturist
Fukunaga, Edward T., Associate Agriculturist
B.S. 1934, M.S. 1935, Hawaii

*Gilbert, James C., Associate Olericulturist

*Goto, Shosuke, Assistant Plant Pathologist

Habeck, Dale H., Assistant Entomologist
B.S. 1953, M.S. 1954, Wisconsin; Ph.D. 1959, North Carolina State

Hadano, Masao F., Assistant in Soil Science
B.S. 1957, Hawaii

*Hamilton, Richard A., Horticulturist

Haramoto, Frank H., Assistant Entomologist
B.S. 1949, M.S. 1953, Hawaii

*Hardy, D. Elmo, Entomologist

Higaki, Tadashi, Assistant in Horticulture
B.S. 1958, Hawaii

Hiyane, James T., Assistant in Horticulture
B.S. 1958, Hawaii

Holtzmann, Oliver V., Assistant Plant Pathologist
B.S. 1950, M.S. 1952, Colorado State; Ph.D. 1955, Washington State

Hylin, John W., Associate Biochemist
B.A. 1950, Marietta College; M.S. 1953, Purdue; Ph.D. 1957, Columbia

Ikawa, Haruyoshi, Junior Soil Scientist
B.S. 1951, M.S. 1956, Hawaii

Ishii, Mamoru, Assistant Plant Pathologist
B.S. 1947, Hawaii; Ph.D. 1953, California

*Iwanaga, Isaac I., Junior Animal Scientist

*Kamemoto, Haruyuki, Horticulturist

*Kanehiro, Yoshinori, Assistant Soil Scientist

Kawano, Yoshihiko, Junior Chemist
B.S. 1943, Nihon University; M.S. 1957, Hawaii

*Keeler, Joseph T., Assistant Agricultural Economist

*Kinch, Donald M., Agricultural Engineer

Lum, Joana C. N., Assistant in Research
B.A. 1957, Hawaii

Matsumoto, Hiromu, Assistant Chemist
B.S. 1944, M.S. 1945, Hawaii; Ph.D. 1955, Purdue

Matsusaka, Yoshito, Junior Soil Scientist
B.S. 1930, M.S. 1952, Hawaii

*McGuire, Donald C., Associate Olericulturist

Miller, Clyde L., Assistant in Food Technology
B.S. 1958, New Mexico College of Agriculture and Mechanical Arts

Miura, Harvey S., Assistant in Plant Physiology
B.A. 1957, Knox College

*Degrees listed under "Instruction."
*Mollett, John A., Assistant Agricultural Economist
*Moomaw, James C., Assistant Agronomist
Morita, Kiyoichi, Assistant in Animal Science
B.S. 1953, Hawaii
Murashige, Toshio, Assistant Horticulturist
B.S. 1952, Hawaii; M.S. 1954, Ohio State; Ph.D. 1958, Wisconsin
Nakamura, Martha T. (Mrs. Edward H.), Junior Soil Scientist
B.A. 1948, M.S. 1957, Hawaii
Nakamura, Masao, Assistant in Plant Physiology
B.S. 1955, Hawaii
Nakashima, Woodrow Y., Assistant in Agricultural Economics
B.S. 1959, Hawaii
*Nakasone, Henry Y., Assistant Horticulturist
Nakata, Shigeru, Assistant Plant Physiologist
B.S. 1955, Hawaii
*Namba, Ryoji, Associate Entomologist
Nishida, Toshiyuki, Assistant Entomologist
B.S. 1941, M.S. 1947, Hawaii; Ph.D. 1953, California (on leave 1959–60)
Nomura, David M., Assistant in Plant Pathology
B.A. 1957, Hawaii (on leave 1959–60)
Olaivar, Socorro P., Assistant in Poultry Science
B.S. 1955, M.S. 1957, University of the Philippines
Ota, Asher K., Assistant in Entomology
B.S. 1956, Hawaii
*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 (on leave April–August 1960)
*Philipp, Petry F., Agricultural Economist
*Putman, Edison W., Associate Plant Physiologist
Rixon, Alan J., Assistant in Soil Science
B.S. 1949, University of Sydney
*Rosenberg, Morton M., Director (on leave May–September 1960)
Ross, Edward, Food Technologist
B.S. 1932, Pennsylvania State; Ph.D. 1937, California
*Ross, Ernest, Assistant Poultry Scientist
Sanchez, Fernando F., Assistant in Entomology
B.S. 1958, University of the Philippines
*Scott, Frank S., Agricultural Economist
*Sherman, G. Donald, Senior Chemist
*Sherman, Martin, Entomologist
Shimabukuro, Zenyu, Assistant in Soil Science
B.S. 1958, University of the Ryukyus

*Degrees listed under "Instruction."
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<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>Degrees</th>
</tr>
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<tbody>
<tr>
<td>Shoji, Kobe</td>
<td>Associate Plant Physiologist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standal, Bluebell R.</td>
<td>Assistant Nutritionist</td>
<td>B.S. 1942, University of Calcutta; M.S. 1948, Ph.D. 1952, California</td>
<td></td>
</tr>
<tr>
<td>Takahashi, Makoto</td>
<td>Assistant Agronomist</td>
<td>B.S. 1928, M.S. 1937, Hawaii</td>
<td></td>
</tr>
<tr>
<td>*Tamashiro, Minoru</td>
<td>Assistant Entomologist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aoki, George M.</td>
<td>Crop Reporter, East Hawaii</td>
<td>B.S. 1950, Hawaii</td>
<td></td>
</tr>
<tr>
<td>Blalock, John R.</td>
<td>County Agent, Molokai</td>
<td>B.S. 1942, M.S. 1946, Massachusetts (on leave 1959-60)</td>
<td></td>
</tr>
<tr>
<td>Chong, Wing You</td>
<td>Assistant County Agent, East Hawaii</td>
<td>B.S. 1943, California</td>
<td></td>
</tr>
<tr>
<td>*Tanaka, Tokushi</td>
<td>Junior Poultry Scientist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toba, Hachiro</td>
<td>Assistant in Entomology</td>
<td>B.S. 1957, Hawaii</td>
<td></td>
</tr>
<tr>
<td>Uehara, Goro</td>
<td>Assistant Soil Scientist</td>
<td>B.S. 1951, M.S. 1955, Hawaii; Ph.D. 1959, Michigan State</td>
<td></td>
</tr>
<tr>
<td>Unrau, Abraham M.</td>
<td>Assistant Biochemist</td>
<td>B.S.A. 1952, M.S.A. 1953, British Columbia; Ph.D. (Horticulture) 1956, Ph.D. (Biochemistry) 1960, Minnesota</td>
<td></td>
</tr>
<tr>
<td>*van't Woudt, Bessel D.</td>
<td>Assistant Agricultural Engineer</td>
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<tr>
<td>Walker, Mabel A.</td>
<td>Junior Nutritionist</td>
<td>B.S. 1936, M.S. 1948, Oklahoma State</td>
<td></td>
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<tr>
<td>*Wang, Jaw-Kai</td>
<td>Assistant Agricultural Engineer</td>
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<tr>
<td>Wang, Kwang-mei</td>
<td>Assistant in Foods and Nutrition</td>
<td>B.A. 1954, National Taiwan University</td>
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<tr>
<td>Watanabe, Yoshio</td>
<td>Assistant in Plant Physiology</td>
<td>B.S. 1958, Hawaii</td>
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<tr>
<td>*Wayman, Oliver</td>
<td>Animal Scientist</td>
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<tr>
<td>Wenkam, Nao (Mrs. R.)</td>
<td>Junior Nutritionist</td>
<td>B.S. 1948, M.S. 1950, Chicago</td>
<td></td>
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<tr>
<td>Yamane, George M.</td>
<td>Assistant in Horticulture</td>
<td>B.S. 1958, Hawaii</td>
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<tr>
<td>*Younge, Otto R.</td>
<td>Agronomist</td>
<td></td>
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</tr>
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</table>

*Agricultural Extension Service*

Akana, David, County Agent, Maui  
B.S. 1932, Hawaii; M.S. 1950, California

Aoki, George M., Crop Reporter, East Hawaii  
B.S. 1950, Hawaii

Blalock, John R., County Agent, Molokai  
B.S. 1942, M.S. 1946, Massachusetts (on leave 1959-60)

Chong, Wing You, Assistant County Agent, East Hawaii  
B.S. 1943, California

*Degrees listed under "Instruction."*
Christensen, Charles C., *Assistant County Agent, North Hawaii*  
B.S. 1956, Idaho

Chun, Edwin Y., *County Agent, South Oahu*  
B.S. 1953, Hawaii

Clay, Horace F., *Associate Specialist in Horticulture*  
B.S. 1950, Hawaii; M.S. 1952, Massachusetts; Ph.D. 1958, Chicago

Doi, M. James, *Assistant County Agent, Maui*  
B.S. 1942, Hawaii

Doue, Stephen M., *Assistant Specialist in Agricultural Economics*  
B.A. 1947, M.A. 1999, Hawaii

Fujimoto, Frederick W., *Assistant County Agent, Maui*  
B.S. 1953, Hawaii

Fukui, Rodney H., *Crop Reporter*  
B.S. 1947, Hawaii

Gascon, Helen C. (Mrs. Joseph E., Jr.), *Assistant County Agent*  
B.S. 1953, M.S. 1959, Hawaii

Goodell, Dale N., *Assistant Director and Supervisor of County Agricultural Work*  
B.S. 1942, Iowa State; M.S. 1952, Minnesota

*Goto, Y. Baron, Director*

Hansen, Harry L., *County Agent, East Oahu*  
B.S. 1942, Nevada

Harrell, Gertrude P. (Mrs.), *Supervisor of County Home Demonstration Work*  
B.S. 1927, Georgia State College for Women; M.A. 1949, Columbia

Himori, Roy T., *Assistant Crop Reporter*  
B.S. 1957, Hawaii

Holley, Frances E., *County Agent, East Hawaii*  
B.S. 1998, Alabama College

Honma, Haruo, *County Agent, West Oahu*  
B.S. 1940, Hawaii; M.Ed. 1951, Colorado State; M.S. 1959, Michigan State

Hosaka, Edward Y., *Specialist in Agronomy*  
B.S. 1931, M.S. 1935, Hawaii

Hunter, Miller T., *County Agent, Molokai*  
B.S. 1940, M.S. 1952, Missouri

Ishida, Jack T., *Assistant Specialist in Agricultural Economics*  
B.A. 1942, M.A. 1947, Hawaii (on leave 1939–60)

Ito, Mabel I. (Mrs. George T.), *County Agent, Maui*  
B.S. 1941, Hawaii

Iwane, John Y., *County Agent, West Hawaii*  
B.S. 1940, Hawaii

Kamisato, Jane S., *Assistant County Agent, North Hawaii*  
B.S. 1956, Kansas State

Kitagawa, Yukio, *Assistant County Agent, West Oahu*  
B.S. 1955, Hawaii

Kogachi, Shirley Y., *Assistant County Agent, South Oahu*  
B.S. 1954, Hawaii; M.A. 1959, Columbia

*Koshi, James H., Area Specialist in Dairy Science*

*Degrees listed under "Instruction."*
Kumabe, Bunki, County Agent, Kauai  
B.S. 1942, Hawaii; M.S. 1953, Missouri

Lyman, Clarence, Specialist in Soil Management  
B.S. 1938, M.S. 1941, Hawaii

Maruyama, Charles I., County Agent, East Hawaii  
B.S. 1935, Hawaii

Mason, Beret R., Assistant County Agent  
B.S. 1955, Baldwin Wallace; M.S. 1959, Arizona

Masumoto, Sachiko, County Agent, West Hawaii  
B.S. 1949, Hawaii; M.S. 1957, Pennsylvania State

Matsubara, Edward K., Assistant County Agent, Kahului  
B.S. 1958, Northeast Missouri State Teachers College

Matsumoto, Dan K., Assistant County Agent, West Hawaii  
B.S. 1951, Hawaii

Matsumoto, Eleanor A., Assistant Specialist in Home Economics  
B.S. 1941, Hawaii; M.A. 1953, Columbia

Matsuura, Minoru, County Agent, North Hawaii  
B.S. 1938, Hawaii

McHenry, Silas L., Associate Specialist in Poultry Husbandry  
B.S. 1939, M.S. 1938, Delaware; Ph.D. 1960, Pennsylvania State

Mihata, Keichi, County Agent, East Oahu  
B.A. 1935, Hawaii

Moore, Clarence L., Junior Specialist in Livestock  
B.S. 1955, M.S. 1957, Ph.D. 1959, South Dakota State

Morrill, Olive L. (Mrs. J. Glenn), Assistant County Agent, East Oahu  
B.S. 1954, Utah State; M.S. 1958, Cornell

Motobu, Tatsumi, Assistant County Agent, East Hawaii  
B.S. 1951, Hawaii

Nakagawa, Yukio, Assistant Specialist in Horticulture  
B.S. 1940, Hawaii

Nakamura, Adeline T. (Mrs. Richard S.), Assistant County Agent, East Hawaii  
B.S. 1954, Hawaii; M.S. 1955, Pennsylvania State

Nakasato, Masaru George, Assistant County Agent, South Oahu  
B.S. 1951, Hawaii

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

Ota, Robert M., County Agent, Honokaa  
B.S. 1950, Colorado State; M.S. 1959, Purdue

Penner, Ruth T., County Agent  
B.S. 1943, Tennessee

Pitzer, Ann E., Assistant County Agent  
B.S. 1958, California at Davis; M.S. 1959, California

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

Roberts, Hazel L., Assistant Specialist in Clothing  
B.S. 1938, M.S. 1956, Oklahoma State
Sato, Sadao, *Assistant Crop Reporter, Kauai*
B.S. 1954, Missouri

Schwartz, Lillian R. (Mrs.), *County Agent, West Oahu*
B.S. 1931, Hastings College

Serikaku, Ethel K. (Mrs. Seisuke), *County Agent, East Oahu*
B.S. 1954, Hawaii

Shibuya, Irene T. (Mrs. Fujio), *Assistant County Agent, West Oahu*
B.S. 1952, Hawaii

Shigeta, Daniel T., *County Agent, Kula, Maui*
B.S. 1950, Hawaii

Shigeta, Y. James, *Assistant Specialist in Club Work*
B.S. 1951, Maryland; M.S. 1958, Wisconsin

Shirakawa, Takumi, *County Agent, Naalehu*
B.S. 1948, Hawaii

Smith, Adrienne A., *Assistant County Agent, South Oahu*
B.S. 1958, California

Snoddy, Elizabeth A., *County Agent*
B.S. 1952, Iowa State; M.A. 1958, Maryland

Stormont, John L., *Specialist in Club Work*
B.S. 1928, Illinois; M.Ed. 1954, Cornell

Sumida, Y. Dick, *Crop Reporter*
B.S. 1936, Hawaii

Takahashi, T. Francis, *Assistant County Agent, Kauai*

Takei, Shiro, *Assistant Specialist in Agricultural Economics*
B.S. 1938, Hawaii

Takishita, Francis M., *Assistant Crop Reporter, Maui*

Teho, Fortunato G., *Assistant Supervisor in Visual Aids*
B.S. 1927, Hawaii

Ueda, Motoi, *Assistant County Agent, East Hawaii*
B.A. 1934, California at Los Angeles

Vollrath, Harvey M., *Specialist in Animal Husbandry*
B.S. 1929, Colorado State; M.S. 1948, Minnesota

Wallrabenstein, Paul P., *Supervisor of Crop and Livestock Reporting*
B.S. 1931, Ph.D. 1941, Ohio State

Yamaguchi, Rokuro, *Assistant Specialist in Agricultural Economics*
B.S. 1942, Hawaii; M.S. 1954, Missouri

Yamamoto, Mitsuko, *Assistant County Agent, Honokaa*
B.S. 1954, Hawaii

Yamamoto, Sueki, *Assistant Crop Reporter*
B.S. 1951, Hawaii

Yamamoto, Tamao, *Assistant County Agent, West 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., *Assistant County Agent, West Oahu*
B.S. 1951, California State Polytechnic College
Office of Student Personnel

*Bitner, Harold M., Dean of Student Personnel
*Dole, Arthur A., Director, Bureau of Testing and Guidance
Durkee, Peter E., Junior Specialist in Student Personnel  
B.A. 1953, M.A. 1957, Colgate
Fujitani, Shigeaki, Junior Specialist in Student Personnel  
B.A. 1955, Hawaii; M.A. 1957, New York
Hogle, Frances deV. (Mrs.), Head Resident, Frear Hall
Iams, Ruth W. (Mrs. James P.), Assistant Specialist in Student Personnel, Bureau of Testing and Guidance  
Ph.B. 1933, Chicago; M.A. 1952, Hawaii
Keeley, Harold J., Head Resident, Johnson Hall  
B.S. 1924, United States Military Academy
McPherson, Mary Lou (Mrs.), Director, Bureau of Student Residences  
B.S. 1933, Kansas State; M.A. 1955, Missouri
Miguel, Visitacion L., Junior Specialist in Student Personnel  
B.A. 1950, Colorado State College of Education; M.A. 1954, Indiana
*Miyake, James S., Assistant Specialist in Student Personnel and Foreign Students Adviser (on leave 1959–60)
Myers, Gretchen M., Junior Specialist in Student Personnel  
B.A. 1947, Iowa
Rieck, Elmer C., Assistant Specialist in Student Personnel  
B.Ed. 1934, Wisconsin State Teachers College; M.A. 1942, Ph.D. 1959, Wisconsin
Slonaker, Susan D. (Mrs. Jack C.), Director, Bureau of Student Activities  
B.S. 1946, Rhode Island
Stevenson, Patricia G. (Mrs. Connelly D.), Assistant in Student Personnel  
B.S. 1949, Rhode Island
Wery, Katherine H. (Mrs. Clay H.), Junior Specialist in Student Personnel, Student Housing and Part-Time Employment  
B.A. 1944, Westhampton College
White, Edward T., Director, Office of Admissions and Records  
B.A. 1936, M.A. 1939, Columbia
Will, Caroline F. (Mrs. Richard Y.), Junior Specialist in Student Personnel, Bureau of Testing and Guidance  
B.A. 1953, Minnesota; M.A. 1959, Hawaii

Legislative Reference Bureau

*Gedan, Joseph M., Assistant Researcher
Holden, Margaret E., Assistant Researcher  
B.S. 1943, M.A. 1945, Wayne; B.L.S. 1948, Chicago
Izumi, Takaaki, Junior Researcher  
B.A. 1957, Hawaii

*Degrees listed under "Instruction."
James, Charles S., Researcher  
B.A. 1947, California

*Kamins, Robert M., Director (on leave 1959–60)

Kobayashi, Hanako, Junior Research Librarian  
B.A. 1954, Hawaii; M.S. 1956, Simmons College

*Lau, Kenneth K., Researcher

Ogawa, Albert H., Associate Researcher  
B.S. 1948, LL.B. 1951, M.B.A. 1957, Harvard

Land Study Bureau

Baker, Harold L., Economist  
B.S. 1939, Utah State Agricultural College; M.S. 1942, Ph.D. 1949, California

Fujimura, Faith N. (Mrs. Thomas H.), Assistant in Land Classification  
B.A. 1950, Hawaii

Hamura, Charles M., Assistant in Land Classification  
B.S. 1959, Hawaii

Noffsinger, Terrell L., Climatologist  
B.S. 1941, M.S. 1946, Kentucky; Ph.D. 1957, Purdue

Nunns, Frederick K., Director  
B.S. 1932, North Dakota Agricultural College; M.S. 1934, State College of Washington;  
M.S. 1943, Wisconsin

Pfuehler, Edwin, Junior Economist  
B.S. 1956, Wisconsin; M.S. 1958, Arizona

Sahara, Tamotsu, Specialist in Land Classification  
B.S. 1948, Hawaii

Economic Research Center

Jackson, Frank H., Associate Economist  
B.S. 1948, Georgetown; M.A. 1951, Ph.D. 1957, Arkansas

*Mark, Shelley M., Director

Narland, Mary Jeanne, Assistant in Economics  
B.A. 1959, Illinois

Scott, Burton A., Jr., Junior Economist  
B.B.A. 1951, Emory; M.A. 1958, American University

*Winter, Lothar G., Associate Economist

*Yamanaka, Tohru, Junior Economist

Affiliate Graduate Faculty†

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

Ayres, A. S., Ph.D., Senior Agronomist, Experiment Station  
Hawaiian Sugar Planters' Association

*Degrees listed under "Instruction."
†Members of cooperating institutions available for service on graduate committees.  
They do not offer courses at the University.
Balock, John W., B.S., Entomologist
   Fruit Fly Laboratory, U.S. Department of Agriculture

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

Bloom, Bernard L., Ph.D., Psychologist
   Territorial Hospital

Brock, Vernon E., M.A., Hawaii Area Director
   Bureau of Commercial Fisheries Biological Laboratory

Burr, George O., Ph.D., Principal Physiologist and Biochemist, Experiment Station
   Hawaiian Sugar Planters' Association

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

Cushing, Robert L., M.S., Director
   Pineapple Research Institute

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

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

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

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

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

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

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

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

Joyce, C. R., Ph.D., Medical Entomologist
   U.S. Public Health Service

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

Klemmer, H. W., Ph.D., Microbiologist
   Pineapple Research Institute

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

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

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

Mart, John, M.A., Director
Bureau of Commercial Fisheries Biological Laboratory

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

Mitchell, Wallace C., Ph.D., Entomologist
Fruit Fly Laboratory, U.S. Department of Agriculture

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

Sakimura, K., Entomologist
Pineapple Research Institute

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

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

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

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

Steiner, Loren F., M.S., Entomologist in Charge
Fruit Fly Laboratory, U.S. Department of Agriculture

Strasburg, Donald W., Ph.D., Fishery Research Biologist
Bureau of Commercial Fisheries Biological Laboratory

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

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

Young, H. Y., M.S., Chemist
Pineapple Research Institute
GENERAL INFORMATION

The University of Hawaii is located in Honolulu, on the island of Oahu. It is three miles from the business center and two miles from Waikiki. Manoa Valley, where the University is situated, is one of the most picturesque sections of the city. The Manoa campus and tracts on the islands of Oahu, Maui, and Hawaii bring the landholdings to 710 acres.

Although the University did not receive a grant of land such as that provided for state colleges under the Morrill Act of 1862, it is a federal land-grant institution and shares in benefits from the Second Morrill Act of 1890, the Nelson Amendment of 1907, and subsequent legislation. The major portion of its financial support, however, comes from the State.

History. The University was established in 1907, by an act of the territorial legislature, as the College of Agriculture and Mechanic Arts. In 1911 the name was changed to the College of Hawaii. From 1907 to 1912 it was located on the grounds now occupied by the Linekona School.

In 1919 the legislature passed a bill creating the University of Hawaii in 1920. The charter provided for two colleges. The College of Hawaii became the College of Applied Science, and the College of Arts and Sciences was added. In 1931 the legislature united the Territorial Normal School with the University School of Education to form Teachers College, now the College of Education.

The College of (Tropical) Agriculture was established in 1946, the College of Business Administration in 1949, the College of General Studies in 1956, and the colleges of Engineering and Nursing in 1959. Prior to 1951 all graduate work was under the Graduate Division, but in that year the name was changed to Graduate School. The Hilo Campus was opened in 1947.

Control and Accreditation. Government resides in a Board of Regents appointed by the governor for terms of four years. Copies of statutes and bylaws of the Board of Regents are available upon request.

The University is accredited by the Western College Association. Its students may transfer to other American and to foreign universities on the same basis as students of other American universities.

Instruction. Classes are open to all academically qualified men and women, regardless of racial ancestry or nationality.

Academic Year. The academic year is divided into two 18-week semesters and a summer session.
University Colors, Symbol, Seal, Coat of Arms. University colors are green and white. The popular symbol traditionally used by students on campus is the rainbow. The seal is a torch and book entitled *Ma Lama Lama* (the light of knowledge) in a circle of the Pacific, with the motto of Hawaii, *UA MAU KE EA O KA AINA I KA PONO* (The Life of the Land is Preserved in Righteousness). The coat of arms is an adaptation of the Hawaiian coat of arms and includes the motto of Hawaii.

Communications. Prospective students should address letters of general inquiry to the Office of Admissions and Records, University of Hawaii, Honolulu 14, Hawaii.

**Administrative Organization**

The University has seven colleges: College of Tropical Agriculture (including the Hawaii Agricultural Experiment Station and the Agricultural Extension Service), College of Arts and Sciences, College of Business Administration, College of Education, College of Engineering, College of General Studies, and the College of Nursing.

Graduate work is organized under the Graduate School. The Office of Student Personnel administers the work of admissions and registration, and, through its Bureau of Testing and Guidance, offers educational, vocational, and personal counseling, and gives aptitude, interest, and other psychological tests. Other units are the Gregg M. Sinclair Library, the Legislative Reference Bureau, and the Summer Session.

Academic departments are units of the University as a whole, rather than of colleges, and are responsible to the Dean of Faculties on matters of finance and personnel. Coordination of the departments with the colleges in instructional matters is obtained through the Administrative Council, of which the President is chairman.

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

**Related Services**

In addition to the instructional program, several other forms of public service are offered.

**Speech and Hearing Clinic.** The Clinic staff offers speech and hearing rehabilitation services such as diagnosis, testing, and therapy for children and adults. A registration fee is charged nonuniversity cases.

**Reading Clinic.** Diagnosis and therapy for reading disabilities is carried on by the members of classes in Education 607, under the supervision of Clinic staff members. Modest fees are charged.

**Legislative Reference Bureau.** In 1943 the legislature created the Bureau to aid in legislative and governmental problems. It is situated on the campus,
but during sessions of the legislature an office is maintained in Iolani Palace. The legislature, governor, departments, institutions, and agencies of the State are provided with information and reports.

**Volcano Research Laboratory.** Located on the island of Hawaii, the Laboratory is conducted in cooperation with the U.S. Geological Survey, and offers research possibilities in subjects pertaining to volcanology.

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

**Harold L. Lyon Arboretum.** The Arboretum, 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.

**Romanzo Adams Social Research Laboratory.** The Laboratory is staffed by members of the Sociology Department, and is concerned primarily with studies relative to the peoples of Hawaii.

**Human Relations Area Files.** This organization, supported by sixteen major universities, places basic information on various societies of the world in files at each member institution. Each file, in the Gregg M. Sinclair Library, contains facts about a people or region that are judged to be of value to students of human behavior, social life, and culture.

**Industrial Relations Center.** The Center was established to promote understanding of labor-management problems in the community. It provides a library and reference service, promotes lectures, conferences, and discussion groups, and conducts research.

**Radio Office.** Station KUOH-FM, broadcasting five days a week, is operated by the Office, which also coordinates and supervises other University radio and TV broadcasts.

**Psychological Research Center.** The Center conducts basic and applied research on problems involving the scientific approach to human behavior. It serves as an agency to which business, education, government, industry, labor, and others may bring psychological research problems, and as a training facility for advanced students.

**Cooperating Institutions**

Through cooperative agreements with institutions listed below, the University has increased its research facilities and expanded its services to the State.

**Pineapple Research Institute of Hawaii.** The Institute, supported by the pineapple industry, is affiliated with the University. Offices and laboratories are in Institute buildings on the campus. Studies are carried on at Wahiawa, on a 100-acre experimental farm.
Hawaiian Sugar Planters' Association. In 1947 the Association provided $100,000 for a building on the campus to house the Agricultural Engineering Institute, with shop facilities for instruction and research.

Fruit Fly Laboratory. A laboratory is maintained on the campus by the United States Bureau of Entomology to study fruit fly pests.

United States Fish and Wildlife Service. Permanent headquarters of the Service for the Bureau of Commercial Fisheries Biological Laboratory are located on the campus. Certain members cooperate with the Department of Zoology and Entomology in offering advanced courses and in directing research in fishery biology. Several fellowships are available to citizen students. Requests for information or fellowship application forms should be addressed to the Director, Bureau of Commercial Fisheries Biological Laboratory, University of Hawaii.

Bernice P. Bishop Museum. The University and the Bishop Museum reciprocate in the use of research facilities. Students may use the facilities, subject to Museum regulations.

Pacific and Asian Affairs Council. The Council, adjacent to the campus, sponsors lectures, seminars, and meetings on international affairs, particularly on Asia and the Pacific. Its library offers research facilities on world affairs.

Honolulu Academy of Arts. The Academy was built and endowed by Mrs. Charles M. Cooke. Its collections are available to students and instructors.

Bishop Museum, the Council, and the Academy of Arts offer special membership rates to students.

Campus and Buildings*

The principal buildings on the campus are Bachman Hall, the Bookstore, Bilger Hall, Crawford Hall, Dean Hall, Farrington Hall, Gartley Hall, Gilmore Hall, George Hall, Hawaii Hall, Hemenway Hall, Henke Hall, Keller Hall, Miller Hall, Klum Gymnasium, the Gregg M. Sinclair Library, and Wist Hall and its laboratory centers (elementary and high schools, Castle Memorial Hall, and Auditorium).

Farrington Hall, an auditorium with a backstage extension, is well equipped for work in drama. The Arthur L. Andrews Theatre is the outdoor setting for commencement and other programs.

The Library contains 296,000 bound volumes and 766,700 unbound parts and pamphlets. Also, it serves as a depository for government publications. Extensive collections of Chinese and Japanese works and valuable books and periodicals about Hawaii and the Pacific islands make it an excellent place to study international relations, especially those concerning the Pacific area. The Library files include local and mainland newspapers, and literary, technical, and scientific periodicals. These materials are available to all who comply with Library regulations.

*For description of the Hilo Campus, see p. 104.
Hemenway Hall is the social center for students and faculty with quarters for student organizations. A cafeteria is maintained in the Hall.

Residence accommodations on or near the campus include the Charles H. Atherton House, Hale Laulima, Mary Dillingham Frear Hall, and John A. Johnson Hall.

A swimming pool and locker buildings are located near Hemenway Hall. Cooke Field, which is used for football, baseball, and track practice, also affords opportunities for physical education and intramural sports.

The Honolulu Stadium, seating 22,000, is equipped for football, baseball, and other outdoor sports, and is regarded as an integral part of the University's plant resources for physical education and athletics. It is owned and managed by the Honolulu Stadium Corporation.

The Hawaii Marine Laboratory, with branches at Waikiki and Coconut Island, is devoted to research in the marine sciences, and to teaching.

Other buildings include the ROTC buildings, Hawaii Annex, the Nutrition Laboratory, and temporary office and classroom buildings.

A part of the campus is occupied by an experimental farm, devoted to solving problems of Hawaii's dairymen, poultrymen, and livestock raisers; instructional facilities for students of agriculture are provided.

The herbaria of the University and of the Bernice P. Bishop Museum, which are combined under the custodianship of the Museum, contain the most complete collection of Hawaiian plants in existence; some species now extinct are included. The most valuable parts are the cotypes of Dr. W. Hillebrand's species and the types of many new species collected by later botanists.
STUDENTS (other than auditors and those taking corresponding courses) 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 candidates for a degree. No student may use the unclassified status to evade technical or scholastic graduation requirements of a college. They usually carry only part-time programs (fewer than 12 semester hours).*

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 Department of Public Instruction, 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.

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 before the opening of the semes-

*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 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.

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, premedical, etc.

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

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*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

<table>
<thead>
<tr>
<th>From a 4-Year High School</th>
<th>Subject</th>
<th>From a 3-Year High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ENGLISH</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>ALGEBRA</td>
<td>1 (Not required if the student had ninth-grade general mathematics in intermediate, i.e., junior high school.)</td>
</tr>
<tr>
<td>6</td>
<td>ENGLISH—(In addition to the 3-unit minimum requirement in English.) SCIENCES—Physical, biological, and social. MATHEMATICS—(In addition to the 1-unit minimum requirement in mathematics.) FOREIGN LANGUAGES—(Entrance credit in foreign language is not granted unless the total number of foreign language units offered includes at least 2 units in some one language.)</td>
<td>4 (If applicant offers ninth-grade mathematics, this requirement is 5 units.)</td>
</tr>
<tr>
<td>5</td>
<td>Any other subjects (except physical education and ROTC) credited by the high school toward its diploma (no less than ½ nor more than 2 units in any one subject) provided that these subjects have been pursued in accordance with regular classroom procedure involving a reasonable amount of preparation in addition to the time spent in class.</td>
<td>4</td>
</tr>
<tr>
<td>15 -</td>
<td>. . . . . TOTAL . . . . .</td>
<td>12</td>
</tr>
</tbody>
</table>

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.

Prospective engineering and prearchitecture students must have had plane geometry and two years of algebra. It is strongly recommended that they also have trigonometry, solid geometry, mechanical drawing, and physics. Engineering students who have not had Mathematics 102 (trigonometry) may take it in the summer session preceding the first year or take Mathematics 102 and 103 the first semester, Mathematics 104 the second semester, and Mathematics 131 in the following summer session.

Prospective students of medicine and dentistry should have had plane geometry, trigonometry, two years of algebra, two years of a foreign language, two years of history, three years of English, physics, and chemistry.
Prospective students of agriculture should have had two years of algebra. Students with only one year must complete the second year by the end of the freshman year.

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.

Admission to Advanced Standing. 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 subjects in which grades of C or better are recorded. 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 Unclassified Students. Mature persons may register as unclassified students when their backgrounds qualify them for credit work. No such student, however, will be admitted to a college or allowed to become a degree candidate until he has satisfied all admission requirements.

Admission as an unclassified 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." Students entering in the autumn receive a circular 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 seven days following the last official day of registration, written approval must be obtained from the dean concerned; (2) subsequent to the seventh 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 returned to the office of the dean concerned.

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 if the work was passable; otherwise it is marked F (for failure). 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.

Other Changes of Students' Programs of Study. A student may transfer from one college to another at the end of 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 should be returned to the Office of Admissions and Records at least four weeks before the end of the first semester, and by August 1 during the summer.

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 stand and the student will receive neither credits nor grade points in that course. If the work is completed, the instructor will report a semester grade, taking the completed work into consideration. Credit in a course for which an F or I (if not removed as above) are given may be obtained only by repeating the course and passing it.
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.

*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, and 1 if D.

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

*Grade-point ratios* are determined by dividing the total number of grade points by the total number of credits for which a student has been registered. Courses for which grades of W or I were recorded are not included in the computation of ratios nor are courses for which a grade of F was recorded, if credit is subsequently obtained for these courses.

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. (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 classes of undergraduate students:

1. Those who have failed to pass in any semester (or who were not passing when they withdrew) in 50 per cent of their registered credits.
2. Those who have failed to earn, after two semesters' attendance, a minimum of one and six-tenths as many grade points as the total of their registered credits.
3. Those who are deficient in composition after two semesters' attendance and who have less than a 2.0 grade-point ratio in other subjects.
4. Those who have failed to earn, after four semesters' attendance, a minimum of one and eight-tenths times as many grade points as the total of their registered credits.
5. Those who have failed to earn, after six semesters' attendance, a minimum of one and nine-tenths times as many grade points as the total of registered credits.
6. Those on academic probation who during any one semester fail to earn twice as many grade points as credits for which they are registered, or, in other words, a C average.
7. Those whose progress in speech is unsatisfactory after three semesters of speech instruction, unless they register for, and attend regularly, a speech correction course. (Failure to remove a speech deficiency constitutes failure to meet graduation requirements.)

Students who become ineligible for further registration at the close of either semester may register for any part of the succeeding summer session. Credits and grade points thus earned will then be included in determining the current grade-point average. Attendance at and credits earned in a summer session are considered but do not determine readmission.

Students who have been dropped may apply for readmission, in writing, to the chairman of the Committee on Scholastic Standing at least one month prior to the opening of the semester for which admission is requested. Usually readmission will not be granted until at least one semester has elapsed since the student was dropped. 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 the end of the first and second six-week periods of each semester, but the student should not assume that his work is of passing grade merely because he has not been warned. The University assumes no responsibility if a warning that has been mailed to a student fails to reach him.

If a student has been in attendance up to the time of the final examination but is absent from the examination, the instructor may give an "Incomplete" for the course. If within one week a legitimate excuse is presented to the Dean of the College, the Incomplete may be removed by special examination. If the Dean does not approve, 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.

**Student Discipline**

Students are expected to observe accepted University and community standards of conduct. Disciplinary authority is exercised by the Committee on Discipline, 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 of whatever sort (traffic violations, library fines, locker
fees, laboratory breakage charges, transcript fees, loans past due, etc.) to the satisfaction of the University Comptroller, may be denied graduation and further registration, and in the latter case their transcripts will be notated "Denied further registration. See discipline file."

Undergraduate Degree Requirements

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

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

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 undergraduate who has been in attendance for one semester 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. 58.)

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 and an activities fee of $1.25. 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.

All students registered for daytime courses pay a "Student Health Fee" of 75 cents 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.

Students who take the college aptitude test pay a $2.00 fee at the time of examination.

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

<table>
<thead>
<tr>
<th>Withdrawal during</th>
<th>Tuition Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>first two weeks of instruction</td>
<td>80%</td>
</tr>
<tr>
<td>third week of instruction</td>
<td>60%</td>
</tr>
<tr>
<td>fourth week of instruction</td>
<td>40%</td>
</tr>
<tr>
<td>fifth week of instruction</td>
<td>20%</td>
</tr>
<tr>
<td>remainder of semester</td>
<td>0%</td>
</tr>
</tbody>
</table>

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. The five-year diploma fee is $2.50.

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 for $2.00.

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.

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, for $1.00. All keys must be returned before Commencement.

At the request of the Associated Students of the University of Hawaii (ASUH) and with the consent of the Board of Regents, the Business Office collects certain ASUH fees at registration time. These fees, approximately $10.00 each semester, include membership in the ASUH for undergraduates taking 12 or more credit hours (if more than 6 are in the day program), class dues, the use of Hemenway Hall, and participation in the social, cultural, and recreational programs provided by the Hemenway Hall Board of Governors. For other students the fee is optional. These fees are not collected for the summer session. Complete details are given in the ASUH Handbook.

Military Training

Instruction is offered in military and air science and tactics in accordance with the requirements stipulated by Congress in legislation relating to land-grant colleges. The first two years must be taken by every male student who is an American citizen, who meets the required physical standards, whose twenty-fourth birthday has not passed at the time of enrollment, who (1) is a freshman or sophomore, or (2) is an unclassified student carrying more than 11 credit hours of work and having fewer than 55 college credits. An alien or a student not physically qualified may register for the basic courses at his own expense with the consent of the department chairman. Students who have satisfactorily completed three years of training in the junior division may be excused from the first year; veterans with six months to a year of military service meet the requirements of the first year; veterans with more than one year of service may receive credit for the basic courses. All such students should clarify their status with the Military or Air Science Department prior to their first registration in the University.
Training in the advanced courses is optional for selected juniors and seniors but the number cannot 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 courses leads to a Reserve commission in the Army or Air Force.

Advanced students and certain selected freshmen and sophomores are given Selective Service deferments within authorized quota limitations. Deferments are initially given in the second semester of the freshman year and remain in effect as long as the student is regularly enrolled (12 or more semester hours), is in good standing, and continues in military training.

Health, Physical Education, and Sports

The University expects every student to safeguard his health and offers certain aids toward that end. Before entering, 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. If subsequent examinations are needed, the University makes them in its dispensary without cost to the student. Yearly chest X-ray examinations are required. These are provided free-of-charge. Failure to comply with this requirement precludes registration for the following semester.

At the dispensary a registered nurse is on duty throughout the day and a physician during certain hours. First-aid service is available for minor ills and injuries; no charge is made and no responsibility is assumed by the University. Any student who needs medical attention beyond that which the University can reasonably give should make his own arrangements with a physician.

The University also offers instruction in health and conducts a program of recreation and sports. Freshman and sophomore men and women under 25 years of age who are registered for 12 or more semester hours of academic work must take Health and Physical Education 101, 102, and 130. 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 appointed by the president of the ASUH, with the approval of the Student Council; 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 athletic groups.
Although the University takes reasonable precautions, it assumes no responsibility for injuries received in sports or games.

Scholarships and Fellowships

Scholarship aid is provided through appropriations by the legislature and contributions from business firms and private organizations. A few scholarships are supported by endowment funds. Awards are based, in general, on (1) character, (2) scholastic ability and achievement, and (3) financial need.

The period covered is usually one year, except for the State Scholarships which cover four years. The recipient is expected to carry a regular load of college work with success. A scholarship may be withdrawn at any time if a satisfactory academic record is not maintained.

The chief aid for entering freshmen consists of State Scholarships described below. For freshmen there are few other scholarships available. However, several community organizations provide for deserving local students. Information is sent to the principals of all local high schools.

For undergraduate students of sophomore rank or above, numerous scholarships are available. Information may be obtained from the chairman of the Scholarship Committee.

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

Grants and Other Aids. The Standard Oil Company of California provides two $400 grants to outstanding students.

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.

Mildred and Leland Ira Dean offer three annual $500 scholarships to island students specializing in chemistry.

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

The City Mill Company offers an annual $250 scholarship to an outstanding student in the College of Business Administration.

E. E. Black, Ltd., offers a $500 scholarship for a student in construction engineering.

Government Employees Mutual offers two four-year $500 scholarships for entering freshmen.

Hawaiian Dredging and Construction Company, Ltd., offers a $500 scholarship for a sophomore, junior, or senior engineering student.

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. Twenty-four scholarships divided between the six senatorial districts. 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); Ann Koga Mortimer Memorial; ASUH Scholarship-Leadership grants; Chinese Community; Fushiminomiya Memorial Scholarship Endowment Fund; Gamma Phi Beta; Harry H. Collins; Hawaii Druggists’ Convention (prepharmacy); Hawaii Pharmaceutical Association (prepharmacy); ILWU (Filipino students in Social Work); Kappa Alpha Theta; Kenji Yamaguma Memorial; Korean Foundation; Korean University Club; Leora Parmlee Dean (sponsored by the Women's Campus Club); MidPac Lumber Company; Oahu Plumbing and Sheet Metal Company; Opti-Mrs. Club of Honolulu; Rama Warumull Memorial; Riley H. Allen; Rubie Ethel Kono; Ruth C. Scudder Memorial (sponsored by the Women's League of Central Union Church); Seu Tin Chong Award; Stephen Spaulding; College of Education Club; Theodore R. Rhea Hawaii Cancer Society Memorial; Tri-Alpha Art Club; United Chinese Society; Wakaba Kai Sorority; Yasutaro Soga.

Scholarships Administered by Individuals and Private Organizations, with Assistance from the University Scholarship Committee. Associated Chinese University Women; Chinese Women's Club; Hawaii Chinese Civic Association; Hawaiian Pineapple Company; HGEA, University chapter; Hui Kahu Mai (nursing); Hung Wo and Elizabeth L. Ching; Kauai High School Alumni Association; Leilehua High School Alumni Association; Music Club, University of Hawaii; Ralston Purina; Recreation Association of Honolulu; Soroptimist Club; Te Chih Sheh; Waikiki Rotary Club; Wallace Rider Farrington (for graduates of Wallace Rider Farrington High School, sponsored by the Honolulu Star-Bulletin); West Honolulu Rotary; West Kauai Naturalized Citizens Club; Yang Chung Hui.

Scholarships Administered Entirely by Private Organizations. The Scholarship Committee has no direct information about the independent awards listed. American Trust Company; Buddhist Fellowship Society; Chinese University Club; "Chu" Baldwin Memorial (sponsored by Puunene Community Association); Civic Associates of Nuuanu YMCA; Easy Appliance Company; Elks (the Benevolent and Protective Order of Elks, Lodge No. 616, of Honolulu); Hawaii Federation, Young Buddhists Association; Hawaiian Civic Club of Molokai; Honolulu Chapter, National Foundation for Infantile Paralysis; Honolulu Community Chest; Honolulu Symphony; Hui Hanalike; Jack Johnson Me-
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.
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.

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.

Hawaiian Pineapple Company Summer Travel Award. An annual award, for two juniors in home economics, based on scholarship, extracurricular activities, and ability. It provides a trip to the American Home Economics Convention, where the students assist with the Hawaiian Pineapple Company's exhibit and visit various educational institutions and commercial establishments employing home economists.

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, customarily $50.00, is made to a senior student on the basis of a thesis on an announced topic 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.

Honors

Honors may be granted at graduation to undergraduates who have a grade-point average of 3.4 or above for their undergraduate work. At least 60 semester hours of such work must have been at the University of Hawaii during a period not exceeding six years prior to graduation.
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.

In addition there are campus chapters of six national honorary societies—Phi Beta Kappa (founded at William and Mary in 1776, encourages study in the liberal arts and sciences and recognizes high scholastic attainment in these areas; to be eligible for election a student must have pursued a broad course of study, definitely 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 (general scholarship); 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).

**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. A student wishing to make use of these funds should consult the Dean of Student Personnel. Loan funds include the following:

- Alumni Fund—Molokai Chapter
- Carey D. Miller Fund
- Chinese Students' Alliance Fund
- Commerce Club Fund
- Edgar Wood Memorial Fund
- Future Farmers of America, Uniwai Chapter Fund
- George H. Lamy Fund
- Gruscidada Fund
- Hawaiian University Association Fund
- Helen Strong Carter Dental Fund
- Honolulu Civic Association Fund
- Inez Wheeler Westgate Fund
- Japanese Students' Alliance Fund
- Louise S. Jessen Memorial Fund
- Mary L. Kelsey Fund
- Minnesota Club Fund
- Mori-Ross Health Fund
- National Defense Student Loan Program
- N.G.B. Fund
- Ruth Alexander, M.D., Student Fund
- Representatives Club Fund
- Senior Class Fund
- Student Fund of the College of Education
- Summer Session

The University conducts a regular six-week summer session, and offers limited programs during two five-week terms and a three-week postsession. In 1961 the regular session will run from June 26 through August 4.

The total enrollment for the 1959 sessions was 6,976.

Further information may be obtained from the office of the Dean of the Summer Session.
STUDENT ACTIVITIES

STUDENT ACTIVITIES are recognized as part of the University educational program. The Bureau of Student Activities is responsible for studying, encouraging, and developing student participation in leadership and followership, sound programming and well-balanced living.

The Associated Students, a self-governing organization, promotes and directs its undergraduate extracurricular activities and cooperates with the University administration in student affairs. All undergraduate students registered for 12 or more credits pay ASUH membership fees. An elected council directs its activities. The ASUH Handbook describes the organization and functions in detail.

Activities in which the ASUH engages are athletics, debating, dramatics, a semiweekly newspaper (Ka Leo o Hawaii), and a yearbook (Ka Palapala).

Ka Leo and Ka Palapala are integral parts of the curriculum in journalism and serve as workshops for English 115 and 116. Nonexecutive staff members may also obtain credit for English 111. English 112 is required for junior editorial executives. Credit for, or concurrent registration in, English 115 and 116 is required for all appointive editorial positions. Junior executives must have had, or be registered in, English 115 or 116, depending upon the nature of their positions.

Students registered for 12 or more credits receive free admission to, and are eligible to participate in, the productions of the University Theatre Group.

All regular students are eligible to try out for membership in the music organizations. Tryouts for the A Cappella Choir, Chorus, University Band, Orchestra, and vocal and instrumental ensembles are conducted at the beginning of each school year, and at other times by special appointment.

Hemenway Hall is the center of 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.

There are some 80 student scholastic, honorary, professional, religious, social, departmental, and residence organizations.

Living Accommodations and Expenses

Limited housing and eating facilities are maintained on the campus. The University cafeteria serves three meals a day, six days a week, at an average cost of $2.50 per day. It also offers a semester contract for breakfast and dinner, six days per week (exclusive of holidays and vacations) for approximately $140 per semester. For further information, write: University Cafeteria, University of Hawaii, Honolulu 14, Hawaii. The Snack Bar is open during the school day for light refreshments.
Campus Housing. Requests for assignment to dormitories should be addressed to the Director of Student Residences, Bachman Hall 126, University of Hawaii, Honolulu 14, Hawaii.

MARY DILLINGHAM FREAR HALL has double accommodations for 144 women. Rent is $110.00 per semester, and $70.00 for the summer session.

HALE LAULIMA, a cooperative dormitory, houses 27 women in double rooms. Residents do the cooking and housekeeping. It is reserved for island girls and assignments are based largely on financial need. Rent is $90.00 per semester, and the food charge is $125.00. On school days only breakfast and dinner are served. Living expenses approximate $60.00 per month.

JOHN A. JOHNSON HALL accommodates 80 men in double rooms. The rooms are well furnished and each has a view of the mountains or the sea. Rent is $110.00 per semester and $70.00 for the summer session. A second unit, accommodating 116, will be ready by the second semester of 1960-61.

There are no housing facilities on the campus for married students.

Off-Campus Housing. To supplement campus housing, the University maintains a file of off-campus dormitories, rooming houses, single rooms in private homes, and a few apartments. The Office of Student Housing and Part-Time Employment gives all possible assistance in locating suitable accommodations after the student arrives.

Expenses. Minimum expenses are estimated at from $1,250 to $1,500 a year for board, room, tuition, registration, course fees, class and student body fees, and books. Off-campus living costs 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 adjustments in a new community. Some earn part of their expenses by part-time employment, but everyone should be prepared to finance a major portion of the costs.

For further information on either off-campus housing or part-time employment, address the Counselor for Student Housing and Part-Time Employment, Bachman Hall 124, University of Hawaii, Honolulu 14, Hawaii.
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—animal science, entomology, poultry science, plant physiology, 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. 48–52). 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 SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>Botany 101 or Zoology 101</td>
<td>4</td>
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<td>Chemistry 105</td>
<td>4</td>
</tr>
<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 101</td>
<td>1</td>
</tr>
<tr>
<td>AS 91 or MS 101</td>
<td>0-1</td>
</tr>
<tr>
<td>Poultry Science 172</td>
<td>3</td>
</tr>
<tr>
<td>Speech 100</td>
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SECOND SEMESTER

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<td>Chemistry 104</td>
<td>4</td>
</tr>
<tr>
<td>English 102</td>
<td>3</td>
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<tr>
<td>Health &amp; Phys. Ed. 102</td>
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<tr>
<td>MS or AS 102</td>
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<td>Speech (as required)</td>
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SECOND YEAR

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<tr>
<td>Health &amp; Phys. Ed. 130</td>
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</tr>
<tr>
<td>History 171</td>
<td>3</td>
</tr>
<tr>
<td>MS or AS 151</td>
<td>1</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td>Vegetable Crops 191</td>
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THIRD YEAR

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<tbody>
<tr>
<td>Genetics 451</td>
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<td>Soil Science 281</td>
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<tr>
<td>Zoology 161</td>
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</tr>
<tr>
<td>Elective</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
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</table>

FOURTH YEAR

The only required course in the fourth year is English 210. This should be taken in the second semester. Elective courses necessary to complete the 130 semester hours required for graduation 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

<table>
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<th>Course</th>
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<td>Chemistry 103</td>
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<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 101</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 102</td>
<td>3</td>
</tr>
<tr>
<td>AS 91 or MS 101</td>
<td>0-1</td>
</tr>
<tr>
<td>Speech 100</td>
<td>1</td>
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<td>Total</td>
<td>16 or 17</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Botany 101 or Zoology 101</td>
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</tr>
<tr>
<td>Chemistry 104</td>
<td>4</td>
</tr>
<tr>
<td>English 102</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 102</td>
<td>1</td>
</tr>
<tr>
<td>History 171</td>
<td>3</td>
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<td>MS or AS 102</td>
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<td>Speech (as required)</td>
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</table>
## College of Agriculture

### First Semester

<table>
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<td>Botany 470</td>
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<td>Health &amp; Phys. Ed. 130</td>
<td>1</td>
<td>English 155</td>
<td>3</td>
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<td>MS or AS 151</td>
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<td>MS 152 or AS 94</td>
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<td>Physics 160</td>
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<td>Physics 161</td>
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<td>Speech (as required)</td>
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<td>Elective</td>
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<td>Elective</td>
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**Total** 17 or 18  
**Second Semester**

### Second Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Genetics 451</td>
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<td>Soil Science 281</td>
<td>4</td>
</tr>
<tr>
<td>Zoology 161</td>
<td>4</td>
</tr>
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<td>Elective</td>
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**Total** 16 or 17

### Third Year

<table>
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<tr>
<td>Agricultural Engineering 433</td>
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**Total** 18

### Fourth Year

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<tr>
<td>Agricultural Engineering 434</td>
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<tr>
<td>Soil Science 482</td>
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<td>Elective</td>
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**Total** 16 or 17

### Agricultural Economics

#### First Year

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<td>Botany 101</td>
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<tr>
<td>Economics 150</td>
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<td>English 101</td>
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<td>Health &amp; Phys. Ed. 101</td>
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<tr>
<td>Mathematics 103</td>
<td>3</td>
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<tr>
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<td>Speech 150</td>
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**Total** 16 or 17

#### Second Year

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>Business 150</td>
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<td>History 171</td>
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<td>MS or AS 151</td>
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<tr>
<td>Elective in agriculture</td>
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**Total** 18

#### Third Year

<table>
<thead>
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<th>Course</th>
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<tr>
<td>Agricultural Economics 421</td>
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<td>Agricultural Economics 427</td>
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<td>Economics 240</td>
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<td>Soil Science 281</td>
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**Total** 16

### Summer Practice in Industry—10 weeks
FOURTH YEAR

<table>
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<tr>
<td>Agricultural Economics 422</td>
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<td>Elective in ag. econ.</td>
<td>3</td>
</tr>
<tr>
<td>Elective in social sci.</td>
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<td>Elective in social sci.</td>
<td>3</td>
</tr>
<tr>
<td>Elective in econ. or bus.</td>
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<td>Elective</td>
<td>7</td>
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<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>Total</strong></td>
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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

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Botany 101 or Zoology 101</td>
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<td>Botany 101 or Zoology 101</td>
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<td>Speech 100</td>
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<td>Speech (as required)</td>
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<td>Elective</td>
<td>3 or 4</td>
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<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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SECOND YEAR

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<td>Mathematics 103</td>
<td>3</td>
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<td>MS or AS 151</td>
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<td>MS 152 or AS 94</td>
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<td>Speech (as required)</td>
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<td><strong>Total</strong></td>
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THIRD YEAR

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<td>Soil Science 281</td>
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<td>Elective</td>
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FOURTH YEAR

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<td>History 171</td>
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<td>14 or 15</td>
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<td>11 or 12</td>
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<td><strong>Total</strong></td>
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The following list indicates the fields of technical agriculture in which students in this curriculum may specialize. In each case the 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, 242, 243, 244, 245; Microbiology 151; Zoology 311—21 credits, and 16 credits from the following: Agriculture 502; Animal Science 246, 443, 444, 641; Chemistry 131, 132, 271; Microbiology 260, 262; Poultry Science 172, 473, 474, 475; Zoology 161, 410, 416, 425, 431, 445.

AGRICULTURAL ENTOMOLOGY. Requirements: Botany 440; Microbiology 151; Zoology 161, 361, 362, 372, 390—21 credits, and 15 credits from the following: Agriculture 399; Agricultural Engineering 433, 434, 435; Botany 105, 460, 470, 553; Chemistry 131, 132; Geography 420; Geology 150, 151; Horticulture 162; Philosophy 350; Soil Science 482, 483; Vegetable Crops 191; Zoology 401, 410, 416, 425, 431, 445, 561.


POULTRY SCIENCE. Requirements: Animal Science 246; Microbiology 151; Poultry Science 172, 473, 474, 475; Zoology 161, 311—27 credits, and 15 credits selected from the following: Agriculture 502; Agricultural Engineering 433, 434; Animal Science 141, 245, 443; Chemistry 131, 132; Economics 140, 480; Genetics 452; Zoology 372, 410.

SOIL SCIENCE. Requirements: Agriculture 399; Agricultural Engineering 435; Chemistry 131, 132; Soil Science 482, 483—18 credits, and 18 credits from the following: Agriculture 502; Agricultural Engineering 433, 434; 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: Botany 410, 440, 470; Genetics 453; Horticulture 162; Microbiology 151—20 credits, and 16 credits from the following: Agricultural Engineering 433, 434, 435; Botany 161, 412, 418, 460, 553, 570–571; Chemistry 131, 132; Genetics 452; Horticulture 161, 463, 464, 566; Soil Science 482, 483; Vegetable Crops 191, 492–493, 494; Zoology 161, 372, 431.

Curricula in Home Economics

The home economics program combines a broad range of academic and professional courses and is designed to promote satisfying personal, home, and community life. It prepares students for homemaking and for professional careers. Five curricula are offered: home economics education, institutional management, clothing design, general home economics, and foods and nutrition research.
FIRST YEAR
All curricula except clothing design

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>CREDITS</th>
<th>SECOND SEMESTER</th>
<th>CREDITS</th>
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<tr>
<td>Art 103</td>
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<td>Art 104</td>
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<td>English 102</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 101</td>
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<td>Health &amp; Phys. Ed. 102</td>
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SECOND YEAR

<table>
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<th>CREDITS</th>
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<td>Health &amp; Phys. Ed. 130</td>
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<td>Economics 140</td>
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<td>Home Economics 122</td>
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<td>Home Economics 123</td>
<td>3</td>
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<td>Zoology 111 or 115</td>
<td>3</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

In addition, students must complete the requirements for special curricula. Additional work is ordinarily devoted to courses relating to these special fields. The major requirements and the additional recommended electives for each curriculum are listed below.

During the second and third years, students in general and home economics education must take Home Economics 112, 113, 114, and Microbiology 130. Students in institutional management and dietetics must take Chemistry 271, Microbiology 151, and Zoology 115.

Students interested in preparing for the Agricultural Extension, or for business, follow the home economics education curriculum. Those interested in research should follow the foods and nutrition curriculum.

GENERAL HOME ECONOMICS

THIRD YEAR

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<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>CREDITS</th>
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<tbody>
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<td>Home Economics 214</td>
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<td>English 210</td>
<td>3</td>
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<td>Home Economics 240</td>
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<td>History 171</td>
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</tr>
<tr>
<td>Home Economics 241</td>
<td>2</td>
<td>Home Economics 213 or 217</td>
<td>2 or 3</td>
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<tr>
<td>Home Economics 250</td>
<td>3</td>
<td>Home Economics 253</td>
<td>2</td>
</tr>
<tr>
<td>Home Economics 252</td>
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<td>Elective</td>
<td>6</td>
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<tr>
<td>Home Economics 260</td>
<td>2</td>
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FOURTH YEAR

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<tbody>
<tr>
<td>Home Economics 258</td>
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<td>Home Economics 258</td>
<td>4</td>
</tr>
<tr>
<td>or elective</td>
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<td></td>
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<tr>
<td>Home Economics 262</td>
<td>3</td>
<td>Home Economics 441</td>
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*Required only in foods and nutrition curriculum.
## Home Economics Education

### Third Year

<table>
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<td>Home Economics 214</td>
<td>2</td>
<td>Home Economics 215 or 217</td>
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<tr>
<td>Home Economics 240</td>
<td>2</td>
<td>Home Economics 233</td>
<td>2</td>
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<tr>
<td>Home Economics 241</td>
<td>2</td>
<td>Home Economics 270</td>
<td>3</td>
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<td>Home Economics 250</td>
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### Fourth Year

<table>
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<tr>
<td>Education 391, 392, or Home Economics 258</td>
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<td>Home Economics 262</td>
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<tr>
<td>History 171</td>
<td>3</td>
<td>Home Economics 258 or</td>
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<tr>
<td>Elective</td>
<td>6 or 10</td>
<td>Education 391, 392</td>
<td>4 or 8</td>
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### Institutional Management

### Third Year

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<td>English 210</td>
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<td>Home Economics 234</td>
<td>3</td>
<td>Home Economics 239</td>
<td>3</td>
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<tr>
<td>Home Economics 238</td>
<td>3</td>
<td>Home Economics 443</td>
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<td>Home Economics 240</td>
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<td>Home Economics 445</td>
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<td>Elective</td>
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<td>Home Economics 250</td>
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</tr>
<tr>
<td>Elective</td>
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### Fourth Year

<table>
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<td>Home Economics 237</td>
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<td>Home Economics 258 or elective</td>
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<td>Elective or Home</td>
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<td>Home Economics 338 or 340</td>
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<td>Economics 258</td>
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<td>Home Economics 338 or 340</td>
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### Clothing Design

### First Year

<table>
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<th>Credits</th>
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<tr>
<td>English 101</td>
<td>3</td>
<td>English 102</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Phys. Ed. 101</td>
<td>1</td>
<td>Health &amp; Phys. Ed. 102</td>
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<tr>
<td>Home Economics 100</td>
<td>2</td>
<td>Home Economics 110</td>
<td>3</td>
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<td>Home Economics 114</td>
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<td>Home Economics 126</td>
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<td>Science 120</td>
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<td>Speech 100</td>
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<td><strong>16</strong></td>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
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</table>

*Home economics students are eligible for membership in the American Dietetic Association after a year's internship in an approved mainland hospital. For hospital internship, the Association requires 3 additional credits in one of the following: anthropology, economics, education, personnel relations, psychology, sociology.

†Not required of men students. Business or art electives are substituted.
<table>
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<th>CREDITS</th>
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<td><strong>Total</strong></td>
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**SECOND YEAR**

| BUSINESS 485  | 3       | English 109  | 3       |
| Home Economics 214 | 2       | History 171  | 3       |
| Home Economics 218 | 2       | Home Economics 215 | 2       |
| Home Economics 250* | 3       | Home Economics 253 | 2       |
| Home Economics 252 | 2       | Home Economics 418 | 2       |
| Home Economics 260 | 2       | Speech 152   | 3       |
| Sociology 151  | 3       | Elective     | 2       |
| **Total**      | 17      | **Total**    | 17      |

**THIRD YEAR**

| Art 235        | 2       | Business 483 | 3       |
| Home Economics 219 | 3       | Home Economics 217 | 3       |
| Home Economics 258 or elective* | 4       | Elective or Home Economics 258* | 4       |
| Elective in art | 2       | Elective in art | 2       |
| Elective       | 4       | Elective     | 3       |
| **Total**      | 15      | **Total**    | 15      |

**FOURTH YEAR**

| Foods and Nutrition Majors follow the second-year program including Chemistry 131, 141; Mathematics 103; Zoology 101. During the third and fourth years, the following are required: Chemistry 132, 271; English 210; History 171; Home Economics 240, 241, 250, 258, 399, 443; Microbiology 151.

**SUGGESTED ELECTIVES**

**Clothing Design:** Art 101, 136, 411–412, 463, 481, 482, 585; Home Economics 101, 251, 262; Drama 200; Economics 300; Business 460; French 151–152.

**General and Home Economics Education:** Art 101, 111–112, 136, 141, 142, 235; English 115, 220, 585; Home Economics 217, 234, 251, 399, 441; Music 160; Psychology 150, 152; Sociology 232, 450.

**Institutional Management:** In addition to the above electives, Business 460, 461, 462; English 109; Home Economics 112, 113, 114, 251, 252, 253, 262; Psychology 460; Speech 101, 150, 152, 180.

**Foods and Nutrition:** Chemistry 472; English 585; German 101–102, 151–152; Home Economics 112, 113, 114, 251, 262, 441; Physics 160–161; Sociology 151, 232; Zoology 431.

*Not required of men students. Business or art electives are substituted.*
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. Thus, students have unusual opportunities to study the latest methods and results of agricultural research. Close collaboration maintained with the experiment 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). Facilities for carrying on this work are provided by the headquarters offices and laboratories located on the University campus, and research farms at Poamoho and Waimanalo, Oahu; at Makawao, Maui; at Kainaliu, Hawaii. Emphasis is placed upon animal husbandry, poultry production, agronomy, and horticulture. Investigations cover the physiology of plants and animals; diseases, insects, and parasites; agronomy, soils and soil chemistry; human and animal nutrition; breeding and genetics; as well as other research in culture, production, and marketing.

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, Kealakekua, 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 personal conferences. Each year a 4-H Ahaolelo is 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 experiment stations, and by the USDA.

The Service, cooperating with the USDA Agricultural Marketing Service, collects and publishes crop estimates and market statistics of value to farmers and businessmen, and assists in keeping proper records for tax accounting. Emphasis is placed upon the grading and marketing of farm products.
Admission and Degree Requirements

Admission requirements, except for the premedical and predental programs, are the same as those for the University (pp. 48–52).

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

1. Complete certain basic subjects;
2. complete a major field of study as outlined by the major department;
3. have at least 50 semester hours of credit in other than introductory courses;
4. have an aggregate of at least 130 semester hours of credit;
5. have 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 the major fields of concentration. All students must meet the basic requirements of the first two years, and complete a major, with related courses, during the last two years. A major consists of 24 to 36 semester hours in one field of concentration. 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 architecture, art, chemistry, music, and the premedical and prepharmacy programs 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
- Health and Phys. Ed. 101, 102
- History 151–152
- AS 91–102 or MS 101–102
- Laboratory science
- Speech

**SECOND YEAR**

- English 150–151 or 152–153
- Foreign language
- Government 110
- History 171 (B.A. and B.F.A. only)
- AS 151–94 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; Mathematics 102, 103, or 111; Music 160; Philosophy 100 or 150; Psychology 102 or 104; Religion 150 or 151; Sociology 151.

A number of these basic requirements may be anticipated in the secondary school program. Entering freshmen with four years of a single language at the secondary school level are excused from the foreign language requirement. 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, 151, 152, 153; Microbiology 151; Physics 160–161 or 180–181; Psychology 102; Zoology 101 or 111; or Introduction to Science 120–121, which if elected should be taken the entire year.

**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 is required for graduation.

**ANTHROPOLOGY.** Major requirement: 24 semester hours. Required courses: Anthropology 150, 200, and a reasonable balance between regional courses (400 to 440) and systematic courses (500 to 553).

**ART.** Major requirement: 36 semester hours. Required courses: Art 111–112, 131–132, at least 12 hours in approved art history courses, and others as needed to complete one of the divisions—drawing and painting, applied design, ceramics, advertising art, history of art, weaving. For the B.F.A. degree the major requirement is 64 semester hours, with emphasis in one of the divisions.

**ASIAN STUDIES.** Major requirement: 39 semester hours (18 in one field). Required courses: 6 hours in third-year language; 6 hours in economics, govern-
ment or geography; 6 hours in history; 6 hours in art, music, or philosophy; 3 hours in anthropology or sociology; 9 hours in additional advanced courses in one of these areas.

BOTANY. Major requirement: 24 semester hours. Required courses: Botany 101, 410, 425, 460, 470, 553; Genetics 451, or approved substitutes.

CHEMISTRY. Major requirement: 36 semester hours. Required courses: Chemistry 103–104, 131, 132, 143–144, 231, 551–552. A reading knowledge of scientific German is required. Students desiring certification by the American Chemical Society must take 5 additional hours (including 1 hour of laboratory) from the following: 399, 421–422, 423–424, 441, 442, 444, 446, 571–572.


DRAMA AND THEATER. Major requirement: 24 semester hours. Required courses: Drama 150–151; 12 hours from 410, 420–421, 430, 440, and 445; 6 hours from 550, 560, and 570. In addition, 6 hours in dramatic literature, 3 hours in phonetics, interpretation, radio, or playwriting, are required.

ECONOMICS. Major requirement: 33 semester hours. Required courses: Economics 150–151, 240, 400, 402, 404. Six hours from the following courses may be counted toward the major: Business 300, 442, 450, 460, 480, 490, 491, 501.

ENGLISH. Major requirement: 24 semester hours of upper division courses. Required courses: 9 hours in "periods" of 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.


GEOGRAPHY. Major requirement: 27 semester hours. Required courses: Geography 101, 410, three continental courses, and one systematic course.


GOVERNMENT. Major requirement: 27 semester hours. Required courses: Government 110, 400, and one course from each of the following groups: American government, comparative government, international relations, politics, public administration.

HISTORY. Major requirement: 24 semester hours of upper division courses. Required courses: History 396, 397, or 398, and 9 hours from each of two of the three fields—United States, Pacific and Far East, European. Courses marked with an asterisk may be applied to either of two of these groups. Greek 401 and Latin 402 are recommended but may not be taken as part of the 24-unit requirement.

Preprofessional and Graduate Preparation

The following programs are recommended as desirable preparation in the various fields. They are suggested rather than required, as variations are often necessary in order to meet student needs or the stipulations of a particular professional or graduate school. Student programs should follow the recommendations of the appropriate national professional organizations, provide a good background in the humanities and social sciences, and meet the requirements of the College of Arts and Sciences.

There are no architectural, dental, law, medical, ministerial, or osteopathic schools in Hawaii.
Fine Arts 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. A major may be obtained in drawing and painting, applied design, ceramics, advertising art, history of art, and weaving.

Pacific Islands Studies Program

The University offers graduate work leading to the master of arts degree in Pacific islands studies. This program provides both a regional specialization for those who intend to continue work for the doctorate in a particular discipline, and an area background for those contemplating employment in business, government, or mission work in the Pacific islands—Polynesia (including Hawaii), Micronesia, and Melanesia.

The required undergraduate preparation is 18 semester hours of courses dealing with the Pacific islands, to be chosen from the following: Anthropology 400, 401, 402, 403, 552, 553; Economics 452, 480, 482; English 585; Geography 561, 571, 574, 575, 578; Government 261, 422, 442; History 438, 439, 571, 572, 575, 577; Psychology 460, 462; Sociology 232, 450, 452, 524. A basic course in either anthropology or geography of the Pacific islands is required.

Predental Program

AMERICAN DENTAL ASSOCIATION RECOMMENDATIONS

The Council of Dental Education has established the following minimum list of requirements for admission to approved dental schools:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>University of Hawaii Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chemistry 103–104, 141</td>
</tr>
<tr>
<td>Physics</td>
<td>Physics 160–161</td>
</tr>
<tr>
<td>Biology or zoology</td>
<td>Zoology 101, 311</td>
</tr>
<tr>
<td>English</td>
<td>English 101–102</td>
</tr>
<tr>
<td>General, and a half year of organic</td>
<td></td>
</tr>
<tr>
<td>One year</td>
<td></td>
</tr>
</tbody>
</table>

Generally, at least 90 credit hours are required.

Prearchitectural Program

Students intending to take a degree in architecture must transfer to another institution at the beginning of the junior year. The second year of this program may be modified to meet the requirements of any institution. First Year: Architecture 171–172; Art 111–112, 131–132; English 101–102; Health & Physical Education 101, 102; Mathematics 103, 104; Air or Military Science 101–102; Speech 100. Second Year: Architecture 116, 138–139; Engineering CE 102; English
155; Health & Physical Education 130; Mathematics 131, 132; Air or Military Science 151-152; Physics 161-162.

Prelegal Program

Most law schools require a bachelor’s degree for entrance. They do not specify major fields to be covered, but in general prefer a well-rounded background with a major in economics, English, government, history, philosophy, psychology, or sociology. A mastery of elementary logic and mathematics, together with a good grasp of scientific principles, is considered desirable and work in elementary accounting is strongly advised; but the best prelegal training consists of a thorough grounding in the social sciences and humanities together with extensive practice in the arts of oral and written communication.

Chemistry 103-104 is suggested for the science requirement, and either French or German for the language. The work of the last two years, aside from the major, is elective, but the following courses are especially recommended: Business 150-151; Economics 240, 450; Government 500; History 435, 475; Psychology 270, 480; Speech 485.

Prelibrary Program

Accredited library schools require a bachelor’s degree for entrance. They do not specify an undergraduate major, but prefer a broad background in literature, humanities, social science, and modern languages, preferably French and German. Practical library experience is recommended. Catalogues should be consulted for specific requirements.

Students interested in public school library work in Hawaii, see p. 96–97.

Premedical Program

AMERICAN MEDICAL ASSOCIATION RECOMMENDATIONS

Preparatory school requirements include a minimum of 15 units of which at least 3 must be in English, 2 in a foreign language, 2 in algebra, 1 in geometry, and 1 in history.

University requirements are a minimum of 60* credit hours as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>UNIVERSITY OF HAWAII EQUIVALENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>16</td>
<td>Chemistry 103–104, 132, 141</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td>Physics 160–161</td>
</tr>
<tr>
<td>Biology</td>
<td>10</td>
<td>Zoology 101, 311–312</td>
</tr>
<tr>
<td>English composition</td>
<td>6</td>
<td>English 101–102</td>
</tr>
<tr>
<td>French, German, or Spanish</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td></td>
</tr>
</tbody>
</table>

*A majority of medical schools now require 90 credit hours and give preference to applicants with a bachelor’s degree.
Fifteen semester hours of electives from the following fields: botany, chemistry, economics, English, history, mathematics, microbiology, psychology, sociology, and zoology.

**Journalism Program**

Students interested in some aspect of journalism (newspaper, magazine, radio, television) should major in one of the fields of this college. Help in selecting an adequate program to develop journalistic facility should be sought from the journalism instructor.

Openings for apprentice work in local media are frequently available.

**Preministerial Program**

Accredited schools for ministers and directors of religious education require a bachelor's degree for entrance. They prefer students with a well-rounded background. A major in religion itself is advised only when the background is particularly weak in Christian training. Majors in English, history, philosophy, psychology, or sociology are almost equally helpful.

A preministerial student should meet the basic requirements recommended by the American Association of Theological Schools and consult the catalogues of the graduate schools he is considering.

**Public Administration Program**

Students expecting to enter the field of public administration major in government and follow the program in public administration. They must complete the work required of a major in government (see p. 80) and all courses offered in public administration.

In order to insure an adequate background of preparation, the following courses are strongly recommended: Government 420, 421, 423, 483, 484; Economics 450, 470, 472, 492; English 210; and a course in statistical methods.

Enrollment in the public administration program is open to persons engaged in public service who are desirous of training in public administration, and who are able to satisfy University admission requirements.

**Preosteopathic Program**

The Osteopathic Bureau of Professional Education and Colleges recommends, and several osteopathic schools require, that preosteopathic students complete at least three years of college work. Such students are urged to emphasize general education rather than science specialization.

The minimum requirements for admission to an approved college of osteopathy are 60 semester hours (two years) from a college or university accredited
by a regional or national accrediting agency. The specific subject and credit requirements, and the University of Hawaii equivalents, are identical with those of the predental program.

**Prepharmacy Program**

Preparatory school requirements include a minimum of 15 units of which at least 3 must be in English, 2 in a foreign language, 2 in algebra, 1 in geometry, and 1 in history.

University requirements are a minimum of 60 credit hours as follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
<th>University of Hawaii Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>12</td>
<td>Chemistry 103–104, and 131</td>
</tr>
<tr>
<td>Physics</td>
<td>8</td>
<td>Physics 160–161</td>
</tr>
<tr>
<td>Zoology</td>
<td>12</td>
<td>Zoology 101, 311–312</td>
</tr>
<tr>
<td>Botany</td>
<td>4</td>
<td>Botany 101</td>
</tr>
<tr>
<td>Mathematics</td>
<td>12</td>
<td>Math 102, 103, 131, 132</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
<td></td>
</tr>
</tbody>
</table>

Twelve semester hours of electives from the following: botany, chemistry, economics, English, history, mathematics, microbiology, psychology, sociology, zoology, or other related subjects as advised by the dean. One such elective must be a full year course.

**Presocial Work Program**

Students who plan to enter the School of Social Work may major in any of the social sciences. They must have a minimum of 30 semester hours in social science, with 6 semester hours each from economics, government, psychology, and sociology. In addition to the introductory course, advanced courses may be chosen from the following: Economics 290, 450, 490, 492; Government 282, 481, 500, 502; Psychology 150, 420, 426, 462, 480; Sociology 450, 472, 500, 504, 524, 560, 570. In addition, Social Work 300 must be taken in the junior or senior year.

A biological science should be elected to satisfy the lower division science requirement. A course in statistics is recommended.

Intention of preparing for social work should be indicated to the College Dean by the beginning of the third year.

**Bachelor of Music Degree Program**

*Basic Requirements:* Air 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 (voice only); Health & Physical Education 101, 102, 130; History 151–152; Science 120–121; Speech 100 or 150.
Music Requirements:

Major Performance Area:
*OBI (26 sh) 135-136, 137-138
*P (28 sh) 125-126, 237-238
*V (26 sh)

Secondary Performance Area:
OBI (4 sh) 113-114, 115-116
P (2 sh) 121, 122, 123, 124, 131, 231
V (2 sh) 113-114, 115-116

Orchestra and Ensemble:
OBI (8 sh)
P (6 sh) 300, 301, 309
V (9 sh)

Sight Singing and Keyboard Harmony:
OBI (4 sh)
P (4 sh) 283, 284
V (4 sh)

Theory:
OBI (8 sh)
P (8 sh) 181, 182
V (8 sh)

Piano Literature:
P (2 sh) 269

Conducting:
OBI (4 sh)
V (4 sh) 257-258

Advanced Harmony:
OBI (4 sh)
P (4 sh) 183, 184
V (4 sh)

Form and Analysis:
OBI (4 sh)
P (4 sh) 285-286

Orchestration:
OBI (4 sh) 281-282

Music Literature:
OBI (3 sh)
P (3 sh) 160
V (3 sh)

Music History:
OBI (6 sh)
P (6 sh) 361-362
V (6 sh)

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.

Bachelor of Science Degree Programs
(Geology and Meteorology only)

GEOLOGY

Basic Requirements: Air or Military Science 101-102, 151-152; Engineering CE 101, 111, 112; Chemistry 103-104 or 105-106, 131 (or Physics 280); English 101-102, 150-151 or 152-153, 210; Health & Physical Education 101, 102, 130; Mathematics 102, 103, 104, 131, 132; Physics 160-161 or 180-181; Speech 100, and 12 semester hours from the following: Anthropology 150; Art 101; Drama 140; Economics 140 or 150-151; Government 110; History 151-152, 171; Mathematics 111; Music 160; Philosophy 100 or 150; Psychology 102; Religion 150 or 151; Sociology 151.

Geology Requirements: 150, 151, 152, 153, 255, 265, 275, 300, 410, 415, 420, 460, 480.

Recommended Electives: Chemistry 132, 580; foreign language; Geography 430; Geology 454; mathematics beyond 132; Meteorology 160, 250; Physics 310, 350.

*OBI—Orchstral and Band Instruments; P—Piano; V—Voice.
METEOROLOGY

Basic Requirements: Air or Military Science 101-102, 151-152; Chemistry 103-104 or 105-106; English 101-102, 150-151 or 152-153, 210; Geography 101; Geology 150; Health & Physical Education 101, 102, 130; Mathematics 133; Physics 151, 180-181, 310, 530; Speech 100, and 12 semester hours from the following: Anthropology 150; Art 101; Drama 140; Economics 140 or 150-151; Government 110; History 151-152, 171; Music 160; Philosophy 100 or 150; Psychology 102; Religion 150 or 151; Sociology 151.


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

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: general business, banking and finance, personnel and industrial relations, accounting, merchandising, and office management.

Admission and Degree Requirements

Admission requirements are the same as those for the University (pp. 48–52). In order to qualify for the degree a student must:

1. Meet certain basic requirements of the first two years;
2. Complete one of the six curricula of the College;
3. Have an aggregate of at least 130 semester hours of credit;
4. Have a 2.0 grade-point ratio for all registered credits, and in the major field (see "Undergraduate Degree Requirements").

Curricula

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th></th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIRST SEMESTER</strong></td>
<td><strong>CREDITS</strong></td>
<td><strong>CREDITS</strong></td>
</tr>
<tr>
<td>Business 110 or</td>
<td></td>
<td>English 102</td>
</tr>
<tr>
<td>Geography 151</td>
<td>3</td>
<td>Geography 151 or Business 110</td>
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<td>Health &amp; Phys. Ed. 102</td>
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<tr>
<td>AS 91 or MS 101</td>
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<td>History 152</td>
</tr>
<tr>
<td>Philosophy 110 or</td>
<td></td>
<td>History 152</td>
</tr>
<tr>
<td>Government 110</td>
<td>3</td>
<td>MS or AS 102</td>
</tr>
<tr>
<td>Speech (as required)</td>
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<td>Speech (as required)</td>
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<td><strong>Total</strong></td>
<td>14 or 15</td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
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</tbody>
</table>

86
<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>CREDITS</th>
<th>SECOND SEMESTER</th>
<th>CREDITS</th>
</tr>
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<tbody>
<tr>
<td>Business 150</td>
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<td>Business 151</td>
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<tr>
<td>Business 160</td>
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<td>Business 161</td>
<td>3</td>
</tr>
<tr>
<td>Economics 150</td>
<td>3</td>
<td>Economics 151</td>
<td>3</td>
</tr>
<tr>
<td>English 155</td>
<td>3</td>
<td>English 109</td>
<td>3</td>
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<tr>
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<td>HPE 130*</td>
<td>1</td>
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<tr>
<td>History 171 or</td>
<td>3</td>
<td>MS 152 or AS 94</td>
<td>1-0</td>
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<tr>
<td>Psychology 104</td>
<td>3</td>
<td>Psychology 104 or</td>
<td>3</td>
</tr>
<tr>
<td>MS or AS 151</td>
<td>1</td>
<td>History 171</td>
<td>3</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>19</td>
<td><strong>Total</strong></td>
<td>19 or 18</td>
</tr>
</tbody>
</table>

**GENERAL BUSINESS**

**THIRD YEAR**

- Bus. 300 Business Statistics
- Bus. 405 Income Tax Problems
- Bus. 480 Principles of Marketing
- Econ. 240 Money and Banking
- Econ. 290 Labor Problems

- Bus. 483 Retail Merchandising
- Bus. 490 Corporation Finance
- Econ. 470 Government and Business

**FOURTH YEAR**

- Bus. 301 Bus. Reports and Corres.
- Bus. 485 Prin. of Salesmanship
- Econ. 450 Public Finance

- Bus. 442 Bus. Organ. and Mgmt.
- Bus. 460 Personnel Management
- Geog. 507 Econ. Resources of the U.S.

**BANKING AND FINANCE**

**THIRD YEAR**

- Bus. 300 Business Statistics
- Bus. 301 Bus. Reports and Corres.
- Bus. 400 Intermediate Accounting
- Econ. 240 Money and Banking

- Bus. 404 Analysis of Fin. Statements
- Bus. 490 Corporation Finance
- Econ. 450 Public Finance
- Econ. 470 Government and Business

**FOURTH YEAR**

- Bus. 405 Income Tax Problems
- Bus. 492 Credit Management
- Econ. 472 Public Utilities

- Bus. 502 Negotiable Instruments
- Econ. 460 International Trade and Fin.

**PERSONNEL AND INDUSTRIAL RELATIONS**

**THIRD YEAR**

- Bus. 300 Business Statistics
- Econ. 290 Labor Problems
- Econ. 492 Labor Legislation

- Bus. 460 Personnel Management
- Bus. 461 Indus. Safety and Health
- Bus. 462 Time and Motion Study
- Econ. 490 American Trade Unionism

**FOURTH YEAR**

- Bus. 450 Collective Bargaining
- Econ. 240 Money and Banking
- Econ. 470 Government and Business
- Econ. 496 Research in Indus. Rel.

- Bus. 465 Employment Interviewing
- Econ. 494 Arbitration of Grievances

\*May be taken either semester.
ACCOUNTING
THIRD YEAR

Bus. 300 Business Statistics
Bus. 400 Intermediate Accounting
Bus. 405 Income Tax Problems
Econ. 240 Money and Banking

Bus. 401 Advanced Accounting
Bus. 490 Corporation Finance
Econ. 450 Public Finance

FOURTH YEAR

Bus. 403 Cost Accounting
Bus. 407 Auditing
Bus. 442 Bus. Organ. and Mgmt.

Bus. 402 Budgetary Acctg. and Control
Bus. 404 Analysis of Fin. Statements
Bus. 408 Accounting Systems

MERCHANDISING
THIRD YEAR*

Bus. 400 Intermediate Accounting
Bus. 480 Prin. of Marketing
Econ. 240 Money and Banking
Econ. 470 Government and Bus.

Bus. 300 Business Statistics
Bus. 483 Retail Merchandising

FOURTH YEAR†

Bus. 485 Prin. of Salesmanship
Bus. 490 Corporation Finance
Bus. 492 Credit Management

Bus. 442 Bus. Organ. and Mgmt.

OFFICE MANAGEMENT

THIRD YEAR

Bus. 270 Tech. of Typewriting
Bus. 301 Bus. Reports and Corres.
Bus. 400 Intermediate Accounting
Bus. 440 Office Organ. and Mgmt.
Econ. 290 Labor Problems

Bus. 271 Tech. of Typewriting
Bus. 300 Business Statistics
Bus. 460 Personnel Management

FOURTH YEAR

Bus. 272 Tech. of Shorthand
Bus. 464 Elem. of Supervision
Econ. 240 Money and Banking

Bus. 230 Punch Card Accounting
Bus. 274 Adv. Secretarial Training
Bus. 276 Secretarial Practice
Bus. 278 Bus. and Sec. Machines

*One of the following to be elected: Psychology 270, 474; Sociology 151, 232.
†Any two of the following to be elected: Business 406, 410, 482, 484.
COLLEGE OF EDUCATION

The function of the College of Education is to prepare public school teachers and to afford those already in service an opportunity to improve themselves professionally. Standard preparation for teaching positions in the public schools of Hawaii requires four years of undergraduate work and a graduate year. The four-year programs lead to the bachelor of education and the bachelor of science degrees, and the year of graduate work to the five-year diploma. Both the degree and the diploma indicate the level—preschool-primary, elementary, or secondary—for which the curriculum is designed.

Admission and Degree Requirements

In addition to University admission requirements (pp. 48-52), 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 Education 309, required of all seniors. Admission to the fifth-year program leading to the five-year diploma requires a grade of C or better in practice teaching, and professional preparation equivalent to that represented by the bachelor of education degree or the bachelor of science degree in vocational education.

To be eligible for the bachelor of education degree, a student must:

1. Have an aggregate of at least 130 semester hours of credit;
2. have a 2.0 grade-point ratio for all registered credits, 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.
Professional Certificate Requirements

The standard certificate for public school teaching in Hawaii is the professional certificate granted by the state Department of Public Instruction. The general requirement for this certificate is five years of college work, including student teaching and other professional course experience. In addition, the candidate must have met the specific course and curriculum requirements for the grade of certificate sought (e.g., preschool-primary, elementary, secondary).

Requirements for admission to the Program are: (1) Bachelor's degree from an accredited institution; (2) proficiency in oral and written communication; (3) recommendations from former employers and/or college advisors; (4) transcripts of college records, including standard test scores; (5) meeting of standards of academic success as required at the specific curriculum levels, including a teaching field at the secondary level; (6) interview with College of Education admission personnel; (7) 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. Application 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; 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) Preschool-primary and elementary levels—child psychology, principles of education, teaching of language arts, arithmetic, social studies, science, tests and measurements, educational psychology, speech, and two or three of music, art, and physical education.

(b) Secondary level—adolescent psychology, principles of secondary education, a methods course in the teaching field, educational psychology, and tests and measurements.

(c) In addition, at all levels, a semester of student teaching and 6 graduate credits in education.

Curricula

The curricula in preschool-primary, elementary, and secondary education, with minor exceptions, are identical for the first two years, where the curriculum is designed to provide a broad general background.
During the third year, students are introduced to the professional information and background necessary for public school service. Differentiation appropriate to the selected curriculum (preschool-primary, elementary, or secondary) begins at this point. Students preparing for secondary school teaching utilize the electives included in the curriculum outline in meeting requirements for teaching field concentrations.

TEACHING FIELD REQUIREMENTS—SECONDARY EDUCATION

Agricultural arts: 32 credits in agriculture, Botany 101, Chemistry 103–104, Zoology 161; Education 333. Art: 36 credits in history and theory of art, and two-dimensional and three-dimensional art; Education 336. Biological science: 32 credits in botany, microbiology, zoology; Education 333. Commercial: 36 credits in business, economics, shorthand, typewriting, bookkeeping; Education 348, 349. English: 36 credits in composition, linguistics, English and American literature; Education 330. General science: 36 credits including basic laboratory courses in chemistry, physics, botany, zoology; Education 330. Health and physical education: 36 credits with a minimum of 12 in health and 16 in physical education; Education 341. Home economics: 45 credits and a course in the teaching of home economics. Industrial arts: 44 credits in hand and machine woodworking, metalwork, electricity, crafts, general shop; Education 346, 347. Languages: 24 credits in advanced courses; Education 335. Library science: 26 credits, 18 in library science, 8 in related courses; Education 225, 235, 320, 350. Mathematics: 24 credits at university level and a course in the teaching of mathematics; Education 334. Music: 43 credits including applied music and organizations; Education 337–338. Physical science: 32 credits in chemistry, geology, physics; Education 333. Social studies: 36 credits including 6 in U.S. history, 6 in world history, Government 110; Education 332.

The fourth-year program consists largely of professional education. One semester is devoted to practice 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) cumulative grade-point average of at least 2.0; (2) evidence of competency in spoken and written English; (3) evidence of personality adjustment suitable for contact with children.

The program of the fifth year becomes practically identical for all 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.

The curriculum in dental hygiene is listed separately.
### PRESCHOOL-PRIMARY, ELEMENTARY, AND SECONDARY CURRICULA

#### FIRST YEAR

<table>
<thead>
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#### SECOND YEAR

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<td>Psychology 150 or 152</td>
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#### PRESCHOOL-PRIMARY CURRICULUM

#### THIRD YEAR

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<td>Education 312</td>
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<td>Education 316</td>
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<td>Education 317</td>
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<td>Elective</td>
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*May be met by examination.
†Anthropology 150, Economics 140, or Sociology 151.
‡Not required in the secondary curriculum.
§English 152-153 may be substituted.
# Elementary Curriculum

## Third Year

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<td>Education 323</td>
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<td>Education 324</td>
<td>Education 326</td>
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<td>3</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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</tbody>
</table>

## Fourth Year

| Education 309                      | Education 390                       | 3       |
| Geography 401                      | Education 391                       | 2       |
| Health & Phys. Ed. 230             | Elective*                           | 8       |
| Psychology 472                     | Elective*                           | 3       |
| Speech 365                         | Elective                            | 2       |
|                                    | Total                               | 16      |

## Secondary Curriculum

## Third Year

| Education 230                      | Education 330†                      | 5       |
| Sociology 232                      | Health & Phys. Ed. 230              | 3       |
| Elective*                          | Elective*                           | 8       |
|                                    | Total                               | 16      |

## Fourth Year

| Education 309                      | Education 390                       | 3       |
| Psychology 472                     | Education 391                       | 2       |
| Speech 365†                        | Elective*                           | 7       |
|                                    | Total                               | 16      |

## Preschool-Primary, Elementary, Secondary, and Dental Hygiene Curricula

## Fifth Year

| Education 655                      | Education 690‡                      | 3       |
| Education 680                      | Education 691                       | 2       |
| Social Work 300§                   |                                    | 3       |
| Elective‖                          |                                    | 8       |
|                                    | Total                               | 16      |

*As required to meet teaching field concentrations.
†For other teaching fields, appropriate methods courses will be substituted.
‡Speech majors substitute Speech 369.
§Required in preschool-primary curriculum only.
‖Must include a graduate course in education to make a total of six.
#Dental Hygiene 690 in dental hygiene curriculum.
# DENTAL HYGIENE CURRICULUM

## FIRST YEAR

### FIRST SEMESTER

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<th>Course</th>
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<td>English 101</td>
<td>3</td>
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<td>Health &amp; Phys. Ed. 101</td>
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<td>History 151</td>
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<td>Speech 100</td>
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<td>Sociology 151</td>
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**Total:** 16

### SECOND SEMESTER

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<td>English 102</td>
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<td>Health &amp; Phys. Ed. 102</td>
<td>1</td>
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<td>History 152</td>
<td>3</td>
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<td>Speech 110</td>
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<tr>
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**Total:** 17

## SECOND YEAR

### FIRST SEMESTER

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<tr>
<td>Government 110</td>
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<tr>
<td>Health &amp; Phys. Ed. 130</td>
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<td>Psychology 104</td>
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**Total:** 17

### SECOND SEMESTER

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<td>English 151</td>
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<td>Psychology 150</td>
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<td>Zoology 115</td>
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**Total:** 17

## THIRD YEAR

### FIRST SEMESTER

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<td>Dental Hygiene 254</td>
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<td>Dental Hygiene 258</td>
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<tr>
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<td>History 171</td>
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<td>Dental Hygiene 266</td>
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## FOURTH YEAR

### FIRST SEMESTER

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<td>Speech 135</td>
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**Total:** 17

## ELECTIVES

Suggested: Art 103–104; Education 304, 309, 320, 333; Health and Physical Education 231, 232, 236, 239; Psychology 152, 472; Social Work 300; Speech 365.
### RECREATION CURRICULUM

#### FIRST YEAR

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<th>Second Semester</th>
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<td>Botany 105 or 160</td>
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#### SECOND YEAR

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#### THIRD YEAR

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#### FOURTH YEAR

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<td><strong>Total</strong></td>
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#### 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 II: Air Science 201–202, 251–252; Anthropology 401; 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 201–202, 251–252; Music 160; Philosophy 100; Psychology 270, 420; Religion 150; Science 120–121; Speech 150.

**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 Department of Public Instruction.

**Vocational Home Economics Education**

Prospective vocational home economics teachers obtain their undergraduate preparation in the College of 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 Department of Public Instruction grants certification in school guidance counseling on three levels: minor in counseling; provisional certificate in counseling; professional certificate in counseling. Requirements for a minor in counseling include the Professional Teachers Certificate and certain courses especially pertinent to the area. Higher certification is dependent on specified experience and advanced courses. The undergraduate student interested in this area of teaching should confer with the counselor trainer before the beginning of the junior year.

**Library Science**

Regulations of the Department of Public Instruction provide that a teacher may have "Qualified School Librarian" placed on the face of the Professional
Certificate providing he meets the requirements of 26 semester hours in library science and related courses. Individuals interested in the program should confer with one of the instructors in library science.

**Leadership Training Program**

Sponsored by the College of Education and the Department of Public Instruction, this program is designed to give training and experience to those now in educational work in preparation for added responsibilities. Each year a selection examination is given. Eligibility for the examination requires that a candidate (1) have a professional certificate, or qualify for it by June 30 following the date of the examination; (2) have five or more years of teaching experience; (3) be less than 50 years of age. Approved candidates enroll for a year in Education 780 (Seminar in Educational Administration), and Education 790 (Seminar in Educational Leadership). Those interested in administrative, guidance, supervisory, and curricular areas are invited to apply.
The College of Engineering prepares students for civil, electrical, mechanical, and general engineering. This includes training in fundamental scientific principles, development of leadership and professional ethics, and general education.

Admission and Degree Requirements

The number of students admitted is limited. Selection is made on the basis of admission tests and high school records. The programs require special preparation in addition to the requirements for admission (pp. 48–52). Students who lack the required special preparation, or who are unable to carry heavy schedules, or who elect advanced military or air science, usually need more than four years to meet degree requirements.

To be eligible for the bachelor of science 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

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

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>CREDITS</th>
<th>SECOND SEMESTER</th>
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<tr>
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<td>CE 100 Orientation</td>
<td>1</td>
<td>CE 102 Descriptive Geometry</td>
<td>2</td>
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<tr>
<td>CE 101 Drawing</td>
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<td>Eng 102 English Composition</td>
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<tr>
<td>Eng 101 English Composition</td>
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<td>HPE 102 Ind. &amp; Team Sports</td>
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<tr>
<td>HPE 101 Ind. &amp; Team Sports</td>
<td>1</td>
<td>Hist 171 American History</td>
<td>3</td>
</tr>
<tr>
<td>Math 103 College Algebra</td>
<td>3</td>
<td>Math 131 Differential Calculus</td>
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</tr>
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<td>Math 104 Analytical Geometry</td>
<td>3</td>
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<td>AS 91 or MS 111</td>
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<td>Sp 100 Fundamentals of Speech</td>
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## CIVIL ENGINEERING CURRICULUM

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<tr>
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<td>Eng 155 Literature</td>
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<tr>
<td>HPE 130 Personal Hygiene</td>
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<tr>
<td>Math 132 Integral Calculus</td>
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<tr>
<td>Military or Air Science 151</td>
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<td>Phys 180 Engineering Physics</td>
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### THIRD YEAR

<table>
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<tr>
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<tr>
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<td>CE 273 Mechanics of Materials</td>
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<td>CE 241 Mechanics of Mat. Lab.</td>
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<td>EE 102 Electrical Science</td>
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<td>English 210 or 212</td>
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<td>CE 331 Sanitary Engineering</td>
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<td>CE 351 Soil Mechanics</td>
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<td>CE 380 Structural Design</td>
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<td>CE 385 Structural Analysis or CE 325 Hydrology</td>
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### ELECTRICAL ENGINEERING CURRICULUM

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<td>Eng 155 Literature</td>
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<td>Math 132 Integral Calculus</td>
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<td>Math 133 Calculus Applications</td>
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<td>Phys 180 Engineering Physics</td>
<td>5</td>
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<td>1</td>
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<tr>
<td>Elective (Humanistic or Social Studies I)</td>
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<td>Phys 181 Engineering Physics</td>
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#### THIRD YEAR

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<tr>
<td>CE 271 Mechanics (Dynamics)</td>
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<td>CE 273 Mechanics of Materials</td>
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<td>EE 212 Circuit Anal. &amp; Syn.</td>
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<td>EE 211 Basic Circuit Analysis</td>
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<td>Math 401 Differential Equa.</td>
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<td>EE 242 Transmission Lines</td>
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<td>Phys 253 Electrical Meas.</td>
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<td>Phys 440 Electronics</td>
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<tr>
<td>Phys 350 Electricity &amp; Magnet.</td>
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<td>Phys 550 Electromagnetic Waves</td>
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#### FOURTH YEAR

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<tr>
<td>CE 220 Fluid Mechanics</td>
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<td>CE 300 Engineering Economy</td>
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<td>EE 321 Electronic Operations</td>
<td>4</td>
<td>EE 362 Feedback Control</td>
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<tr>
<td>EE 351 Electromech. Energy Con.</td>
<td>4</td>
<td>ME 231 Thermodynamics</td>
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<td>Phys 280 Modern Physics</td>
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### GENERAL ENGINEERING CURRICULUM

#### SECOND YEAR

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<tr>
<td>CE 111 Surveying</td>
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<td>CE 170 Mechanics (Statics)</td>
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<tr>
<td>Eng 155 Literature</td>
<td>3</td>
<td>Econ 140 Introduction</td>
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<tr>
<td>Math 132 Integral Calculus</td>
<td>3</td>
<td>HPE 130 Personal Hygiene</td>
<td>1</td>
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<tr>
<td>Military or Air Science 151</td>
<td>1</td>
<td>Math 133 Calculus Applications</td>
<td>3</td>
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<tr>
<td>Phys 180 Engineering Physics</td>
<td>5</td>
<td>Military or Air Science 152</td>
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<tr>
<td>Elective (Humanistic or Social Studies I)</td>
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<td>Phys 181 Engineering Physics</td>
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# Third Year

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<tbody>
<tr>
<td>English 210 or 212</td>
<td>3</td>
<td>CE 220 Fluid Mechanics</td>
<td>4</td>
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<tr>
<td>CE 271 Mechanics (Dynamics)</td>
<td>3</td>
<td>CE 274 Mechanics of Materials</td>
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<td>CE 273 Mechanics of Materials</td>
<td>4</td>
<td>EE 102 Electrical Science</td>
<td>4</td>
</tr>
<tr>
<td>CE 241 Mechanics of Mat. Lab</td>
<td>1</td>
<td>ME 260 Kinematics</td>
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<td>ME 231 Thermodynamics</td>
<td>3</td>
<td>Phys 254 Electrical Meas.</td>
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<td>Phys 253 Electrical Meas.</td>
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<td>Elective (Humanistic or Social Studies II)</td>
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<tr>
<td>Phys 350 Electricity &amp; Mag.</td>
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## Fourth Year

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<tbody>
<tr>
<td>EE 203 Electrical Engin. Lab</td>
<td>1</td>
<td>CE 302 Contracts &amp; Specif.</td>
<td>2</td>
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<tr>
<td>ME 331 Steam Power</td>
<td>3</td>
<td>EE 301 General Circuit Anal.</td>
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<tr>
<td>ME 333 Heat Power Lab</td>
<td>1</td>
<td>ME 334 Heat Power Lab</td>
<td>1</td>
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<tr>
<td>Phys 280 Modern Physics</td>
<td>3</td>
<td>Phys 440 Electronics</td>
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<td>Elective (Technical III)</td>
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<td>Elective (Humanistic or Social Studies IV)</td>
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## Mechanical Engineering Curriculum

### Second Year

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<tr>
<td>Econ 140 Introduction</td>
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<td>CE 170 Mechanics (Dynamics)</td>
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<td>Eng 155 Literature</td>
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<td>EE 102 Electrical Science</td>
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<td>Math 132 Integral Calculus</td>
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<td>HPE 130 Personal Hygiene</td>
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<tr>
<td>ME 121 Manufacturing Processes</td>
<td>3</td>
<td>Math 133 Calculus Applications</td>
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<tr>
<td>Military or Air Science 151</td>
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<td>MS 152 or AS 94</td>
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<td>Phys 180 Engineering Physics</td>
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<td><strong>18</strong></td>
<td><strong>Total</strong></td>
<td><strong>16 or 17</strong></td>
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</tbody>
</table>

The third year of the mechanical engineering program will be offered in 1961–62.

## Humanistic-Social Studies Electives

The humanistic-social studies program requires all students to complete one course each in literature, history, and economics. The elective program is designed to require the student to complete beginning courses in two other fields (electives I and II) and at least one upper division course (elective III or IV) in a field for which he has completed the preparatory course.

Six credits of advanced air science or advanced military science may be substituted for six credits of humanistic or social studies electives. They may not be substituted for other courses. As advanced air science and military science programs require more than six credit hours, students desiring to complete one of the ROTC programs must take some of the work in summer sessions in order to complete the engineering program in four years.

HUMANISTIC–SOCIAL STUDIES ELECTIVES III OR IV: Any course numbered 200 or above in anthropology, art, drama, English, economics, geography, government, history, music, philosophy, psychology, religion, sociology, or speech.

TECHNICAL ELECTIVE I

The civil engineering program offers a concentration in either structural design or hydraulic design. The additional technical elective I may be any civil engineering numbered 200 or above.

TECHNICAL ELECTIVE II

The electrical engineering program offers a concentration in either power or electronics. The required number of electives may be selected from group a or b:

(a) EE 352, EE 392, EE 394.
(b) EE 372, EE 374, EE 376, EE 394.

TECHNICAL ELECTIVE III

The electives in the general engineering program offer a concentration in civil engineering, electrical engineering, mechanical engineering or industrial engineering. The required number of electives may be selected from group a, b, c, or d:

(a) EE 211, EE 212, EE 221, EE 242, Math 401.
(b) ME 121, ME 341, ME 342, Math 401.
(c) CE 112, CE 242, CE 360, CE 300.
(d) Bus 461, Bus 462, Bus 464, Math 471.
THE COLLEGE OF GENERAL STUDIES is committed to the premise that age alone is no bar to learning. By providing facilities for instruction in the evenings at both the Honolulu and Hilo campuses, and in areas away from the University both day and night, the College enables many people other than regular day students to broaden their cultural backgrounds, gain an insight into the demands of responsible citizenship, and prepare themselves for competent participation in the business and professional affairs of the community. Besides extending the availability of University education to people who cannot attend school on the campus in the daytime, the College administers the academic affairs of those day students who are not yet candidates for a degree in another college of the University. Various regular and special programs are offered:

**Evening Credit Courses.** Concurrent with University regular sessions, and in the summer as well, a group of basic undergraduate requirements and such advanced courses as are needed by substantial groups of evening students, particularly in business, are offered on the campus, usually after 5 P.M. Similar programs are offered at Schofield Barracks, Pearl Harbor, Hickam Field, Kaneohe Marine Base, Tripler Army Hospital, and other off-campus locations. Some of these courses are accelerated to fit the needs of military personnel. Admission to all credit courses is governed by general University requirements (see pp. 48--52), and credit received is the full equivalent of daytime credit in the same courses, including graduate credit when applicable.

**Evening Noncredit Courses.** Short evening courses covering selected college-level material in art, business, English, engineering, foreign languages, mathematics, general culture, and other subjects are offered on the campus. 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 attend regularly receive certificates upon completing these courses.

**Special Services.** Other special courses and conferences 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 for such activities arise in the community.
Announcements of courses and other forms of service are issued approximately a month before each program begins.

**Hilo Campus**

The University's Hilo Campus, on the island of Hawaii, is two hundred miles southeast of Honolulu. An administrative division of the College of General Studies, this campus offers a regular day program covering the first two years of required courses and electives in the colleges of Arts and Sciences, Business Administration, and Education. It is also possible to complete a year's work in certain other selected fields. The resident faculty consists of 16 full-time and 3 part-time members. A full program of extracurricular activities is provided and dormitory quarters are available nearby. The 30-acre campus includes two classroom buildings, a library, a cafeteria, a gymnasium, an athletic field, and other facilities.

A summer program, primarily for teachers, and selected evening courses are also offered.

For catalogs or other information, address the Director, University of Hawaii, Hilo Campus, Hilo, Hawaii, or the Dean of the College of General Studies, University of Hawaii, Honolulu 14, Hawaii.
COLLEGE OF NURSING

THE COLLEGE OF NURSING prepares students for nursing and medical technology. This preparation includes training in fundamental principles and practices, development of leadership and professional ethics, and the general education of the individual. The programs lead to the degree of bachelor of science.

Admission and Degree Requirements

Applicants must meet University admission requirements. 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 in the major field (see "Undergraduate Degree Requirements").

Curricula in Nursing

The program combines academic and professional courses with practice and is intended to develop the ability to give professional nursing care in any branch of service; to provide a sound foundation for advanced preparation; and to contribute to the development of a self-directing, socially conscious person able to make effective adjustments in personal and professional situations.

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<thead>
<tr>
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<td>Speech 100</td>
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<td>Zoology 115</td>
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<td>Psychology 158</td>
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SECOND YEAR

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Final Total | 105 |
THIRD YEAR

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<td>Sociology 472</td>
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FOURTH YEAR

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<td>Nursing 300</td>
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PROGRAM FOR REGISTERED NURSES

Registered nurses, who meet admission requirements, may be granted up to 30 credits toward the degree for work completed in an accredited diploma program in nursing. Such credit will be determined for each applicant by means of the Graduate Nurse Qualifying Examination and University administered tests. Fourth-year nursing courses are required.

Medical Technology Curriculum

The medical technology curriculum provides for three years of course work on the campus and a fourth year of practical experience in hospital laboratories. Beginning with the summer session preceding the fourth year and continuing throughout the year, students register for Medical Technology 266, 267, and 268. Completion of this curriculum makes the student eligible for the bachelor of science degree and certification as a medical technologist.

FIRST YEAR

<table>
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<tbody>
<tr>
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*Must be nonprofessional upper division courses.
## COLLEGE OF NURSING

### SECOND YEAR

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<td>English 155</td>
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### THIRD YEAR

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### SUMMER SESSION

Medical Technology 266~4 semester hours

### FOURTH YEAR

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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 degree in botany, chemistry, entomology, genetics, psychology, soil science, and zoology;

(2) the master's degree in animal science, anthropology, art, botany, business administration, chemistry, drama and theatre, economics, education, English, entomology, Far East studies, genetics, geography, government, history, mathematics, meteorology, microbiology, nutrition, Pacific islands studies, philosophy, physics, psychology, social work, * sociology, soil science, speech, tropical crop science, and zoology;

(3) the professional certificate for teachers in the employ of the state Department of Public Instruction (see p. 90).

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.
COURSES ARE LISTED alphabetically by subject. Numbers less than 100 indicate noncredit courses. Orientation courses carry the number 100. Lower division courses, intended for freshmen and sophomores, are numbered 100 to 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-) Yr., a 3-credit year course; (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.

In general, courses are listed by departments, but in a few cases (library science, medical technology, etc.) the material does not logically belong in an academic department and so is listed separately. The various languages are grouped under the departments of Asian and Pacific Languages, and European Languages. 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.

Agriculture

Senior Professor G. D. Sherman; Professors B. Goto, Hamilton, Kamemoto, Kinch, Philipp, Rosenberg, Scott, Wayman, Young; Associate Professors Britten, Gilbert, Koshi, McGuire, Otagaki; Assistant Professors Cobb, Dedolph, S. Goto, Kanehiro, Mollett, Moomaw, Nakasone, Palafox, Ross, Smith, Uehara, Van’t Woudt, Wang; Instructors I. Iwanaga, Tanaka; Lecturers Lynd, Poole

100 ORIENTATION COURSE (1) I

S. Goto

Lectures to acquaint the student with agriculture in Hawaii and help select a major.
110 GENERAL CATALOGUE, 1960–61

399 AGRICULTURAL THESIS (Ar.) I, II STAFF
Advanced individual work in field, laboratory, and 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 B. GOTO
Objectives and organization. Methods, selection, and training of voluntary leaders; basic principles in program development and appraisal. (Alt. yrs.; offered 1960–61.)

501 TROPICAL CROP PRODUCTION (3) I MOOMAW
Current agricultural practices in the production of sugar cane, pineapples, vegetables, fruits, and forage in the tropics. Course fee $2.00.

502 PRINCIPLES OF AGRONOMY (3) II (2 L, 1 Lb) YOUNGE
Pasture and field crops; ecology, cultural methods, and management in Hawaii. Pre: Botany 101; Chemistry 104; Zoology 101. Course fee $1.00.

503 APPLIED AGRICULTURAL STATISTICS (3) II (2 L, 1 Lb) DEDOLPH
Field plot technique; analysis of laboratory and field data for evaluating factors in agricultural experiments. Pre: Zoology 431 or Genetics 451.

601 TROPICAL CROP PRODUCTION (3) I MOOMAW
Current agricultural practices in the production of sugar cane, pineapples, vegetables, fruits, and forage in the tropics. Course fee $2.00.

605 SEMINAR IN TROPICAL RANGE MANAGEMENT (1) I MOOMAW
Range management principles and practices; current developments in tropical areas, especially Hawaii. Pre: consent of instructor.

699 DIRECTED RESEARCH (Ar.) I, II STAFF
(1) Genetics—Britten; (2) soil science—Sherman; (3) tropical horticulture—Kame­moto; (4) poultry science—Ross; (5) animal science—Wayman; (6) agricultural economics—Scott. Pre: candidacy for the M.S. degree; consent of instructor.

799 DIRECTED RESEARCH STAFF
(1) Genetics—Britten; (2) soil science—Sherman. Pre: candidacy for the Ph.D. degree; consent of instructor.

AGRICULTURAL ECONOMICS (AE)

421 AGRICULTURAL PRICES AND POLICY (3) I (2 L, 1 Lb) SCOTT
Factors affecting prices of agricultural products; evaluation of governmental policy. Pre: a course in economics. (Alt. yrs.; offered 1960–61.)

422 MARKETING AGRICULTURAL PRODUCTS (3) I (2 L, 1 Lb) SCOTT
Problems, agencies, functions, costs, prices, and regulations affecting marketing; proposed improvements. Pre: an introductory course in economics or consent of instructor.

423 AGRICULTURAL COOPERATIVES (3) II MOLLETT
History; appraisal of methods and operations; problems of management, membership relations, and accounts. Pre: consent of instructor. (Alt. yrs.; not offered 1960–61.)

427 FARM MANAGEMENT (3) I (2 L, 1 Lb) PHILIPP
Principles of organization and management of individual farms; choice of enterprises; business aspects; records, taxes, credit.

428 ADVANCED FARM MANAGEMENT (3) II PHILIPP

624 MARKETING RESEARCH (3) II SCOTT
Research methodology, analysis of data, presentation of findings. Original research project. Pre: AE 421, 422 or consent of instructor.

625 ECONOMICS OF AGRICULTURE: TROPICAL COUNTRIES AND ASIA (3) II STAFF
Economics of agricultural technology, land utilization, comparative advantage, and international and intra-country marketing problems.
AGRICULTURE 111

629 PRODUCTION ECONOMICS (3) I  MOLETT
Economics of resource allocation at the firm and industry levels. Advanced analytical techniques of analysis: linear programming; synthesis; budgeting; statistical analysis.

AGRICULTURAL ENGINEERING

433 AGRICULTURAL MACHINERY (3) I (2 L, 1 Lb)  KINCH
Principles of operation, construction, adjustment, power requirements, use, selection, and maintenance of farm and plantation machinery and general service equipment.

434 AGRICULTURAL POWER (3) II (2 L, 1 Lb)  WANG
Principles of operation, adjustment, selection and maintenance of internal combustion engines, farm tractors, trucks, and other power sources.

435 IRRIGATION PRINCIPLES AND PRACTICES (3) II (2 L, 1 Lb)  VAN'T WOUDT
Irrigation in its relation to crop production; development, distribution, and measurement of water; soil moisture and its effect on plant growth.

ANIMAL SCIENCE (AS)

141 ANIMAL HUSBANDRY (3) II (2 L, 1 Lb)  IWANAGA
Study of the important breeds of horses, cattle, sheep, and swine, and of their care and management. Course fee $1.00.

242 BEEF PRODUCTION (2) II  KOSHI
Breeding, feeding, and management of beef cattle with particular reference to conditions in Hawaii. (Alt. yrs.; offered 1960–61.)

243 DAIRY HUSBANDRY (3) II (2 L, 1 Lb)  KOSHI
Breeding, feeding, and management of dairy animals in Hawaii. Lab fee $1.00. (Alt. yrs.; not offered 1960–61.)

244 SWINE PRODUCTION (2) I  COBB
Management of swine with reference to conditions in Hawaii. Breeds available, breeding practices, and suitability of local feeds. (Alt. yrs.; offered 1960–61.)

245 FEEDS AND FEEDING (3) I (2 L, 1 Lb)  OTAGAKI
Principles of feeding and their application to feeding farm and plantation animals.

246 ANIMAL DISEASES AND THEIR CONTROL (3) I (2 L, 1 Lb)  LYND
Disease problems of domestic animals; prevention, control, and eradication. Pre: AS 141; Poultry Science 172. Lab fee $3.00.

443 PHYSIOLOGY OF DOMESTIC ANIMALS (3) I (2 L, 1 Lb)  WAYMAN
Organ systems, their structure and functions. Emphasis upon most important livestock. Pre: AS 141; Poultry Science 172. (Alt. yrs.; not offered 1960–61.)

444 ANIMAL NUTRITION (4) II (2 L, 1 Lb)  OTAGAKI
Nutrition of farm animals; protein, carbohydrate, fat, mineral, and vitamin metabolism; antibiotics and hormones in feed utilization. (Alt. yrs.; offered 1960–61.)

641 SEMINAR IN ANIMAL SCIENCE (1) II  WAYMAN
Recent advances in animal nutrition, genetics and physiology. Pre: AS 245; sufficient training in chemistry; consent of instructor.

GENETICS

451 PRINCIPLES OF GENETICS (4) I (3 L, 1 Lb)  SMITH
Principles of genetics; variations; cytological basis of heredity; biometric methods. Pre: a year of biological science. Course fee $2.00.

452 ADVANCED GENETICS (3) II  BRITTEN
Theories of genetics; methods and results of modification of germinal materials, gene action, and a survey of recent advances. Pre: Genetics 451.
453 PRINCIPLES OF PLANT BREEDING (3) II (2 L, 1 Lb) POOLE
Selection, hybridization, and cytogenetics as applied to plant improvement. Pre: Genetics 451. (Alt. yrs.; not offered 1960–61.)

654 GENETICS SEMINAR (1) I, II BRITTEN
Presentation of reports on research or reviews of current literature on genetics and cytogenetics. May be repeated. Pre: Genetics 451 or consent of instructor.

HORTICULTURE

161 PLANT PROPAGATION (3) I (2 L, 1 Lb) NAKASONE

162 TROPICAL POMOLOGY (3) II (2 L, 1 Lb) NAKASONE

463 PRINCIPLES OF FLORICULTURE (3) I (2 L, 1 Lb) KAMEMOTO

464 COMMERCIAL FLOWER PRODUCTION (3) II (2 L, 1 Lb) KAMEMOTO
Nursery practices, methods of culture, timing the crop, marketing. Pre: Horticulture 463. Lab fee $2.50. (Alt. yrs.; offered 1960–61.)

565 CONTROL OF PLANT DISEASES (2) II (2 L, 1 Lb) ISHII
Emphasis on problems relating to Hawaiian crop plants. Pre: Botany 101, 430; Microbiology 151; or consent of instructor. (Alt. yrs.; offered 1960–61.)

566 ADVANCED TROPICAL POMOLOGY (3) I (2 L, 1 Lb) HAMILTON
Culture and management of fruit and nut crops commercially important in Hawaii. Pre: Horticulture 161, 162. (Alt. yrs.; not offered 1960–61.)

667 HORTICULTURE SEMINAR (1) I, II STAFF
Presentation of reports upon research or reviews of current literature in the general field of horticulture. May be repeated. Pre: consent of instructor.

POULTRY SCIENCE (PS)

172 POULTRY HUSBANDRY (3) I (2 L, 1 Lb) TANAKA
Introduction to poultry husbandry. Course fee $2.00.

473 POULTRY BREEDING (3) II (2 L, 1 Lb) TANAKA

474 POULTRY NUTRITION (3) I (2 L, 1 Lb) ROSS
Principles of poultry nutrition; formulation of poultry rations with local feeds. Pre: PS 172. (Alt. yrs.; offered 1960–61.)

475 INCUBATION AND HATCHERY MANAGEMENT (3) II (2 L, 1 Lb) PALAFOX
Principles and practices in incubation and brooding; chick embryology. Pre: PS 172. (Alt. yrs.; not offered 1960–61.)

SOIL SCIENCE (SS)

281 SOILS (4) I (3 L, 1 Lb) SHERMAN

482 SOIL ANALYSIS (3) II SHERMAN
Soil composition and fertility. Special attention to field trials, soil tests, and foliar diagnosis in determining fertilizer requirements. Pre: SS 281.
483 SOIL DIAGNOSIS LABORATORY (2) II  
KANEHIRO  
Tests to determine effects of deficiencies and toxicities of plant nutrients; fertilizer requirements. Pre: SS 281, 482. Course fee $2.00. (Alt. yrs.; not offered 1960–61.)

484 SOIL PHYSICS (3) II  
UEHARA  
(2 L, 1 lb)  
Physical properties of soils; structure and moisture relationships. Pre: Physics 161 or 181; SS 281. (Alt. yrs.; offered 1960–61.)

685 ADVANCED SOIL TECHNOLOGY (3) I  
SHERMAN  
Soil-weathering and soil-forming processes on the basis of modern pedologic principles. Pre: consent of instructor.

686 SOIL CLASSIFICATION (3) II  
SHERMAN  
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) II  
STAFF  
Review of recent findings in soil science research in the fields of soil chemistry, physics, classification, fertility, bacteriology, and technology. Pre: graduate standing.

VEGETABLE CROPS (VC)

191 VEGETABLE CROP PRODUCTION (3) I  
GILBERT  
(2 L, 1 lb)  
Culture of the more important vegetable crops of Hawaii. Pre: Botany 101; Chemistry 104; credit or concurrent registration in Zoology 161. Course fee $3.00.

492 ADVANCED VEGETABLE PRODUCTION (4) I  
McGUIRE  
Production methods from choosing seed to marketing. Emphasizes top ten Hawaiian vegetables. Pre: Botany 470; Soil Science 281; VC 191. (Alt. yrs.; not offered 1960–61.)

493 VEGETABLE CROPS BREEDING (4) II  
McGUIRE  
Development of new varieties of vegetables; practical vegetable improvement in Hawaii. Pre: VC 191; Genetics 451. (Alt. yrs.; not offered 1960–61.)

494 SYSTEMATIC VEGETABLE CROPS (3) II  
McGUIRE  
(2 L, 1 lb)  

Air Science

Professor PARSONS; Associate Professors MULLEN, ROGAN; Assistant Professors HAWKINS, MCCLAIN, MORGAN, PERKINS, TROXEL; Instructors CATHCART, EIDSON, POLING, WREN

Leadership Laboratory required one day per week for four years. Uniform and awards fee, 75 cents each semester (not refundable). Geography 460, Government 260, and Psychology 270 required for all advanced courses.

91–102 FIRST-YEAR AIR SCIENCE (0–1) Yr.  
STAFF  
General survey of aerospace power designed to give an understanding of principles of flight; evolution of aerial warfare and potentials of aerospace power.

151–94 SECOND-YEAR AIR SCIENCE (1–0) Yr.  
STAFF  
Space operations, employment of Air Forces and elements of aerial warfare.

95–202 THIRD-YEAR AIR SCIENCE (0–3) Yr.  
HAWKINS  
Leadership seminar. Commander and staff; communicating and instructing; military justice; air base functions. Pre: second-year air science.

230 SUMMER TRAINING (2)  
STAFF  

251–252 FOURTH-YEAR AIR SCIENCE (2–1) Yr.  
ROGAN  
Anthropology

Professors Elbert, Emory, Hockett, Luomala, Mason; Assistant Professor Jay

Anthropology 150 or the equivalent is prerequisite to all other courses.

150 INTRODUCTION TO ANTHROPOLOGY (3) 1, II  STAFF
Man’s biological evolution; archeological history from the Stone to the Iron Age; patterned lifeways of tribal and folk societies throughout the world.

200 NATURE OF CULTURE (3) I  JAY
Process of sharing and transmitting learned behavior patterns by which man in groups has met the problems of survival, social interaction, and world view.

300 CUSTOMS OF OLD HAWAII (3) I  Emory
Family, economic life, art, religion, mythology, language, and history as known from archeology and oral traditions.

399 DIRECTED READING (Ar.) I, II  STAFF
Limited to senior majors with 2.7 grade-point ratio in anthropology.

400 PEOPLES OF THE SOUTH SEAS (3) I  Emory
Survey of racial origins, languages, and cultural institutions of aboriginal Australia, Melanesia, Micronesia, and Polynesia.

402 POLYNESIANS (3) I  Luomala
Early settlement, local adaptation, and racial and cultural history of Tahitians, Maoris, Hawaiians, Tongans, Samoans, and other Polynesians. (Not offered 1960–61.)

403 MICRONESIANS (3) II  Mason
Native custom in the Marshall, Caroline, Mariana, and Gilbert islands. Cultural innovation during Spanish, German, Japanese, American, and British administrations.

410 ETHNOLOGY OF SOVIET ASIA (3) I  Jay
Nomadism as a way of life in central Asian steppe and tundra. Historical relations of nomadic and agricultural peoples of Russia and eastern Asia. (Not offered 1960–61.)

415 SOUTH ASIAN PEOPLES (3) II  Jay
Growth and character of high civilizations in India, Burma, Siam, and Indo-China and their relations with folk and tribal societies in the area.

416 SOCIAL ANTHROPOLOGY OF INDONESIA (3) I  Jay
Peoples of the Philippines and the Malayan archipelago. Growth and change in the folk and urban cultures of the area. (Not offered 1960–61.)

420 INDIANS OF THE AMERICAS (3) II  Luomala
Asiatic origin and New World settlement. Cultural diversity in pre-Columbian Mexico and North America. United States Indians as a minority group.

430 AFRICA SOUTH OF THE SAHARA (3) II  Jay
Ethnic unity and diversity among the societies of Negro Africa. Problems arising from historical contacts with Europeans and Moslems. (Not offered 1960–61.)

440 FOLK CULTURES OF EUROPE (3) I  Luomala
Selected studies to show regional differences in the customs of home and community. Importance of provincialism to national and international affairs.

450 FOSSIL MEN AND LIVING RACES (3) II  Jay
Man’s physical nature. Human evolution and racial variation. Comparative study of individual constitutions and its practical application.

460 ORIGINS OF OLD WORLD CIVILIZATIONS (3) II  Jay
Rise of civilization in Europe, Asia, and Africa, from the Stone Age to the historic period, as known from archeology. (Not offered 1960–61.)
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<th>Course Code</th>
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<td>465</td>
<td>American Indian Prehistory (3) II</td>
<td>Mason</td>
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<td>Regional cultures and interrelationships as revealed by archeological studies. Emphasis on higher civilizations of Mexico, Central and South America.</td>
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<td>500</td>
<td>Cultural Dynamics (3) II</td>
<td>Mason</td>
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<tr>
<td></td>
<td>Changing institutions as influenced by ecological setting, interpersonal group relations, and contacts between alien peoples. Pre: Anthropology 200. (Not offered 1960–61.)</td>
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<tr>
<td>510</td>
<td>Social Organization (3) I</td>
<td>Jay</td>
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<tr>
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<td>Comparison of organized group activity in societies of varying complexity. Kinship and association as bases for mutual action and social control.</td>
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<td>515</td>
<td>Anthropology and Education (3) I</td>
<td>Mason</td>
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<tr>
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<td>Education as a means of transmitting culture. Socialization in nonliterate societies; universal aspects of the process. Cross-cultural education. (Not offered 1960–61.)</td>
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<tr>
<td>520</td>
<td>Habitat, Economy, and Culture (3) I</td>
<td>Mason</td>
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<td>Comparison of selected nonindustrial societies to illustrate the interactive influences of physical environment, economic skills, and cultural tradition.</td>
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<td>530</td>
<td>Magic and Religion (3) II</td>
<td>Luomala</td>
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<td>Origins and development of magical practices and religious systems among tribal and folk societies. Ritual and symbolism as aids to social integration.</td>
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<td>540</td>
<td>Folklore (3) I</td>
<td>Luomala</td>
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<td>Unwritten literature in preliterate and literate societies. Myth and legend in socialization and as sanctions for custom.</td>
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<td>541</td>
<td>Primitive Art (3) I</td>
<td>Mason</td>
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<td>550</td>
<td>Introduction to Linguistics (3) I</td>
<td>Hockett</td>
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<tr>
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<td>The nature and workings of language, and its role in culture and history.</td>
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<td>551</td>
<td>Phonemics (3) II</td>
<td>Elbert</td>
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<td>552</td>
<td>Linguistic Morphology (3) I</td>
<td>Elbert</td>
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<td></td>
<td>Principles of morphological and syntactic analysis. Pre: Anthropology 551. (Not offered 1960–61.)</td>
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<tr>
<td>600</td>
<td>Anthropological Classics (3) I</td>
<td>Luomala</td>
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<td></td>
<td>Selected works of outstanding personalities in anthropology and their significance for the development of social science theory.</td>
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<tr>
<td>610</td>
<td>Applied Anthropology (3) II</td>
<td>Mason</td>
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<td></td>
<td>Case study approach to problems relating to cultural change in public health, social work, education, government, agriculture, and industry.</td>
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<tr>
<td>620</td>
<td>Field Archeology in Oceania (3) I</td>
<td>Emory</td>
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<td></td>
<td>Excavation of prehistoric sites. Recording and analysis of data. Supervised excavation. Laboratory work at Bishop Museum. (Not offered 1960–61.)</td>
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<tr>
<td>630</td>
<td>Ethnographic Method (3) II</td>
<td>Mason</td>
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<td></td>
<td>Field work planning and contacts with informants. Interviewing; observation; recording information. Preparation of data for publication. (Not offered 1960–61.)</td>
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<tr>
<td>640</td>
<td>Malayo-Polynesian Languages (3) II</td>
<td>Elbert</td>
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<td></td>
<td>Comparative study. Technique in transcribing one language. Phonological and morphological analysis. Pre: Anthropology 552. (Not offered 1960–61.)</td>
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<td>699</td>
<td>Directed Reading or Research (Ar.) I, II</td>
<td>Staff</td>
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<td>Pre: consent of instructor.</td>
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Art

Senior Professor CHARLOT; Professors COX, ECKE, HORAN, NORRIS, ROBINSON, TURNBULL; Associate Professor KINGREY; Assistant Professor KIMURA; Instructors INGLeson, MCVAY, STASACK

Art 101 is prerequisite to all courses in the history of art.

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 ARCHITECTURAL GRAPHICS (2) I INGLESON
Simple projections as applied to plans, sections, and elevations; shades and shadows; perspective drawing; rendering techniques. Course fee $1.00.

138-139 ARCHITECTURAL DESIGN (3-3) Yr. INGLESON
Design of simple buildings in relation to environment; discussion, field trips, sketch problems. Pre: Arch. 172; Art 132. Course fee $1.00.

171-172 HISTORY OF ARCHITECTURE (3-3) Yr. INGLESON
General survey of all periods; reference reading, illustrated lectures, and discussions.

ART

101 INTRODUCTION TO THE VISUAL ARTS (3) I, II STAFF
Nature of visual art and its expression in various forms. Lectures, demonstrations, and museum visits. Course fee $1.00.

103-104 ART FUNDAMENTALS (2-2) Yr. STAFF
Background material and studio practice to stimulate understanding of the arts. Lectures, museum visits, and studio work. Course fee $1.00 each semester.

105 STUDIO IN VISUAL ARTS (2) I, II STAFF
Elementary problems in various media as an introduction to the basic creative processes in the visual arts. Not open to art majors. Course fee $1.00 each semester.

111-112 DRAWING (2-2) Yr. STAFF
Basic principles of drawing in a variety of media. This course or its equivalent is prerequisite to all advanced courses. Course fee $7.50.

131-132 VISUAL DESIGN (2-2) Yr. STAFF
Elements and principles of visual organization. This course or its equivalent is prerequisite to all advanced courses. Course fee $1.00 each semester.

136 WEAVING (2) I, II ROBINSON, STAFF
Creative processes of weaving. Warping and threading of simple hand looms and multiple harness looms. Course fee $7.50.

137 WEAVING (2) I, II ROBINSON, STAFF

141 CERAMICS (2) I, II HORAN, MCVAY
Methods and principles of creating pottery by hand. Course fee $10.00.

142 CERAMICS (2) I, II HORAN, MCVAY
Emphasis on wheel throwing and experimentation with form and decorative techniques. Pre: Art 141. Course fee $10.00.

151 SCULPTURE (2) I, II STAFF
Introductory study of sculptural form. Basic techniques and problems in clay. Lectures and studio work. Course fee $10.00.
152 SCULPTURE (2) II STAFF
Continuation of 151. Emphasis on individual solutions to problems of sculptural form. Lectures and studio work. Pre: Art 151. Course fee $10.00.

235 TEXTILE DESIGN (2) I, II ROBINSON, STAFF
Execution of individual problems in design on fabrics, utilizing such media as the block print, stencil, and silk screen. Pre: Art 132. Course fee $7.50.

263-264 LETTER FORMS (2–2) Yr. KINGREY
The letter as a visual element in design organization. Pre: Art 112, 132, or equivalent. Course fee $1.00.

271–272 HISTORY OF WESTERN ART (3–3) Yr. CHARLOT
Development of architecture, sculpture, and painting. Visits to Academy of Arts. Course fee $2.00 each semester.

278 ARTS OF THE PACIFIC (3) II COX
Stylistic and aesthetic characteristics of the arts of Oceania, with particular attention paid to Hawaii. The primitive influences on modern art. Course fee $2.00.

281 FAR EASTERN AND INDIAN ART (3) I ECKE
Development of architecture, sculpture, and painting in India, China, and Japan. Lectures with slides. Visits to Academy of Arts. Course fee $2.00.

311 FIGURE DRAWING (2) I, II KIMURA, STAFF
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. STASACK
Problems in the creation of visual forms. Pre: Art 112, 132, or equivalent. Course fee $6.00 second semester.

323 WATERCOLOR PAINTING (2) I COX

331 THREE DIMENSIONAL DESIGN (2) II COX
Development of concepts of visual organization in three dimensions. Pre: Art 112, 132. Course fee $5.00.

335 TEXTILE DESIGN (2), I, II ROBINSON, STAFF
Originating ideas for fabrics. Printing and execution of individual or collaborative projects. Pre: Art 235. Course fee $10.00.

390 SENIOR SEMINAR (2) II STAFF
Reports with group discussion to integrate studio practice, art history, and theory. Pre: consent of chairman. (Alt. yrs.; not offered 1960–61.)

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

412 FIGURE DRAWING (2) II KIMURA, STAFF
Drawing of the human figure as a foundation for its imaginative use. Pre: Art 311. Course fee $4.00.

415 PRINTMAKING (2) II CHARLOT, STASACK
Printmaking: lithography, linoleum cut, wood cut, or silk screen. 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 WATERCOLOR PAINTING (2) I
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. (Alt. yrs.: offered 1960-61.)

426 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.

473-474 HISTORY OF MODERN ART (3-3) Yr.
Development of Western art since 1800. Pre: Art 272 or equivalent. Course fee $2.00.

482 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.

483 EARLY CHINESE ART (3) II
Developments in pottery, jade, bronze, and other arts to the end of Han. Lectures with slides. Visits to Academy of Arts. Course fee $2.00.

565 VISUAL COMMUNICATION (2) II
Experimental projects of visual design which communicate. Creation of new images and symbols. Pre: Art 464 or equivalent. Course fee $1.00.

581 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.

582 CHINESE PAINTING (3) II
Development of Chinese painting. Lectures with slides. Visits to Academy of Arts. Pre: Art 281 or equivalent. Course fee $2.00.

585 ARTS OF JAPAN (3) I
Development of art and architecture in Japan. Visits to Academy of Arts. Pre: Art 281 or equivalent. Course fee $2.00.

621 PAINTING (2) I, II
Individual problems in advanced painting. Pre: consent of chairman and instructor.

636 DESIGN AND RESEARCH IN WEAVING (2) I, II
Utilization of native Hawaiian materials for weaving, or design for specific contemporary uses. Pre: consent of chairman and instructor. Course fee $10.00.
Asian and Pacific Languages

Professors Elbert, Uyehara; Assistant Professors Fujioka, Ikeda, McElrath, Winters; Instructor Kim; Lecturer Tulyathorn

Chinese

101-102 Elementary Chinese—Conversational (3-3) Yr. Winters
Vocabulary; grammar and sentence construction; laboratory drill. May be taken concurrently with 103-104. Course fee $1.00.

103-104 Elementary Chinese—Reading (3-3) Yr. Winters
Intensive training. May be taken concurrently with 101-102.

151-152 Intermediate Chinese (3-3) Yr. Winters
Selected reading of Pai Hua essays; short stories, plays, poetry.

399 Directed Reading (Ar.) I, II Winters
Limited to senior majors with 2.7 grade-point ratio, or 3.0 in Chinese.

401-402 Chinese Literature (2-2) Yr. Winters
Chinese literature in English translation. Historical survey with reference to political and philosophical influences.

403 Chinese Poetry (2) I Winters
From the Shih Ching to the present, in English translation. Special consideration of the Wei-Chin Six Dynasties and the T'ang period.

404 Chinese Fiction and Drama (2) II Winters
Representative examples, in English translation. Special attention to the T'ang short stories and novels of the Ming and Ch'ing periods.

411-412 Third-Year Chinese (3-3) Yr. Winters
Reading of newspapers and classics; exercise in translation.

491-492 Methods in Chinese Studies (3-3) Yr. Winters
Main fields of research, special methods evolved, and principal sources of bibliographical information. Pre: junior standing. (Not offered 1960-61.)

699 Directed Reading or Research (Ar.) I, II Winters

Hawaiian

101-102 Elementary Hawaiian (3-3) Yr. Elbert
Elements of the language; emphasis on conversation with some attention to Hawaiian songs; laboratory drill. Course fee $1.00.
151-152 INTERMEDIATE HAWAIIAN (3-3) Yr.  
Reading of Hawaiian texts.  

411-412 HAWAIIAN TRANSLATION (3-3) Yr.  
Translation of legends, chants, songs, historical documents. English-Hawaiian translation. Pre: Hawaiian 152 or equivalent. (Not offered 1960-61.)  

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: Hawaiian 152 or equivalent.

INDONESIAN

101-102 ELEMENTARY INDONESIAN (3-3) Yr.  
Conversation with laboratory drill. Course fee $1.00.  

151-152 INTERMEDIATE INDONESIAN (3-3) Yr.  
Reading and conversation.

JAPANESE

101-102 ELEMENTARY JAPANESE—CONVERSATIONAL (3-3) Yr.  
Conversation and grammar with laboratory drill. Course fee $1.00. May be taken concurrently with 103-104.  

103-104 ELEMENTARY JAPANESE—READING (3-3) Yr.  
Intensive training in reading; katakana, hiragana, and mastery of about 500 kanji. May be taken concurrently with 101-102 or 151-152.  

151-152 INTERMEDIATE JAPANESE—CONVERSATIONAL (3-3) Yr.  
Continuation of 102. More advanced conversation with laboratory drill. May be taken concurrently with 103-104 or 153-154. Pre: Japanese 102 or equivalent. Course fee $1.00.  

153-154 INTERMEDIATE JAPANESE—READING (3-3) Yr.  
Continuation of 104. More kanji. May be taken concurrently with 101-102 or 151-152. Pre: Japanese 101 or equivalent.  

399 DIRECTED READING (Ar.) I, II  
Limited to senior majors with 2.7 grade-point ratio, or 3.0 in Japanese.  

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.  

411-412 THIRD-YEAR JAPANESE (3-3) Yr.  

413 JAPANESE FOLK LITERATURE (3) I  

415-416 LITERARY JAPANESE (3-3) Yr.  
Reading of classical and modern literary selections as a basis for linguistic and stylistic analysis. Pre: Japanese 152 or equivalent.  

511 CONTEMPORARY JAPANESE LITERATURE (3) II  
Literary movements and representative works since 1868. Pre: Japanese 412 or equivalent.  

512 JAPANESE POETRY (3) I  
Historical survey of poetical types including tanka, haiku, senryu, shintaishi, and folk-songs. Pre: Japanese 412 or equivalent.
592 JAPANESE BIBLIOGRAPHY (3) II
IKEDA
Basic reference and bibliographic materials, their use and methods in Japanese studies.
Pre: Japanese 412 or equivalent.

699 DIRECTED READING OR RESEARCH (Ar.) I, II
STAFF

KOREAN

101–102 ELEMENTARY KOREAN (3–3) Yr.
Conversation, elements of grammar, reading; laboratory drill. Course fee $1.00.

151–152 INTERMEDIATE KOREAN (3–3) Yr.
Conversation, reading, and writing. Some Chinese characters. (Not offered 1960–61.)

THAI

101–102 ELEMENTARY THAI (3–3) Yr.
Conversation with laboratory drill. Course fee $1.00.

151–152 INTERMEDIATE THAI (3–3) Yr.
Reading and conversation.

Botany

Professors COOIL, DOTY; Associate Professors AUSTIN, BERNATOWICZ, PUTMAN, SHOJI;
Assistant Professors S. GOTO, LAMOUREUX, J. B. SMITH; Instructor LANE

101 GENERAL BOTANY (4) I, II (2 L, 2 Lb)
LAMOUREUX
Basic principles of plant biology. This course and Zoology 101 comprise an introduction to biology. Course fee $5.00.

103 EVOLUTION (2) II
SMITH
Concepts of evolution and sequence of development from algae to flowering plants.

105 ECONOMIC PLANTS OF HAWAII (2) I
LANE
Cultivated and wild plants used in ancient and modern times by the Hawaiians and other Polynesians for food, drink, medicine, etc.

110 PLANTS AND MAN (2) I
LANE
Uses of plants and their influence upon man.

160 FLOWER AND TREE IDENTIFICATION (2) II
LANE
A nontechnical course in identification of cultivated plants and weeds of Hawaii.

161 PLANT GEOGRAPHY (2) I
LANE
Plant distribution throughout the world; types of vegetation; special attention to origin, development, and economic importance.

181 PLANTS AND THE SEA (3) I (2 L, 1 Lb)
BERNATOWICZ
Marine algae, their ecology, and taxonomy of local forms. Course fee $3.00.

399 BOTANICAL PROBLEMS (Ar.) I, II
STAFF
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)
LAMOUREUX
Structure of vascular plants; origin and differentiation of tissues; relation of structure to function. Pre: Botany 101. Course fee $5.00.

412 PLANT MICROTÉCHNIQUE (3) II (1 L, 2 Lb)
LAMOUREUX
Preparation of plant materials for histological and cytological study. Pre: Botany 410 or consent of instructor. Course fee $8.00.

418 CYTOLOGY (3) I (2 L, 1 Lb)
SMITH
425 CRYPTOGRAMIC BOTANY (3) II (2 L, 1 Lb) BERNATOWICZ

430 MYCOLOGY (3) II (2 L, 1 Lb) DOTY
Structure; food relations; classification of fungi. Identification of common fungi. Pre: Botany 101 or consent of instructor. Course fee $4.00.

440 PRINCIPLES OF PLANT PATHOLOGY (3) I (2 L, 1 Lb) GOTO
Disease in plants; emphasis upon infection and development in relation to environment; epidemiology; methods of appraisal; control. Pre: Botany 101.

460 SYSTEMATIC BOTANY OF FLOWERING PLANTS (3) I (1 L, 2 Lb) LANE

461 TAXONOMY AND EXPLORATION (3) II (1 L, 2 Lb) LANE

470 PRINCIPLES OF PLANT PHYSIOLOGY (4) II (2 L, 2 Lb) SHOJI
Introduction to plant physiology. Pre: Botany 101; Chemistry 104; Botany 410 and Chemistry 144 recommended. Course fee $6.00.

518 GENETICS OF MICRO-ORGANISMS (3) II SMITH
Modern theoretical genetics of viruses, bacteria, fungi, algae, and protozoans. Pre: Genetics 451.

553 PLANT ECOLOGY (4) I (2 L, 2 Lb) DOTY
Plants in relation to environment and geography; plant sociology. Pre: Botany 201. Course fee $3.00. (Alt. yrs.; offered 1960–61.)

562 ADVANCED TAXONOMY (1) I LANE
Synopsis of lower dicotyledons from Piperaceae to Rosaceae; plant distribution; identification of collections.

570–571 ADVANCED PHYSIOLOGY (3–3) Yr. COOIL
Biochemical and physical aspects of plant physiology. Pre: Botany 470; Chemistry 144; Physics 161. (Alt. yrs.; offered 1960–61.)

572 TECHNIQUES IN PHYSIOLOGY (2) I (2 Lb) PUTMAN
Nutrient absorption and composition; osmotic relations. Pre: Botany 470; Chemistry 144; Physics 161; consent of instructor. Course fee $5.00. (Alt. yrs.; not offered 1960–61.)

573 TECHNIQUES IN PHYSIOLOGY-BIOCHEMISTRY (2) II (2 Lb) PUTMAN
Determining substances of physiological significance in plant materials. Pre: Botany 572; consent of instructor. Course fee $5.00. (Alt. yrs.; not offered 1960–61.)

586 BIOLOGICAL PRODUCTIVITY OF THE SEA (3) I AUSTIN, DOTY
Qualities and functions of the sea; relationships to marine organisms. Pre: senior standing in botany or zoology or consent of instructor.

610 BOTANICAL SEMINAR (1) I, II STAFF
Study and discussion of significant topics and problems in botany.

612 ADVANCED BOTANICAL PROBLEMS (Ar.) I, II STAFF
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 LAMOUREUX
Recent developments in morphology, anatomy, and cytology. Pre: consent of instructor. (Alt. yrs.; not offered 1960–61.)
BUSINESS 123

618 CYTOGENETICS (3) II (2 L, 1 Lb) SMITH
Correlation of genetic and cytological phenomena. Pre: Botany 418 and genetics, or consent of instructor. Course fee $4.00.

640 PHYTOPATHOLOGICAL LITERATURE (1) I GOTO
Literature on recent advances in plant diseases and their control. Pre: advanced or graduate standing; consent of instructor.

665 NOMENCLATURE SEMINAR (2) II LANE
Laws of botanical nomenclature; application; determination of correct scientific plant names. Pre: Botany 461. (Alt. yrs.; not offered 1960–61.)

675 PHYSIOLOGY SEMINAR (2) II COOIL
Significant topics and problems in physiology. May be repeated. Pre: consent of instructor.

681-682 PHYCOLOGY (3–3) Yr. DOTY
Four-semester cycle; morphological aspects of (a) Chlorophyta, (b) Phaeophyta and Myxophyta, (c) Rhodophyta, and (d) small groups. Pre: consent of instructor.

699 DIRECTED RESEARCH (Ar.) I, II STAFF
Pre: candidacy for the M.S. degree; consent of instructor. Course fee $2.00.

799 DIRECTED RESEARCH (Ar.) I, II STAFF
Pre: candidacy for the Ph.D. degree; consent of instructor. Course fee $2.00.

Business

Senior Professor ROBERTS; Professors IGE, LEONG, WERMEL; Associate Professors ADLER, CORBIN, FERGUSON, PENDLETON, WINTER; Assistant Professors BELL, CARLSON, CONGDON, KIRKPATRICK, MYERS, PIERSON, STELLMACHER; Instructors CULKIN, B. LEE, MATSUMOTO; Lecturers ALDEN, AVERY, DAVI, ITO, MINK, ORR, PRESCOTT, SMITH

110 BUSINESS CALCULATIONS (3) I, II STAFF
Application of basic arithmetic to business problems, including compound interest and annuities. Business administration and business education majors only.

150–151 ELEMENTARY ACCOUNTING (4–4) Yr. CORBIN, B. LEE, PIERSON
Fundamental principles of accounting for proprietorships, partnerships, and corporations. Pre: sophomore standing or consent of instructor.

160–161 BUSINESS LAW (3–3) Yr. ITO, MINK

230 PUNCH CARD ACCOUNTING (2) II FERGUSON
Business operations: inventory control, billing, accounts receivable, payroll, etc. Practical work using IBM punch card accounting machines. Course fee $2.00.

270–271 TECHNIQUE OF TYPEWRITING (2–2) Yr. CULKIN
Intensive advanced typewriting training with emphasis upon speed and accuracy. Pre: business sophomore or business education major; consent of instructor. Course fee $2.00.

272 TECHNIQUE OF SHORTHAND (2) I CULKIN
Development of a composite transcription skill for vocational competence. Pre: business sophomore or business education major; consent of instructor. Course fee $2.00.

274 ADVANCED SECRETARIAL TRAINING (2) II CULKIN
Business ethics and office procedures; practice in performing secretarial tasks. Pre: business senior or consent of instructor.
276 SECRETARIAL PRACTICE (3) II
   Supervised, paid business office experience of 100 to 150 hours with coordinated class
   instruction. Prerequisite: consent of instructor.

278 BUSINESS AND SECRETARIAl MACHINES (2) II
   Characteristics, function, and operation of machines performing clerical, arithmetic,
   accounting, and statistical work. Course fee $2.00.

300 BUSINESS STATISTICS (3) I, II
   Principles of statistical analysis, including averages, dispersion, sampling, index numbers,
   time series, correlation, and inference. Prerequisite: Economics 151.

301 BUSINESS REPORTS AND CORRESPONDENCE (3) I
   Principles and practice in business report writing, stressing analytical thinking applied
to current business and economic problems.

399 DIRECTED READING (Ar.) I, II

400 INTERMEDIATE ACCOUNTING (3) I
   Financial statements: form, content, and related problems such as depreciation, deple­
tion, valuation of assets, and the structure of corporations. Prerequisite: Business 151.

401 ADVANCED ACCOUNTING (3) II
   More specialized phases of accounting; special reports, consolidated statements, install­
ment sales, consignments, fiduciaries, branches. Prerequisite: Business 400.

402 BUDGETARY ACCOUNTING AND CONTROL (3) II
   Budgeting for control of business. Problems in purchase, sales, expense, and cash
   budgets. Prerequisite: credit or concurrent registration in Business 401 and 403.

403 COST ACCOUNTING (3) I
   Accounting principles applied in recording, classifying, distributing, and analyzing
   product and service costs; emphasis on unit costs and cost control. Prerequisite: Business 401.

404 ANALYSIS OF FINANCIAL STATEMENTS (3) II
   Analysis of the balance sheet and profit and loss statement from the standpoint of
   owners, managers, credit grantors, and the public. Prerequisite: Business 151.

405 INCOME TAX PROBLEMS (3) I
   Federal income tax laws and related accounting problems; individual, partnership, and
corporation returns. Prerequisite: Business 151.

407 AUDITING (3) I
   Principles of conduct of a business audit. Practical aspects of auditing emphasized by
   means of problems. Prerequisite: Business 401 or consent of instructor.

408 ACCOUNTING SYSTEMS (3) II
   Design, installation, and operation of appropriate systems of accounts, records, and
   reports for different types of business. Prerequisite: Business 401.

409 GOVERNMENTAL ACCOUNTING (3) I
   Account classification, budgetary procedure, fund accounting, revenues, operating costs.
   Prerequisite: Business 151. (Alt. yrs.; offered 1960–61.)

410 PRINCIPLES OF INSURANCE (3) I
   What insurance buyers should know about personal insurance; protection of home and
   business against property losses; third-party liability.

411 PROPERTY INSURANCE (3) I
   Policies which protect against loss by fire and allied perils, crime, transportation risks;
specialized policies which combine these coverages.

412 MISCELLANEOUS CASUALTY INSURANCE (3) II
   Emphasis on third-party liability coverages: general liability, automobile insurance,
   workmen's compensation; miscellaneous casualty lines.
413 LIFE INSURANCE (3) II  
Policy forms; calculating premiums, reserves, and nonforfeiture values; regulation of policy provisions and underwriting; related coverages.

420 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.

421 PROPERTY VALUATION (3) II  
Economic, social, legal, and physical factors influencing property values, and their relationship to housing. Pre: Business 420 or consent of instructor.

422 URBAN LAND UTILIZATION (3) II  
Economic concepts, market forces, and institutional factors influencing land utilization in urbanized areas. Pre: Economics 482 or consent of instructor.

440 OFFICE ORGANIZATION AND MANAGEMENT (3) I  
Duties and functions involved in successful management of an office, with emphasis upon planning, organizing, actuating, controlling.

441 PRINCIPLES OF SMALL BUSINESS (3) I  

442 BUSINESS ORGANIZATION AND MANAGEMENT (3) I, II  
Case approach to organization, marketing, finance, and other management problems. Pre: senior standing and Business 490 or consent of instructor.

450 COLLECTIVE BARGAINING (3) I  
Principles and concepts of collective bargaining; analysis of sample contracts including union status, seniority, contract enforcement. Pre: Economics 290.

460 PERSONNEL MANAGEMENT (3) II  
Organization of personnel function. Recruitment, selection, placement, training, pay, incentives, discipline, discharge, rating, communication; effect on work force.

461 INDUSTRIAL SAFETY AND HEALTH (3) I, II  
Principles of accident prevention; reporting, analyzing, and prescribing remedies for accident experience; staff organization and safety programs.

462 TIME AND MOTION STUDY (3) II  
Application of scientific management to industrial operations, including job breakdown, time studies, work simplification, and standards of performance.

463 WAGE AND SALARY ADMINISTRATION (3) II  
Compensation systems. Wage, salary, and incentive plans. Wage surveys, job analysis and evaluation.

464 ELEMENTS OF SUPERVISION (3) I  
Supervisor's relationships to management and workers. Placement, training, control of costs, safety, rewarding, punishing, grievance adjustment, union relations.

465 EMPLOYMENT INTERVIEWING (3) II  
Interviewing, promotion, transfer, discharge. Practice in conducting board, stress, group oral, and other types of interviews. Pre: senior standing or consent of instructor.

480 PRINCIPLES OF MARKETING (3) I, II  
Consumption; general survey of the marketing structure, emphasizing marketing functions and channels, market analysis, and policies. Pre: Economics 150–151.

481 PRINCIPLES OF ADVERTISING (3) II  
Advertising as a factor in distribution; copy; layout; production; media.
482 ADVERTISING COPY WRITING (3) II
Principles underlying the preparation of effective copy. Practice in creative copy writing. (Alt. yrs.; offered 1960–61.)

483 RETAIL MERCHANDISING (3) II
Retailing history, store organization and management, sales promotion, customer’s buying habits. Pre: Economics 150–151 or consent of instructor.

484 METHODS OF MARKET RESEARCH (3) I
Specification of problem; data collection; tabulation, interpretation, and presentation of findings. Applications. Pre: Business 300, 480, or consent of instructor.

485 PRINCIPLES OF SALESMAINSHIP (3) I
Principles of personal selling, types of selling jobs, qualifications of salesmen. Emphasis upon practical problems and techniques of selling.

486 MARKETING MANAGEMENT (3) II
Policy and operational decisions of marketing executive; product decisions, distribution, pricing, marketing; organization and control of sales force. Pre: Business 480.

487 FOREIGN MARKETING (3) II
Methods and organization peculiar to international marketing, with emphasis on practical and technical aspects. Pre: Business 480.

490 CORPORATION FINANCE (3) I, II
Analysis of instruments and methods of financing a corporation. Pre: Business 151, Economics 240, or consent of instructor.

491 INVESTMENTS AND INVESTMENT BANKING (3) II
Theory; tests of investment; investment credit analysis; mathematics and tools of investment; investment institutions, functions. Pre: Business 151; Economics 240.

492 CREDIT MANAGEMENT (3) I
Nature of business credit; instruments and sources of credit; collection methods and control. Pre: Business 151 or consent of instructor.

500 APPLIED BUSINESS STATISTICS AND FORECASTING (3) II
Case studies in sampling, correlation, time series. Pre: Business 300 or consent of instructor. Fee $2.00. (Alt. yrs.; not offered 1960–61.)

501 BUSINESS CYCLES AND BUSINESS FORECASTING (3) II
Analysis of the fluctuations of economic activity with emphasis on business cycle theories and forecasting. Pre: Economics 240.

502 NEGOTIABLE INSTRUMENTS (3) II
History, nature, and kinds of negotiable instruments and the provisions of the uniform Negotiable Instrument Law. Pre: Business 161 or consent of instructor.

601 MANAGEMENT ACCOUNTING (3) II
Case studies in the use of accounting reports for planning, policy making, and control of business. Pre: Business 401, 403, 404. (Alt. yrs.; not offered 1960–61.)

641 SEMINAR IN PROBLEMS OF BUSINESS (3) II
Pre: consent of department chairman. (Alt. yrs.; offered 1960–61.)

642 ADVANCED MANAGEMENT (3) II

681 MANAGERIAL PROBLEMS OF MARKETING (3) I
Analysis of executive decisions and policies related to securing the optimum competitive position in the marketing structure.
691 PROBLEMS IN BUSINESS FINANCE (3) I

699 DIRECTED READING OR RESEARCH (2–2)
Pre: consent of department chairman.

711 APPLIED PROBLEMS OF BUSINESS AND GOVERNMENT (3) I
Problems of business management that arise from specific legislation such as the anti-trust, labor, and revenue laws. (Alt. yrs.; offered 1960–61.)

Chemistry

Professors E. BILGER, NAUGHTON; Associate Professors FRODYMA, IHRIG, SCHEUER, WAUGH, ZEITLIN; Assistant Professors LARSON, YASUNOBU

101–102 SURVEY OF CHEMISTRY (4–4) Yr. (3 L, 1 Lb) BILGER
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) ZEITLIN, STAFF
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) IHRIG
Principles, theories, and elementary analytical methods. Pre: four of any combination of high school mathematics and physical science. Course fee $12.00 each semester.

131 QUALITATIVE ANALYSIS (4) I (2 L, 2 Lb)
Systematic semimicro analysis of inorganic ions; theory of procedures. Pre: Chemistry 104. Course fee $11.00.

132 ELEMENTARY QUANTITATIVE ANALYSIS (4) II (2 L, 2 Lb) FRODYMA
Beginning gravimetric and volumetric analysis. Pre: Chemistry 106 or 131; Mathematics 103. Course fee $11.00.

141 ELEMENTS OF ORGANIC CHEMISTRY (4) I (3 L, 1 Lb) ZEITLIN
Intensive course. Chemistry of carbon compounds. Pre: Chemistry 104 or 106. Course fee $12.00.

143–144 ORGANIC CHEMISTRY (4–4) Yr. (3 L, 1 4–Hr Lb) SCHEUER
Carbon compounds: classification, structure, reactions. Laboratory techniques. Pre: Chemistry 104 or 106. Course fee $12.00 each semester.

231 INTERMEDIATE QUANTITATIVE ANALYSIS (4) I (2 L, 2 Lb) FRODYMA
Analysis of inorganic mixtures; introductory instrumental analysis. Pre: Chemistry 132. Course fee $11.00.

271 ELEMENTS OF BIOCHEMISTRY (4) I (3 L, 1 Lb) BILGER
Brief course in biological chemistry; pertinent laboratory techniques. Pre: Chemistry 102, 141, or 144. Course fee $9.00.

399 DIRECTED READING OR RESEARCH (Ar.) I, II STAFF
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 WAUGH
Classification, description, and fundamental theory. Pre: Chemistry 132, 144. (Not offered 1960–61.)
128 GENERAL CATALOGUE, 1960–61

424 PREPARATIVE INORGANIC CHEMISTRY (3) II (1 L, 2 Lb) WAUGH
Preparation, properties, selected reactions of representative inorganic compounds. Pre: Chemistry 421. Course fee $10.00. (Not offered 1960–61.)

441 PREPARATIVE ORGANIC CHEMISTRY (3) I (1 L, 2 Lb) LARSON
Techniques and reagents; their application in organic synthesis. Pre: Chemistry 132, 144. Course fee $15.00.

442 ORGANIC CHEMISTRY THEORY (3) II SCHEUER
Structural theory; reaction mechanisms. Pre: Chemistry 132, 144.

444 QUALITATIVE ORGANIC ANALYSIS (4) II (2 L, 2 Lb) LARSON
Identification and characterization of organic compounds and mixtures. Pre: Chemistry 132, 144. Course fee $10.00.

446 QUANTITATIVE ORGANIC ANALYSIS (3) II (1 L, 2 Lb) FRODYMA
Elemental and functional group analysis by semimicro and micro methods. Pre: Chemistry 132, 144. Course fee $10.00.

472 CLINICAL CHEMISTRY (4) II (2 L, 2 Lb) BILGER

491–492 SEMINAR (1–1) Yr. STAFF
Current topics in chemistry. Open to chemistry seniors and required of graduate students.

551–552 PHYSICAL CHEMISTRY (4–4) Yr. (3 L, 1 Lb) WAUGH
Principles and theories; physicochemical procedures. Pre: Chemistry 132, 144; Mathematics 132; Physics 181. Course fee $8.00 each semester.

571–572 BIOCHEMISTRY (4–4) Yr. (3 L, 1 Lb) YASUNOBU
Chemistry of biological compounds, intermediary metabolism, enzymes and enzyme systems. Pre: Chemistry 132, 144. Course fee $12.00.

580 OCEANOGRAPHIC CHEMISTRY (3) II (2 L, 1 Lb) ZEITLIN

582 CHEMICAL LITERATURE (2) II
Use of literature. Library problems. One lecture, one library period. Open to chemistry seniors and graduates.

621–622 ADVANCED INORGANIC CHEMISTRY (3–3) Yr. WAUGH
Four-semester cycle: crystal structure, ion and molecular complexes, atomic complexes, metals, intermetallic compounds. Pre: Chemistry 421, 552.

631–632 INSTRUMENTAL METHODS OF ANALYSIS (2–2) Yr. (1 L, 1 Lb)
Four-semester cycle; optical, electrometric, radiometric, general physical. Pre: credit or concurrent registration in Chemistry 551–552. Course fee $10.00. (Not offered 1960–61.)

651–652 SPECIAL TOPICS IN PHYSICAL CHEMISTRY (3–3) Yr. IHRRIG
Four-semester cycle; kinetics, thermodynamics, molecular structure, colloids. Pre: Chemistry 552.

671 ADVANCED BIOCHEMISTRY LABORATORY (2) I (2 Lb)
Research instruments and methods of biochemistry. Pre: Chemistry 572. Course fee $12.00.

674 ENZYMES (3) II
Kinetics, mode of action and properties of enzymes. Specific enzymes and enzyme systems. Pre: Chemistry 572. (Not offered 1960–61.)
675 PLANT BIOCHEMISTRY (3) I
Chemistry of important plant constituents and processes; photosynthesis, respiration, carbohydrate, nitrogen, fat metabolism. Pre: Chemistry 572. (Not offered 1960–61.)

676 PROTEINS (3) II
The occurrence, nature, and properties of proteins and nucleic acids. Pre: Chemistry 572. (Not offered 1960–61.)

677 MEDICAL BIOCHEMISTRY (3) I
Special topics in biochemistry of diseases. Blood chemistry and other related topics. Pre: Chemistry 572. (Not offered 1960–61.)

678 PHYSICAL BIOCHEMISTRY (3) II
Application of modern physical concepts to problems of molecules of biological interest. Pre: Chemistry 552, 572.

679 CARBOHYDRATES AND LIPIDS (3) I
The chemistry and biochemistry of carbohydrates and lipids. Pre: Chemistry 572.

680 VITAMINS AND HORMONES (3) II
Survey of the biochemistry of vitamins and hormones. Pre: Chemistry 572. (Not offered 1960–61.)

699 DIRECTED RESEARCH (Ar.) I, II
Pre: consent of department chairman. Course fee $5.00 per credit.

741-742 SPECIAL TOPICS IN ORGANIC CHEMISTRY (3-3) Yr.
Scheuer, Larson
Four-semester cycle; stereochemistry, mechanisms, cyclic compounds, natural products. Pre: Chemistry 442.

745-746 NATURAL PRODUCTS COLLOQUIUM (1-1) Yr.
Discussion of recent and current research in the field. May be repeated. Pre: consent of instructor. (Not offered 1960–61.)

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.

Dental Hygiene

Instructor Koga; Lecturers Akamine, Bellando, Dawe, Glynn, Majoska, Sample, B. Sherman, Wakai

Some Dental Hygiene courses may be elected by students in other colleges and curricula with consent of instructor.


100 INTRODUCTION TO DENTAL HYGIENE (1) I
Koga
Orientation to the profession; relationship of dental hygienist to dental hygiene and dentistry; ethics and economics involved.

110 DENTAL OFFICE PROCEDURES (1) II
Koga
To give a knowledge of procedures necessary to an efficient dental practice.

120 SURVEY OF DENTAL MATERIALS (1) II
Koga
Preparation and use of materials; laboratory techniques; observation and participation in dental offices, laboratories, clinics.

200 TOOTH MORPHOLOGY (1) I
Koga
Designed to provide the student with an opportunity to carve models of anterior and posterior teeth, showing general form, cusps, planes, and angles.

201 DENTAL HYGIENE EDUCATION (2) II
Koga
Basic principles of teaching and learning dental health education as related to school and public health dentistry; methods and materials in teaching.
210 DENTAL ASSISTING (1) II
To acquaint the student with duties in an office; instruction and clinical assisting in the specialized fields of dentistry.

251 ORAL ANATOMY (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.

252 ORAL HYGIENE (1) I
Prophylactic treatment of the mouth, with special attention to measures which can prevent or arrest dental caries and adjacent-tissue degeneration.

254-255 DENTAL HYGIENE AND DENTAL PROPHYLAXIS (5-5) Yr. KOGA
Instruction and practice on manikin in operative technical procedures of instrumenta-
tion and polishing; clinical training in dental prophylaxis.

258-259 DENTAL HISTOLOGY AND EMBRYOLOGY (1-1) Yr. WAKAI
Fundamentals of dental embryology and histology. Formation, structure, and function of enamel, dentin, cementum, pulp, periodontium, alveolar process, and gingiva.

260-261 ORAL PATHOLOGY (1-1) Yr. AKAMINE
Study of general disease processes with emphasis upon oral diseases of interest to the dental hygienist.

262 MATERIA MEDICA (2) I
Derivation and effects of drugs most commonly used in dentistry. Relative values of germicides, antiseptics, disinfectants; analysis of formulae of dentifrices, mouth washes.

264 ORTHODONTICS (1) II
Basic principles, normal occlusion, malocclusion, case analysis for classification, etiology of malocclusion, growth of the cranium, facial bones, and tooth eruption.

265 DENTAL ROENTGENOGRAPHY (2) II BELLANDO
A lecture-laboratory course in the study, technique, and use of the roentgen ray in its application to dentistry.

266 PUBLIC HEALTH (1) II
Theory and practice of preventive dentistry with emphasis upon community dental health; role of the dental hygienist in dental public health.

370 DENTAL HEALTH EDUCATION IN THE SCHOOLS (2) II KOGA
School organization and personnel as related to a school dental health program; methods, materials, and practice teaching in dental health.

Drama and Theatre

Professors ERNST, TRAPIDO; Associate Professor BENTLEY; Assistant Professor LANGHANS

Drama 140 or 150, or the equivalent, is prerequisite to all courses above 429 except as noted.

140 INTRODUCTION TO DRAMA AND THEATRE (3) I, II ERNST, TRAPIDO
Representative plays from Miller's Death of a Salesman to Aeschylus' Agamemnon, studied as illustrative of changing forms in the theatre and dramatic literature.
150-151 DRAMATIC PRODUCTION (3-3) Yr. TRAPIDO
Introduction to basic theories and practices of the theatre. Coordinated with activities of the Theatre Group. Students may enter the second semester.

200 THEATRE PRACTICE (2) I, II TRAPIDO, STAFF
Supervised work in one or two areas: stagecraft, lighting, costuming, make-up, business, publicity, acting (only after being cast). May be repeated once.

399 DIRECTED WORK (Ar.) I, II STAFF
Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in drama and theatre.

410 CREATIVE DRAMATICS (3) I, II BENTLEY
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 LANGHANS
One-act plays; practice in writing in the dramatic form; possibility of production by the Theatre Group. Pre: 3.0 grade point or better in English composition.

420-421 ACTING (3-3) Yr. BENTLEY
Individual exercises and group rehearsals. Coordinated with the productions of the Theatre Group. Students may enter the second semester.

430-431 DIRECTION (3-3) Yr. LANGHANS, ERNST
Readings, reports, discussion of the theory and practice of stage direction.

440 STAGECRAFT AND THEATRE PLANNING (3) I TRAPIDO
Principles and practices of modern stagecraft: theories of stage production; planning of small theatres; stage arrangement. (Alt. yrs.; not offered 1960-61.)

445 STAGE LIGHTING (3) I TRAPIDO
Modern and historic methods of lighting the stage; elementary electrical theory as used on stage; stage lighting equipment. (Alt. yrs.; offered 1960-61.)

540 HISTORIC STAGE PRODUCTION (1) I, II STAFF
Production practices in theatre of past and present for classic masterpieces. Coordinated with Theatre Group Great Plays Cycle. May be repeated.

550 HISTORY OF THE THEATRE (3) I LANGHANS
Survey of the development of the theatre from the earliest times to the present. (Alt. yrs.; offered 1960-61.)

560 MODERN THEORIES OF STAGE PRESENTATION (3) I ERNST
Recent and current theories of production critically analyzed and reviewed. (Alt. yrs.; not offered 1960-61.)

570 AESTHETICS OF THE THEATRE (3) I ERNST
Consideration of the aesthetic bases of the theatre. Readings, discussion, reports. (Alt. yrs.; offered 1960-61.)

600 ADVANCED THEATRE PRACTICE (2) I, II TRAPIDO, STAFF
Supervised work in one or two areas: stagecraft, lighting, costuming, make-up, business, publicity, acting (only after being cast). May be repeated once.

620 SEMINAR IN DRAMA AND THEATRE (3) II ERNST
Significant topics and problems in the field of drama. Pre: consent of instructor. May be repeated. (Alt. yrs.; offered 1960-61.)

650 SEMINAR IN ORIENTAL THEATRE (3) II ERNST
Special topics in the drama and theatre of the Orient. Reading, discussion, reports. Pre: consent of instructor. (Alt. yrs.; not offered 1960-61.)

699 DIRECTED WORK (Ar.) I, II STAFF
Reading or research in theatre theory or history; reading and practice in particular areas of dramatic production. Pre: consent of instructor.
Economics

Senior Professor ROBERTS; Professors IGE, KAMINS, LEONG, WERMEL; Associate Professors FERGUSON, MARK, PENDLETON, WINTER; Assistant Professors BELL, CONGDON, KIRKPATRICK, MYERS, SLATE, STELLMACHER; Lecturers PHANAIA, SHIM

Economics 150-151 is prerequisite to all courses in economics except 140, 300, 492, 494, 496.

140 INTRODUCTION TO ECONOMICS (3) I, II STAFF
Principles underlying consumption, production, exchange, and distribution. Not open to majors in economics or business. Credit cannot be obtained in this and 150-151.

150-151 PRINCIPLES OF ECONOMICS (3-3) Yr. STAFF
Principles of production, income, prices and distribution in the American economy.

240 MONEY AND BANKING (3) I, II KIRKPATRICK
United States monetary system, principles of commercial and central banking; the Federal Reserve, the Treasury, and credit control; monetary theory.

290 LABOR PROBLEMS (3) I PENDLETON
Study of wages, hours, working conditions, employment, and other labor problems. Structure and operation of trade unions.

300 PUBLIC RELATIONS (3) II CONGDON
Basic principles of public relations as a function of modern business. Mediums and tools defined, and use studied.

399 DIRECTED READING (Ar.) I, II STAFF
Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in economics.

400 INTERMEDIATE ECONOMIC THEORY (3) I MARK
Price determination and resource allocation under competition, monopoly, oligopoly, monopolistic competition. Theories of demand, cost, partial, general equilibrium.

402 NATIONAL INCOME AND EMPLOYMENT (3) II SLATE
Concepts; determination of income, employment, price levels; effects of fiscal, monetary, other policies. Pre: Economics 240 or consent of instructor.

404 HISTORY OF ECONOMIC THOUGHT (3) I KIRKPATRICK
Survey of economic thought from Adam Smith to the present with emphasis on the theory of value and distribution. Pre: senior standing.

410 CURRENT ECONOMIC PROBLEMS OF ASIA AND THE FAR EAST (3) II MARK
China, India, Japan, and Southeast Asia. Resource development, capital formation, industrialization; planning in underdeveloped areas. (Alt. yrs.; offered 1960-61.)

411 ECONOMIC DEVELOPMENT OF EAST ASIA (3) I MYERS
Development of China, Japan, other East Asian countries. Impact of westernization on comparative rates of economic growth. (Alt. yrs.; not offered 1960-61.)

412 ECONOMIC DEVELOPMENT OF SOUTH AND SOUTHEAST ASIA (3) II MYERS
Development of India, Pakistan, Southeast Asia. Emphasis on economic consequences of imperialism and nationalism. (Alt. yrs.; not offered 1960-61.)

413 ECONOMIC DEVELOPMENT OF SOVIET UNION (3) I MYERS
Analysis of economic development of Soviet Union. Emphasis on implications of Soviet economic offensive in Asia. (Alt. yrs.; offered 1960-61.)

430 COMPARATIVE ECONOMIC SYSTEMS (3) I LEONG
Comparative study of existing economic systems; analysis of assumptions underlying their operations; appraisal of their effectiveness in solving economic problems.
450 PUBLIC FINANCE (3) I, II  
Government expenditures; taxes and other revenues; public debts; budgeting. Examination of institutions, economic effects, and fiscal policy.  

JACKSON, LEONG

452 PUBLIC FINANCE IN HAWAII (3) I  
Territorial and county revenues, expenditures, debts, fiscal administration. Tax structure. Pre: Economics 450 or consent of instructor. (Alt. yrs.; not offered 1960–61.)

460 INTERNATIONAL TRADE AND FINANCE (3) II  
Theory, foreign exchange rates, balance of payments adjustment; recent international commercial and financial policy. Pre: Economics 240 or consent of instructor.

WINTER

470 GOVERNMENT AND BUSINESS (3) I, II  
Economic aspects and consequences of public policy and regulation of business activity.

STAFF

472 PUBLIC UTILITIES (3) I  
Economic nature and history of public utilities; critical discussion of their control by governments.

PIIANAIA

480 AGRICULTURAL ECONOMICS (3) I  
The economic aspects of agricultural production, marketing, credit, taxation, prices, and income. Pre: Economics 140 may be substituted for 150–151.

BELL

482 LAND ECONOMICS (3) I  
Economic principles and institutions that influence land utilization and ownership. Pre: Economics 140 may be substituted for 150–151.

BELL

490 AMERICAN TRADE UNIONISM (3) II  
Growth and development of American trade unionism.

PENDLETON

492 LABOR LEGISLATION (3) I  
General principles of labor law; emphasis upon applicable statutes and their economic implications.

SHIM

494 ARBITRATION OF GRIEVANCES (3) II  
Purpose and functions of grievance of procedure; background and procedure of arbitration; substance of arbitration; illustrative cases. Pre: Economics 290.

ROBERTS

496 RESEARCH IN INDUSTRIAL RELATIONS (3) I  
Techniques of research as applied to a problem of labor-management relations. Pre: major in personnel and industrial relations or consent of instructor.

SLATE

501 ECONOMICS OF TRANSPORTATION (3) I  
Development of our major transportation systems and their effect on the economy as an important segment of the distributive process.

WINTER

600 THEORY OF PRICE AND DISTRIBUTION (3) I  

SLATE

602 THEORY OF INCOME AND GROWTH (3) II  

SLATE

610 SEMINAR IN ECONOMIC DEVELOPMENT (3) I  
Pre: Economics 400, 402. (Alt. yrs.; offered 1960–61.)

MARK

640 SEMINAR IN MONEY AND BANKING (3) II  

MARK

650 SEMINAR IN FISCAL PROBLEMS (3) I  
Pre: Economics 450. (Alt. yrs.; not offered 1960–61.)

JACKSON

660 SEMINAR IN INTERNATIONAL ECONOMICS (3) II  
Pre: Economics 400, 460. (Alt. yrs.; not offered 1960–61.)

WINTER
690 SEMINAR IN CURRENT LABOR PROBLEMS (3) II
Pre: consent of instructor.
PENDLETON

699 DIRECTED READING OR RESEARCH (2-2 Yr.)
Pre: consent of department chairman.
STAFF

Education

Senior Professor B. WHITE; Professors BEYERS, CLARK, CLOPTON, CROSSLEY, EVERLY, MICKELSON, PORTER; Associate Professors R. ALM, CROSS, IN, JACKSON, LAMPARD, MARTIN, MEYER, POYZER, TULL; Assistant Professors AMIOKA, BENNETT, BILOUS, BRENNEMAN, A. CARR, C. L. CHANG, O. DAVIS, FITZSIMMONS, FUJITA, GEISER, HAYES, IHARA, INN, KRAMER, E. LEIB, MCINTOSH, NELSON, NIGHTINGALE, REDDIN, SAX, STUEBER, SUBOKA, TINKER, TRAUT; Instructors J. ALM, CAMPBELL, CROOKER, ERICKSON, GUSTAFSON, H. JOHNSON, MIZUNO, SNODERLY, SCHUMAN, SNOW, TOMINAGA, UEHARA, S. YAMAMOTO

Enrollment in education courses is restricted to College of Education students except by permission of the chairman. Credit in 210-211, 220-221, 222, 230, or the equivalent, is required for registration in courses numbered 400 or above. See note under the division of History and Philosophy of Education.

100-101 ORIENTATION (1-1) Yr.
The teacher as a person; teaching as a profession; choice of a teaching field. Course fee $1.00 first semester.
LAMPARD, STAFF

304 AUDIO-VISUAL EDUCATION (3) I, II
Theory, preparation and use on all school levels of sensory aids to learning. Course fee $3.00.
SANNER

309 TESTS AND MEASUREMENTS (3) I, II
Theory and techniques of evaluation in education. Pre: Education 211 or 221 or 222 or 230. Course fee $10.00, including $9.00 for the National Teacher Examination.
SAX

507 REMEDIAL READING (2) II
Techniques for motivating and helping children whose reading skills are below their capacity and needs.
R. ALM

601 GUIDANCE IN THE SCHOOL (3) I, II
Basic principles of guidance; consideration of techniques, organization, materials and resources.
CLARK

602 ELEMENTARY SCHOOL GUIDANCE (2) II
Principles, techniques, and organization of guidance services in the elementary school. Pre: Education 221 and 309; consent of instructor.
CLARK

604 OCCUPATIONAL INFORMATION IN GUIDANCE (2) I
Occupational research and survey techniques; trends; sources of materials, use of occupational information in vocational guidance.
CLARK

605 PROBLEMS OF SCHOOL ADJUSTMENT (2) I
Principles of behavior which affect human relationships in the school, with emphasis upon application to actual situations. Pre: teaching experience.
CLARK

606 HOME-SCHOOL RELATIONSHIPS (3) I, II
Analysis of parent-teacher relationships as they affect children's learning. The complementary relationships of home and school.
LAMPARD

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.
R. ALM
**EDUCATION**

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<th>Course Code</th>
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<tr>
<td>609</td>
<td>TESTS AND INVENTORIES IN GUIDANCE (2) II</td>
<td>CLARK</td>
<td>Tests and inventories for measuring aptitudes, interests, and modes of behavior. Pre: Education 309.</td>
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<tr>
<td>701</td>
<td>SEMINAR IN GUIDANCE (2) II</td>
<td>CLARK</td>
<td>An advanced course for trained and experienced school guidance personnel who qualify for professional certification.</td>
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<td>708</td>
<td>EDUCATIONAL RESEARCH METHODS (3) I, II</td>
<td>STAFF</td>
<td>Research techniques and thesis development. Pre: Education 309; consent of instructor. $4.00 fee for Graduate Record Examination.</td>
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<tr>
<td>709</td>
<td>EDUCATIONAL EVALUATION (3) II</td>
<td>BEYERS</td>
<td>Educational objectives and evaluation methods; synthesis of data from objective and subjective sources. Pre: Education 309; consent of instructor.</td>
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**PRESCHOOL–PRIMARY EDUCATION**

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<tr>
<td>210–211</td>
<td>PRESCHOOL–PRIMARY EDUCATION (4–4) Yr.</td>
<td>NIGHTINGALE, BILOUS</td>
<td>Basic course in the major problems in the education of children of ages two to seven. Pre: Psychology 150; 210 is prerequisite to 211.</td>
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<td>310–311</td>
<td>BASIC SKILLS, PRESCHOOL–PRIMARY (2–2) Yr.</td>
<td>STAFF</td>
<td>Materials and procedures for teaching language arts and arithmetic to children three to seven. Pre: Education 210.</td>
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<tr>
<td>316</td>
<td>PRESCHOOL–PRIMARY ART (2) I, II</td>
<td>STAFF</td>
<td>Materials and procedures in a variety of art media; construction activities for children from two to seven. Pre: Education 210. Course fee $2.00.</td>
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<tr>
<td>317</td>
<td>PRESCHOOL–PRIMARY MUSIC (2) I, II</td>
<td>STAFF</td>
<td>Singing, simple work with instruments, rhythmic activities, dancing, dramatic play, and listening experiences for children two to seven. Pre: Education 210.</td>
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**ELEMENTARY EDUCATION**

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<tr>
<td>220–221</td>
<td>ELEMENTARY EDUCATION (4–4) Yr.</td>
<td>STAFF</td>
<td>Basic course in the education of children of ages seven to twelve; observation and work with children. Pre: Psychology 150; 220 is prerequisite to 221.</td>
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<tr>
<td>222</td>
<td>PRINCIPLES OF ELEMENTARY EDUCATION (4) I</td>
<td>STAFF</td>
<td>Survey of elementary education. Credit toward certificate only. May not be taken by those who have credit in 220–221. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>223</td>
<td>CURRICULUM IN ELEMENTARY EDUCATION (10) I</td>
<td>STAFF</td>
<td>Teaching elementary school social studies, science, mathematics, language arts, and children's literature. Pre: Education 222. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>225</td>
<td>CHILDREN'S LITERATURE (2) I, II</td>
<td>HAYES</td>
<td>Acquaintance with a wide range of children's books; criteria for judging literature on the basis of needs and interests. Pre: Education 210 or 220.</td>
</tr>
<tr>
<td>228–229</td>
<td>HAWAIIAN NATURAL HISTORY (2–2) Yr.</td>
<td>TINKER</td>
<td>Survey of the local physical and biological environment with special reference to the needs of teachers in the schools of Hawaii. Students may enter the second semester.</td>
</tr>
<tr>
<td>320</td>
<td>LANGUAGE ARTS, ELEMENTARY (3) I, II</td>
<td>HAYES</td>
<td>Modern approach to the teaching of language arts—reading, oral and written expression; materials for grades 1–6. Pre: Education 220.</td>
</tr>
<tr>
<td>322</td>
<td>SOCIAL STUDIES, ELEMENTARY (2) I, II</td>
<td>FITZSIMMONS</td>
<td>Scope and organization of the social studies for the elementary school. Pre: Education 220.</td>
</tr>
</tbody>
</table>
323 SCIENCE, ELEMENTARY (2) I, II  
CARR  
Science education in the elementary school; developing concepts and understandings in grades 1–6. Pre: Education 220.

324 MATHEMATICS, ELEMENTARY (2) I, II  
FITZSIMMONS  
Scope and organization of mathematics in the elementary curriculum. Pre: Education 220.

326 CREATIVE ART, ELEMENTARY (2) I, II  
SCHUMAN, YAMAMOTO  
Understanding the creative use of art materials, tools, ideas, and their sources. Pre: Education 220; Art 103. Course fee $5.00.

SECONDARY EDUCATION

230 SECONDARY EDUCATION (5) I, II  
STAFF  
Basic course dealing with the major problems of secondary education. Pre: Psychology 152.

235 LITERATURE FOR ADOLESCENTS (2) I  
R. ALM  
Literature for the secondary school level; helping students appreciate the significance and meaning of literature; materials suitable for varying levels of ability and interests.

247 TESTS AND MEASUREMENTS—INDUSTRIAL (2) I  
POYZER  
Tests and evaluation procedure; construction of manipulative tests, tests for trade theory and for related information; consideration of standardized trade tests.

330 LANGUAGE ARTS, SECONDARY (3) I, II  
STAFF  
Teaching of speaking, reading, writing, and listening in the secondary school; literature, grammar, usage, and spelling. Pre: Education 230.

331 TEACHING OF READING IN INTERMEDIATE AND HIGH SCHOOL (2) II  
J. ALM  
Techniques and materials for teaching reading and improving reading skills in the intermediate and high school.

332 SOCIAL STUDIES, SECONDARY (3) I, II  
NELSON  
Scope and organization of social studies in the secondary school; development of social knowledge and understanding. Pre: Education 230.

333 SCIENCE, SECONDARY (3) I, II  
CAMPBELL  
Purposes and procedures; development of scientific attitude; review of the major generalizations of the biological and physical sciences. Pre: Education 230.

334 MATHEMATICS, SECONDARY (3) I, II  
CAMPBELL  
Purposes and procedures; development of basic mathematical concepts. Pre: Education 230; Mathematics 132, 421.

335 FOREIGN LANGUAGE (3) II  
ASPINWALL  
Techniques and materials for teaching foreign language; aims, motivation, tests; infusion of cultures; use of instructional aids. Pre: Education 230.

336 CREATIVE ART, SECONDARY (2) I, II  
SCHUMAN  
Teaching art in secondary schools; the arts in relation to all school subjects. Course fee $5.00. Pre: Education 230.

337-338 SCHOOL MUSIC, SECONDARY (2–2) Yr.  
MUNDY  
Objectives, materials, and procedures of general, instrumental, and choral music in the secondary school. Pre: Education 230.

339 SPEECH AND DRAMATICS, SECONDARY (3) I  
BRENNEMAN  
Techniques for teaching types of speech and play analysis and direction, production and management problems. Pre: Education 230.
341 PHYSICAL EDUCATION, SECONDARY (2) I
TOMINAGA
Methods and materials in conduct of the physical activities program; techniques in
leadership; selection of activities and program evaluation. Pre: Education 230.

345 COURSE CONSTRUCTION (2) I
CURRICULUM DEVELOPMENT IN INDUSTRIAL ARTS WITH SPECIAL EMPHASIS ON THE PLANNING OF COURSES OF STUDY FOR BOTH THE INTERMEDIATE AND SENIOR HIGH SCHOOL OFFERINGS.

346 INDUSTRIAL ARTS (3) I
POYZER
Techniques of individual and group instruction in shop and related classes; evaluation
of various methods. Pre: Education 230.

347 SHOP ORGANIZATION AND MANAGEMENT (2) II
POYZER
Organization of instruction; handling supplies; maintaining equipment and tools; pur-
chasing materials; keeping records; making inventories. Pre: Education 230.

348 TYPEWRITING AND SHORTHAND (2) I
KRAMER
Theory and methods of teaching typewriting and shorthand. Pre: Business 270, 272;
Education 230.

349 BOOKKEEPING AND OFFICE PRACTICE (2) II
KRAMER
Teaching bookkeeping, office practice, and other subjects in the secondary school busi-

HISTORY AND PHILOSOPHY OF EDUCATION

Qualified graduate students in other departments may enroll in courses in this division
with consent of the instructor.

650 HISTORY OF EDUCATION (3) I, II
CLOPTON, STUEBER
History of educational thought and practice as a basis for the study of modern school
problems.

655 PHILOSOPHY OF EDUCATION (3) I, II
CLOPTON, STUEBER
Philosophy and science in education; social, psychological and ethical considerations
essential to a philosophy of education.

751 HISTORY OF AMERICAN EDUCATION (3) I
R. ANDERSON
History of educational thought and practice in America, with major emphasis on the
19th and 20th centuries. Pre: Education 650.

753 COMPARATIVE EDUCATION: EUROPE AND AMERICA (2) I
A comparison of the ways in which contemporary Western societies undertake to meet
their educational problems.

754 COMPARATIVE EDUCATION: THE ORIENT (2) II
R. ANDERSON
A study of the educational problems, practices, and institutions in the countries of Asia.

755 SEMINAR IN PHILOSOPHY OF EDUCATION (2) II
CLOPTON
Social and psychological theory involved in educational issues. Pre: Education 650, 655.

756 CONTEMPORARY PHILOSOPHIES OF EDUCATION (2) II
CLOPTON
Characteristics, similarities and divergencies of chief contemporary schools of educa-
tional philosophy in America; chief exponents of each. Pre: Education 655.

758 SEMINAR IN PROBLEMS IN EDUCATION (2) II
STAFF
Study and discussion of significant topics and problems. Required of Ed.M. candidates.
Pre: Education 708.

759 CURRENT ISSUES IN EDUCATION (2) II
STAFF
Consideration of problems and issues raised in recent professional journals and books.
Pre: Education 655.
CURRICULUM

661 THE MODERN LANGUAGE ARTS PROGRAM (3) II  R. ALM
Survey of research; critical examination of educational procedures in teaching the
language arts. Pre: basic course in teaching language arts.

662 ELEMENTARY SCHOOL CURRICULUM (3) I  JACKSON
Principles and techniques of curriculum improvement at the elementary school level.
Resources and teaching units. Pre: teaching experience.

663 SECONDARY SCHOOL CURRICULUM (3) I  MEYER
Principles and techniques of curriculum improvement at the secondary school level.
Pre: teaching experience.

664 EXTRACLASS ACTIVITIES IN SECONDARY SCHOOLS (2) II  MARTIN
Planning and supervising student government, dramatics, athletics, school journalism,
and other activities.

668 EDUCATION OF SLOW LEARNERS (2) I  McIntosh
Analysis of the special problems of slow learners and development of techniques and
programs for serving them. Pre: Education 662 or 663; consent of instructor.

669 EDUCATION OF RAPID LEARNERS (2) II  McIntosh
Analysis of the special problems of rapid learners and development of techniques and
programs for serving them. Pre: Education 662 or 663; consent of instructor.

760 SEMINAR IN CURRICULUM (3) I
Advanced study in the development and improvement of the curriculum of the element­
ary and secondary schools. Pre: Education 662 or 663; consent of instructor.

764 SEMINAR IN VOCATIONAL EDUCATION (2) II
Individual study of special problems in vocational education.

SUPERVISION AND ADMINISTRATION

670 SUPERVISION OF INSTRUCTION (2) II
Principles of supervision and the development of supervisory programs in the school.
Pre: Education 662 or 663.

679 SUPERVISION OF STUDENT TEACHING (2) I  STAFF
Principles and methods; role of the supervisor; human relations in supervision of
student teaching. Pre: teaching experience; consent of instructor.

680 PUBLIC SCHOOL ORGANIZATION (2) I, II  STAFF
Function of the teacher in school administration; state and territorial organization of
public education; Hawaii school law and D.P.I. regulations.

681 ORGANIZATION AND ADMINISTRATION OF GUIDANCE (2) I  CLARK
Organization and administration of guidance as part of student personnel services; role
of the administrator. Pre: basic course in guidance.

682 ADMINISTRATION OF THE ELEMENTARY SCHOOL (2) I  JACKSON
Curricula and programs; reports to parents, pupils, staff; plant; community relations;
problems of the small school. Pre: Education 680; teaching experience.

683 ADMINISTRATION OF THE SECONDARY SCHOOL (2) I  CROSSLEY
Organization and administration; curriculum schedules; personnel; plant; public rela­
tions. Pre: Education 680; teaching experience.

770 SEMINAR IN SUPERVISION OF INSTRUCTION (2) II  CROSSLEY
Methods and tools of supervision; faculty meetings; classroom observation; conferences;
evaluation. Pre: Education 670 or 679.
780 SEMINAR IN EDUCATIONAL ADMINISTRATION (2) I, II  CROSSLEY, JACKSON
Analysis of selected problems in school administration. Pre: Education 682 or 683; consent of instructor. May be repeated.

781 LEGAL AND BUSINESS ASPECTS OF SCHOOL ADMINISTRATION (2) II  JACKSON
Advanced course in legal and business controls and practices in the public school system. Pre: Education 682 or 683; consent of instructor.

SUPERVISED EXPERIENCE AND DIRECTED STUDY
Credit for Education 690, 691, 697, and 698 does not apply to graduate degree programs.

390 STUDENT TEACHING (14) I, II  STAFF
Supervised experience in the University Laboratory Schools. Pre: Education 211, 221, 222, or 230. Follows Laboratory School calendar.

391 SEMINAR FOR STUDENT TEACHERS (2) I, II  STAFF
Study of problems arising from experience as student teachers. To be taken concurrently with Education 390 or 392.

392 STUDENT TEACHING IN HOME ECONOMICS (6) I, II  TULL
Observation, supervised teaching, and conferences. Pre: senior standing; credit or concurrent registration in Home Economics 270.

399 DIRECTED READING (Ar.) I, II  STAFF
Individual reading in (1) preschool education, (2) elementary education, (3) secondary education, (4) vocational education, (5) history and philosophy of education, (6) curriculum, (7) supervision, (8) administration, (9) library science, (10) educational psychology. 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.

690 INTERNSHIP (14) I, II  STAFF
Full-time teaching under special supervision. Restricted to fifth-year students. First semester work begins September 1, 1960; second semester ends June 10, 1961.

691 SEMINAR FOR INTERN TEACHERS (2) I, II  STAFF
Problems arising from classroom experiences of intern teachers. Restricted to fifth-year students. To be taken concurrently with Education 690.

694 GUIDANCE PRACTICUM (3) I, II  CLARK
Supervised experience in guidance activities in schools. Guidance majors only. Pre: consent of instructor.

697–698 INTERNSHIP IN EDUCATIONAL LEADERSHIP (4–4) Yr.  CROSSLEY, JACKSON
Seminar and supervised field work in educational leadership. Pre: acceptance in D.P.I. Leadership Training Program.

699 DIRECTED READING OR RESEARCH (Ar.) I, II  STAFF
Individual reading or research in the same fields as in 399. Pre: consent of instructor and department chairman.

Engineering
Senior Professor HOLMES; Professors DOWNS, HARLOE, NORRIS, RAEDER, TINNISWOOD; Associate Professors AVERY, GO, GOTT, JOHNSTON, HASELWOOD, MATSUDA, MITSUDA, PARTRIDGE; Assistant Professors CORBA, LAU, WALKER, YUEN; Instructor NAJITA; Lecturers CHOU, LANDSTREET, LUM

CIVIL
CE 100 ENGINEERING ORIENTATION (1) I  AVERY
CE 101 ENGINEERING GRAPHICS (2) I (2 Lb)  
Basic fundamentals, freehand orthographic and pictorial sketching, instrument drawing and principles related to the graphic language of engineering. Course fee $2.00.

CE 102 ENGINEERING GRAPHICS (2) II (2 Lb)  
Graphical solution of problems involving points, lines, and surfaces, and their application to engineering. Pre: CE 101. Course fee $2.00.

CE 111 SURVEYING (2) I (1 L, 1 Lb)  
Use of tape, level, and transit; horizontal and vertical control surveys; optical tooling; computations. Pre: Mathematics 102; CE 101. Course fee $3.00.

CE 112 SURVEYING (3) II (2 L, 1 Lb)  
Topographic mapping; curves; earthwork computations; hydrographic and city surveys; route problems. Pre: Mathematics 103, 104; CE 101, 111. Course fee $3.00.

CE 170 MECHANICS (STATICS) (3) II  

CE 220 FLUID MECHANICS (4) I, II (3 L, 1 Lb)  
Fluid statics, kinematics of fluid flow, momentum and energy equations, flow in pipes, open channel flow, and fluid measurements. Pre: CE 271 or Physics 310. Course fee $1.00.

CE 241 MECHANICS OF MATERIALS LABORATORY (1) I (1 Lb)  
Testing and observation of materials under various stress conditions. Course fee $4.00.

CE 242 CONCRETE (2) II (1 L, 1 Lb)  
Standard tests for concrete, cement, and aggregates used in making concrete. Course fee $5.00.

CE 271 MECHANICS (DYNAMICS) (3) I  
Plane dynamics and kinematics of particles. Rigid bodies in translation, rotation, and plane motion. Work, energy, power. Pre: CE 170.

CE 273 MECHANICS OF MATERIALS (4) I (3 L, 1 Lb)  

CE 274 MECHANICS OF MATERIALS (3) II (2 L, 1 Lb)  
Work-energy, virtual work, plastic and model analysis, numerical methods, dynamic loading, combined stress. Pre: CE 273.

CE 300 ENGINEERING ECONOMY (2) I, II  
Application of economic principles to engineering problems. Pre: Economics 140; senior standing.

CE 302 CONTRACTS AND SPECIFICATIONS (2) II  
Business, legal, and ethical aspects of engineering; contracts and specifications with special reference to local requirements. Pre: senior standing.

CE 311 PHOTOGRAMMETRY (3) I, II  
Basic principles; photographic equipment; control; methods of compilation; mosaics. Pre: CE 213. Course fee $2.00.

CE 321 ADVANCED HYDRAULICS (3) I  
Nonuniform flow, hydraulic jump, water hammer, theory of backwater curves; flood routing; pipe networks; hydraulic machinery. Pre: CE 325.

CE 322 HYDRAULIC STRUCTURES (3) II  
Hydraulic and structural considerations in the design of dams, gates, canals, breakwaters, and piers. Pre: CE 220, 381, 383.

CE 325 HYDROLOGY (3) I  
CE 331  SANITARY ENGINEERING (3) I  
   LAU, TINNISWOOD
   Design, construction, and maintenance of water works; water purification and control. 
   Pre: CE 220.

CE 332  SANITARY ENGINEERING (3) II  
   LAU, TINNISWOOD
   Design, construction, and maintenance of sewage works; sewage and industrial waste 

CE 340  ADVANCED MATERIALS TESTING (Ar.) I, II  
   STAFF
   Application of tests to investigations of physical characteristics of local engineering 

CE 351  SOIL MECHANICS (3) I  
   (2 L, 1 Lb)  
   HASSELWOOD
   Physical factors in earth pressure phenomena; soil stability; soil properties in earth­ 
   work operations and foundations. Pre: CE 273. Course fee $1.00.

CE 360  TRANSPORTATION ENGINEERING (3) II  
   GO, HASSELWOOD, STAFF
   Design, construction, and maintenance of streets and highways; planning, financing. 
   Pre: CE 213, 351.

CE 380  STRUCTURAL DESIGN (4) I  
   (3 L, 1 Lb)  
   STAFF
   Design of elements of structures: based on economy, service and loading. Includes 
   concrete, steel, timber. Pre: CE 274. (Not offered 1960-61.)

CE 381  INDETERMINATE STRUCTURES (3) I  
   GO, MATSUDA, STAFF
   Analysis of indeterminate trusses, beams, rigid frames, and continuous structures by 
   classical methods, moment distribution and column analogy. Pre: CE 280.

CE 382  ADVANCED STRUCTURAL THEORY (3) II  
   STAFF
   Column analogy, moment distribution, haunched beams, continuous girders, rigid 
   frames, arches; secondary stresses. Pre: CE 381, 383.

CE 383  REINFORCED CONCRETE (3) I  
   (2 L, 1 Lb)  
   STAFF
   Theory and design of reinforced concrete beams, columns, combined stresses, footings, 
   and retaining walls. Pre: CE 273, 280.

CE 384  REINFORCED CONCRETE DESIGN (3) II  
   (2 L, 1 Lb)  
   GO, STAFF
   Continuation of 279. Slabs, reinforced concrete bridges, rigid frames. Elementary 
   concepts of plastic theory and prestressed concrete. Pre: CE 381, 383.

CE 385  STRUCTURAL ANALYSIS (3) I  
   STAFF
   Influence lines, column analogy, moment distribution, and classical indeterminate 
   analysis. Pre: CE 274. (Not offered 1960-61.)

CE 386  STRUCTURAL DESIGN (4) II  
   (3 L, 1 Lb)  
   GO, MATSUDA, STAFF
   Complete design experience from selection of structural type, material and dimension, 
   with cognizance of economics. Pre: CE 380.

CE 388  HYDRAULIC DESIGN (4) II  
   (3 L, 1 Lb)  
   LAU, WALKER, YUEN
   Hydraulic and structural considerations in the design of dams, gates, canals, break­ 
   waters, and piers. Pre: CE 325.

CE 392  SEMINAR (2) II  
   STAFF
   Discussion of trips to construction projects, industrial plants and completed structures: 
   ethics, professional registration and practices. Pre: senior standing.

CE 399  SPECIAL PROBLEMS (Ar.) I, II  
   STAFF
   Individual investigation in engineering as approved by instructor. Limited to seniors 
   with 2.7 grade-point ratio, or 3.0 grade-point ratio in engineering.
EE 102 ELECTRICAL SCIENCE (4) II (3 L, 1 Lb) STAFF
Designed to develop concepts from physics of electricity and magnetism. Pre: Mathematics 132; credit or registration in Physics 181. Course fee $2.00.

EE 211 BASIC CIRCUIT ANALYSIS (4) I (3 L, 1 Lb) GOTT, NAJITA
Mathematical analysis of circuit problems. Relationships between field and circuit concepts. Pre: EE 102; Mathematics 133. Course fee $2.00.

EE 212 CIRCUIT ANALYSIS AND SYNTHESIS (4) II (3 L, 1 Lb) GOTT, STAFF

EE 221 BASIC ELECTRONICS LABORATORY (1) II (1 Lb) STAFF

EE 242 TRANSMISSION LINES (3) II (3 Lb) GOTT, NAJITA
Electric signal propagation on transmission lines from field and circuit points of view. Pre: EE 211; Mathematics 401; credit or registration in Physics 550.

EE 301 GENERAL CIRCUIT ANALYSIS (3) II (3 L) NAJITA
Analysis and synthesis of electrical networks, filters, and systems. For nonelectrical engineers. Pre: EE 201.

EE 321 ELECTRONIC OPERATIONS (4) I (3 L, 1 Lb) GOTT, PARTRIDGE
Systems for performing operations on electrical quantities through use of active electronic devices. Pre: EE 212, 221; Physics 440. Course fee $4.00.

EE 351 ELECTROMECHANICAL ENERGY CONVERSION (4) I (3 L, 1 Lb) GOTT, NAJITA, STAFF

EE 352 SYNCHRONOUS MACHINES AND POWER SYSTEMS (3) II (3 L) STAFF
Analysis of machines. Relationships of machine characteristics to power system characteristics. Pre: EE 212, 242, 351; credit or registration in 362.

EE 363 FEEDBACK CONTROL (3) II (2 L, 1 Lb) GOTT, NAJITA, PARTRIDGE
Concept, analysis, and synthesis of feedback control systems. Information theory. Pre: EE 321, 351. Course fee $4.00.

EE 372 UHF AND MICROWAVES (3) II (2 L, 1 Lb) PARTRIDGE
The transmission region of the frequency spectrum between lumped-constant systems and distributed systems. Pre: EE 242, 321. Course fee $2.00.

EE 374 COMMUNICATION SYSTEMS (3) II NAJITA, PARTRIDGE

EE 376 ELECTRONIC INFORMATION PROCESSING (3) II (3 L) PARTRIDGE, STAFF

EE 392 INDUSTRIAL ELECTRONICS AND ILLUMINATION (3) II (3 L) STAFF
Control of industrial processes. Objective and subjective illumination. Also suitable for nonelectrical engineers. Pre: EE 201 or 211, 221.

EE 394 PROJECT (3) II (3 Lb) STAFF
Opportunity for seniors with demonstrated ability to work on research or development projects. Pre: 2nd semester senior, 2.7 grade-point ratio.
MECHANICAL

ME 121 MANUFACTURING PROCESSES (3) I
Foundry, forging, die casting, welding, machine tool, and other allied processes.

ME 231 THERMODYNAMICS (3) I, II
Fundamentals of thermodynamics and their application to the efficient production and utilization of power. Pre: Chemistry 104; Physics 181; Mathematics 132.

ME 260 KINEMATICS (3) II
The motion of machine elements and the transmission of motion through mechanical devices. Pre: CE 102, 271.

ME 331 STEAM POWER (3) I
Performance of steam generating and consuming equipment. Selection of industrial steam equipment. Pre: ME 231; registration in ME 333.

ME 333 HEAT POWER LABORATORY (1) I (1 Lb)
Use of mechanical, electrical, and electronic equipment in testing mechanical and thermodynamic machinery. Pre: registration in ME 331. Course fee $5.00.

ME 334 HEAT POWER LABORATORY (1) II (1 Lb)
Use of mechanical and electronic equipment used in testing mechanical and thermodynamic machinery. Internal combustion engine tests. Pre: ME 333. Course fee $5.00.

ME 341 INTERNAL COMBUSTION ENGINES (3) I
Basic principles of the functioning of internal combustion engines. Fuels, combustion, and factors controlling output and efficiency. Pre: ME 231.

ME 342 AIR CONDITIONING AND REFRIGERATION (3) II
Refrigeration and air conditioning apparatus and their application to industrial and residential use. Pre: ME 231.

English

Senior Professors STROVEN, WILSON; Professors BÖUSLOG, DAY, GREEN, HEISER, KORN; Associate Professors FUJIMURA, GEORGE, LOWER, STEMPEL, SUMMERSGILL; Assistant Professors BROWN, FRIERSON, GRIFFING, HUNTSBERRY, LANGHANS, LEIB, MANEY, R. SCOTT, TEEVAN, WEST, WINTERS; Instructors ABRUMS, BRENN, EISEN, CASTRO, CHALDECOTT, CRYMES, DERSTINE, DICKENSON, KIM, V. MILLER, MORTENSEN, NEWTON, SINCLAIR, STACEY, TOPHAM, P. WHITE, WILKINSON

50 INSTITUTE COMPOSITION (0) I, II
Fundamentals of English usage and composition. For those whose native language is not English and who do not qualify for English 101.

51 INSTITUTE REPORT WRITING (0) I, II
Fundamentals of composition; library usage; research projects. For those whose native language is not English and who do not qualify for English 101. Primarily for graduate students.

101–102 COMPOSITION (3–3) Yr.
101: fundamentals. 102: rhetorical principles; a research project.

105 INTERMEDIATE COMPOSITION (3) I
Accelerated course for entering freshmen with experience in writing. Substitutes for 101–102. Admission through the Dean and department chairman.

109 BUSINESS ENGLISH (3) II
Forms of business communication: letters, reports, analyses, records. Open only to students in business administration. Pre: English 102 or the equivalent.
111  JOURNALISM WORKSHOP (1) I, II  SCOTT
   Reporting, proofreading, copy editing, or photography, under supervision of Ka Leo editors and adviser.

112  EDITORIAL WORKSHOP (1) I, II  SCOTT
   Restricted to, and required of executives of Ka Leo.

115  NEWSWRITING (3) I  SCOTT
   News style, story structure; work on Ka Leo. Pre: English 102. Course fee $2.00.

116  NEWS MECHANICS (2) II  SCOTT
   Newspaper organization; editing; headlines; makeup; typography; photos; rewriting. Pre: English 115. Course fee $2.00.

150-151  MAJOR WORKS OF BRITISH AND AMERICAN LITERATURE (3-3) Yr. STAFF
   150: Middle Ages to 1800; 151: 1800 to the present. This course or 152-153 is prerequisite to all advanced courses in English and American literature.

152-153  WORLD LITERATURE (3-3) Yr. STAFF
   Major works of classical, Oriental, European, and 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 STAFF
   Poetry, drama, essays, prose fiction; sixteenth century to the present. Open only to students in agriculture, business administration, engineering, and nursing.

201  EXPOSITORY WRITING (3) I, II STAFF
   Principles and practice of exposition. Not open to English majors.

210  REPORT WRITING (3) I, II STAFF
   Technical exposition: reports and other types of professional writing. Pre: junior or senior standing.

212  ADVANCED EXPOSITORY WRITING (3) I, II STAFF
   Expository and descriptive writing, with emphasis upon the development of idea and style. Pre: consent of instructor.

213  NARRATIVE WRITING (3) I, II HUNTSBERRY
   Analysis and writing of narrative, including the short story. Pre: consent of instructor.

220  CURRENT ENGLISH (3) II MANEY
   Methods of linguistic analysis; description of English structure; current usage.

231  INTRODUCTION TO POETRY (3) I KORN
   Analysis of selected English and American poems, emphasizing problems of communication and appreciation.

235  BACKGROUNDS OF ENGLISH LITERATURE (3) I GREEN
   The most important sources of English literary themes and allusions, including the King James Bible and Western European myth and legend.

239  MASS COMMUNICATIONS (3) II SCOTT
   History of "popular literature" and mass media; principles of mass communications; analysis and evaluation of mass media in modern society.

313  ADVANCED FICTION WRITING (3) II DAY
   Study of modern fiction; application of principles of narrative craftsmanship. Pre: consent of instructor. (Alt. yrs.; offered 1960-61.)

399  DIRECTED READING (Ar.) I, II STAFF
   Individual reading. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in English. Pre: consent of instructor and department chairman.
420 HISTORY OF THE ENGLISH LANGUAGE (3) II  GREEN
Growth and development of the English language; sources, forms, mutations, and standards of usage. (Alt. yrs.; offered 1960–61.)

436 HISTORY OF LITERARY CRITICISM (3) II  HEISER, STEMPPEL
Chief theories of literary criticism, with readings (in English) from Plato to the present. (Alt. yrs.; not offered 1960–61.)

440 ENGLISH DRAMA TO 1642 (3) I  SUMMERSGILL
Origins of English drama; medieval drama and theatre; contemporaries and successors of Shakespeare. (Alt. yrs.; not offered 1960–61.)

443–444 MODERN DRAMATIC LITERATURE (3–3) Yr.  LANGHANS

447 THE ENGLISH NOVEL TO 1832 (3) I  KORN
Principal English novels and novelists from the beginnings to 1832. (Alt. yrs.; not offered 1960–61.)

448 THE ENGLISH NOVEL, 1832–1900 (3) II  KORN
Principal English novels and novelists. (Alt. yrs.; not offered 1960–61.)

451 MEDIEVAL ENGLISH LITERATURE (3) I  GREEN
Representative Old and Middle English poetry, prose, drama, exclusive of Chaucer, with continental backgrounds; chiefly in translation. (Alt. yrs.; not offered 1960–61.)

452 CHAUCER (3) II  SUMMERSGILL
Life, times, and major works of Chaucer, with emphasis on The Canterbury Tales. (Alt. yrs.; not offered 1960–61.)

455 SIXTEENTH-CENTURY ENGLISH LITERATURE (3) I  LOWERS
Poetry and prose of the Tudor period, exclusive of the drama. (Alt. yrs.; offered 1960–61.)

457–458 SHAKESPEARE (3–3) Yr.  GREEN, LOWERS, SUMMERSGILL
457: histories and comedies. 458: tragedies.

460 EARLY SEVENTEENTH-CENTURY ENGLISH LITERATURE (3) II  KORN
Poetry and prose of the seventeenth century to 1660, exclusive of the drama. (Alt. yrs.; not offered 1960–61.)

465 RESTORATION LITERATURE (3) I  FUJIMURA
Poetry, prose, and drama from 1660 to 1700, exclusive of Milton. (Alt. yrs.; offered 1960–61.)

466 MILTON (3) II  KORN
Selected poetry and prose. (Alt. yrs.; offered 1960–61.)

470 EIGHTEENTH-CENTURY ENGLISH LITERATURE (3) II  GEORGE
Poetry, prose, and drama from 1700 to 1780, exclusive of the novel. (Alt. yrs.; offered 1960–61.)

480 THE ROMANTIC MOVEMENT IN ENGLAND (3) I  BOUSLOG
Poetry and prose from 1780 to 1832, exclusive of the novel. (Alt. yrs.; not offered 1960–61.)

485 VICTORIAN LITERATURE (3) II  FRIERSON
Poetry and prose from 1832 to 1900, exclusive of the novel. (Alt. yrs.; offered 1960–61.)

490 TWENTIETH-CENTURY BRITISH LITERATURE (3) I  BOUSLOG, DAY
Representative works of the leading British novelists and poets since 1900.
571-572 AMERICAN LITERATURE (3-3) Yr.
571: from the beginnings to the Civil War. 572: from the Civil War to the early twentieth century.

573 AMERICAN LITERATURE AND CULTURAL HISTORY (3) II
HEISER, HUNTSBERRY
Studies in the relations of American literature to American culture before 1900. Pre: English 571 or the equivalent.

585 LITERATURE OF THE PACIFIC (3) II
STROVEN
Pacific islands, Australia: narratives of voyagers, translations of native literature, fiction by Melville, Stevenson, London, Becke, Nordhoff and Hall. (Alt. yrs.; offered 1960-61.)

590 TWENTIETH-CENTURY AMERICAN LITERATURE (3) II
DAY
Representative works of the leading American novelists and poets since 1900.

620 SEMINAR IN TEACHING COMPOSITION (2) I
FUJIMURA
Theory and observation of the teaching of composition at the college level. Pre: consent of instructor.

630 SEMINAR IN RESEARCH METHODS (2) I
HEISER
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 (1) II
GREEN
Introduction to comparative literature; relationship of English to other European literatures; sources and influences. Pre: consent of instructor.

685 SEMINAR IN ENGLISH LITERATURE (2) I, II
STAFF
Study of problems, authors, or a period. Pre: consent of instructor.

790 SEMINAR IN HISTORY AND LIT:RATURE (2) II
BOUSLOG
Problems in contemporary American culture, with emphasis on the history of ideas. History 790 the first semester; English 790 the second. Pre: History 790.

European Languages
Professors ASPINWALL, MUELLER; Associate Professor KNOWLTON; Assistant Professors GARCIA, JACKSON, JENSON, PAVLANTOS, ROTH, TROUPIANSKY, WISWELL; Instructors BURKETT, MOORE, SINGER

FRENCH

101-102 ELEMENTARY FRENCH (3-3) Yr.
Reading, conversation, laboratory drill, grammar. Course fee $1.00.

151-152 INTERMEDIATE FRENCH (3-3) Yr.
Reading, conversation, laboratory drill, composition. Pre: French 102 or the equivalent. Course fee $1.00.

201-202 LITERATURE OF THE TWENTIETH CENTURY (3-3) Yr.
ASPINWALL
Novels, plays, poetry. Conducted in French. Pre: French 152 or equivalent.

399 DIRECTED READING (Ar.) I, II
STAFF
Designed to round out a knowledge of French literature. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in French.
401 LITERATURE SINCE 1800 IN TRANSLATION (2) II
   Rapid reading in translation; lectures, discussion, and reports. Not open to French majors. Pre: English 151.

411 LITERATURE OF THE GOLDEN AGE (2) I
   Emphasis on Moliere, Racine, Corneille. Conducted in French. Pre: French 202 or the equivalent. (Alternates with 471; not offered 1960–61.)

413-414 THE EIGHTEENTH CENTURY (2–2) Yr.

415-416 LITERATURE OF THE NINETEENTH CENTURY (2–2) Yr.

471 HISTORY OF THE FRENCH LANGUAGE (2) II
   Extracts from literature of the Middle Ages and sixteenth century. Pre: French 152, and Latin 102 or the equivalent. (Alternates with 411.)

699 DIRECTED READING (Ar.) I, II
   Pre: consent of instructor.

GERMAN

101–102 ELEMENTARY GERMAN (3–3) Yr.
   Reading, conversation, laboratory drill, grammar. Course fee $1.00.

151–152 INTERMEDIATE: INTRODUCTION TO GERMAN LITERATURE (3–3) Yr.
   Modern and classical authors; grammar review; conversation; laboratory drill. Pre: German 102 or two years of high school German. Course fee $1.00.

153–154 INTERMEDIATE: SCIENTIFIC GERMAN (3–3) Yr.
   Accurate reading over a wide range of subjects. Emphasis on sentence construction and vocabulary building. Pre: German 102.

399 DIRECTED READING (Ar.) Yr.
   Designed to round out a knowledge of German literature, or allow intensive reading. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in German.

411–412 THE CLASSICAL PERIOD (3–3) Yr.
   Representative works of Lessing, Goethe, Schiller, interpreted within the literary framework of their time. Pre: German 152.

413–414 THE MODERN PERIOD (3–3) Yr.
   Romanticism, poetic realism, naturalism, impressionism, new objectivity. Pre: German 152. (Alternates with 411–412; not offered 1960–61.)

491 ADVANCED TRANSLATION (Ar.) I
   Reading in a field: science, literary history, etc. Required of majors. May be repeated once. Pre: two years of college German; consent of instructor.

699 DIRECTED READING (Ar.) I, II
   Pre: consent of instructor.

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; reading from selected prose and poetry. Pre: Greek 102 or the equivalent.

399 DIRECTED READING (Ar.) I, II
   Limited to seniors with 2.7 grade-point ratio, or 3.0 in Greek.
401 GREEK CIVILIZATION (3) I
Study of the history, art, and culture of Greece.

403 GREEK LITERATURE (3) I
Major writers of Greece in translation. (Not offered 1960-61.)

ITALIAN

101-102 ELEMENTARY ITALIAN (3-3) Yr. STAFF
Reading, conversation, laboratory drill, grammar. Course fee $1.00. (Alternates with 151-152; offered 1960-61.)

151-152 INTERMEDIATE ITALIAN (3-3) Yr. STAFF
Reading, conversation, laboratory drill, grammar, composition. Pre: Italian 102. Course fee $1.00. (Alternates with 101-102; not offered 1960-61.)

LATIN

101-102 ELEMENTARY LATIN (3-3) Yr. PAVLANTOS
Vocabulary and grammar, with reading of simple Latin.

151-152 INTERMEDIATE LATIN (3-3) Yr. PAVLANTOS
Review of grammar, reading of selections from prose and poetry. Pre: Latin 102 or the equivalent.

399 DIRECTED READING (Ar.) I, II PAVLANTOS
Limited to seniors with 2.7 grade-point ratio, or 3.0 grade-point ratio in Latin.

402 ROMAN CIVILIZATION (3) II
Study of the history, art, and culture of Rome.

404 ROMAN LITERATURE (3) II
Major writers of Rome in translation. (Not offered 1960-61.)

RUSSIAN

101-102 ELEMENTARY RUSSIAN (3-3) Yr. STAFF
Reading, writing, grammar; conversation, laboratory drill. Course fee $1.00.

151-152 INTERMEDIATE: INTRODUCTION TO RUSSIAN LITERATURE (3-3) Yr. TROUPIANSKY
Reading from classical and modern authors; grammar review, conversation, laboratory drill. Pre: Russian 102 or the equivalent. Course fee $1.00.

153-154 INTERMEDIATE: SCIENTIFIC RUSSIAN (3-3) Yr. WISWELL
Rapid reading and translation: sentence structure and vocabulary. Pre: Russian 102 or the equivalent.

399 DIRECTED READING (Ar.) I, II STAFF
Limited to seniors with 2.7 grade-point ratio, or 3.0 in Russian.

402 NINETEENTH-CENTURY NOVEL (2) II WISWELL
Survey of important novelists in translation, particularly Gogol, Goncharov, Turgenev, Dostoevsky, and Tolstoi.

699 DIRECTED READING (Ar.) I, II STAFF
Pre: consent of instructor.

SPANISH

101-102 ELEMENTARY SPANISH (3-3) Yr. STAFF
Reading, conversation, laboratory drill, grammar. Course fee $1.00.

151-152 INTERMEDIATE SPANISH (3-3) STAFF
Reading, conversation, laboratory drill, some grammar and composition. Pre: Spanish 102 or the equivalent. Course fee $1.00.
258 SPANISH CONVERSATION AND COMPOSITION (2) I
Designed to develop skill in oral expression and composition. Pre: Spanish 152 or the equivalent. (Alternates with 471; offered 1960–61.)

259 ADVANCED CONVERSATION AND COMPOSITION (2) II
Further training in oral expression and composition. Pre: Spanish 258 or the equivalent. (Alternates with 476; offered 1960–61.)

399 DIRECTED READING (Ar.) I, II
(1) Spanish peninsular literature, (2) Spanish-American literature, (3) Hispanic linguistics. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point in Spanish.

454 INTRODUCTION TO SPANISH-AMERICAN LITERATURE (2) I
Readings and reports; some attention to Spanish literature of the Philippines. Pre: Spanish 152 or the equivalent. (Alternates with 456; offered 1960–61.)

455 INTRODUCTION TO LITERATURE OF MEXICO (2) II
Cultural history and representative writers. Pre: Spanish 152 or the equivalent. (Alternates with 457; offered 1960–61.)

456 SPANISH LITERATURE TO 1700 (2) I
Representative selections from medieval and Golden Age literature. Pre: Spanish 152 or the equivalent. (Alternates with 454; not offered 1960–61.)

457 SPANISH LITERATURE FROM 1700 (2) II
Representative selections from modern and contemporary literature. Pre: Spanish 152 or the equivalent. (Alternates with 455; not offered 1960–61.)

471 HISTORY OF THE SPANISH LANGUAGE (2) I
Pre: Spanish 152 or the equivalent; one semester of college Latin or the equivalent. (Alternates with 258; not offered 1960–61.)

476 CERVANTES (3) II
The works of Cervantes. Pre: Spanish 456 or the equivalent. (Alternates with 259; not offered 1960–61.)

699 DIRECTED READING (Ar.) I, II
Pre: consent of instructor.

Geography

Professors BOWERS, MANCHESTER; Assistant Professor FUCHS; Lecturer PIANAIA

Geography 101, or 151, or 401, or the equivalent, or consent of instructor is prerequisite to all advanced courses.

101 ELEMENTS OF GEOGRAPHY (3) I, II (2 L, 1 Lb) MANCHESTER
Introduction. Emphasis on the interrelationship between man and his natural environment. Course fee $1.50.

151 ECONOMIC GEOGRAPHY (3) I, II FUCHS
Analysis of the world’s major agricultural, industrial, and commercial regions and their interconnecting trade routes. Course fee $1.50.

399 DIRECTED READING (Ar.) I, II STAFF
Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in geography.

401 WORLD GEOGRAPHIC PATTERNS (3) I, II BOWERS
Physical character and human use of geographic regions. For prospective teachers. Course fee $1.00.

410 PHYSICAL GEOGRAPHY (3) I FUCHS
Basic principles of the earth’s sciences, selected to provide an understanding of the physical landscape. Course fee $1.00.
150 GENERAL CATALOGUE, 1960–61

420 WEATHER AND CLIMATE (3) I
Basic elements of meteorology and climatology. Course fee $1.00.

430 CARTOGRAPHY (3) I
History of map making, the construction of projections, and techniques of drafting maps. Course fee $5.00.

440 FIELD METHODS (2) II
Field and laboratory techniques of mapping. Pre: Geography 430 or consent of instructor. Course fee $5.00.

448 NAVIGATION (3) I
Principles; position fixing by terrestrial and celestial objects. Course fee $1.00.

450 URBAN GEOGRAPHY (3) II
The functions, forms, internal structure, growth, and problems of the modern city and its tributary area. Course fee $1.00.

460 POLITICAL GEOGRAPHY (3) II
Geographic background of international politics and national power. Course fee $1.00.

501 GEOGRAPHY OF NORTH AMERICA (3) II
Regional geography of Anglo-America. Geographic aspects of the historic and economic development of the continent. Course fee $1.00.

507 ECONOMIC RESOURCES OF THE UNITED STATES (3) II
Extent and development of major United States resources; emphasis on the localization of associated industries. Course fee $1.00.

521 GEOGRAPHY OF EUROPE (3) I
Physical and human geography. European geography as a background of present problems. Course fee $1.00.

526 GEOGRAPHY OF THE SOVIET UNION (3) II
Patterns of the physical environment, resources, and economic activities. Emphasis on human use and occupancy. Course fee $1.00. (Not offered 1960–61.)

541 GEOGRAPHY OF ASIA (3) I
Physical regions of Asia and their human occupance. Geographic background of current Asian problems. Course fee $1.00.

552 GEOGRAPHY OF JAPAN (3) I
Regional study; emphasis on people and use of the land. Course fee $1.00.

553 GEOGRAPHY OF CHINA (3) II
People and environment on a regional basis; emphasis on current problems of occupation and land use. Course fee $1.00. (Not offered 1960–61.)

554 GEOGRAPHY OF INDIA AND SOUTHEAST ASIA (3) I
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 AUSTRALIA (2) II
Physical and human geography; emphasis on the relationships between population, land use, and resources. Course fee $1.00.

571 GEOGRAPHY OF THE PACIFIC ISLANDS (3) I
Polynesia (except Hawaii), Micronesia, and Melanesia. Course fee $1.00.

574 GEOGRAPHY OF MICRONESIA (3) I
Physical character of the islands and their occupation and use by man. Course fee $1.00. (Not offered 1960–61.)

575 GEOGRAPHY OF POLYNESIA (3) II
Physical, economic, and political geography of the Polynesian islands. Course fee $1.00.
GEOLOGY

578 GEOGRAPHY OF HAWAII (3) II
Regional, physical, and cultural geography. Detailed study of the people and resources. Course fee $1.00.

601 HISTORY OF GEOGRAPHY (3) I
Development of geographic thought from early Greece to the present. Special emphasis on the modern period.

660 SEMINAR IN GEOGRAPHY OF JAPAN (3) II
Pre: consent of instructor.

680 SEMINAR IN GEOGRAPHY (3) II
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; Associate Professor ABBOTT; Assistant Professor MOBERLY; Lecturer Cox

150 PHYSICAL GEOLOGY (4) I, II (3 L, 1 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)
History of the earth and its inhabitants. Ancient seas, continents, and events. Fossil forms and major life groups. Pre: Geology 150. Course fee $1.00.

200 GEOLOGY OF THE HAWAIIAN ISLANDS (2) II
Survey of Hawaiian volcanism, rock types, engineering materials, and ground water. Pre: Geology 150. (Alt. yrs.; not offered 1960-61.)

255 GEOLOGY OF GROUND WATER (2) II
Origin, circulation, recovery, and quality of ground water, with emphasis on fresh water problems of the Hawaiian Islands. Pre: Geology 150.

265 STRUCTURAL GEOLOGY (3) I (2 L, 1 3-Hr Lb)

275 GEOLOGIC FIELD METHODS (3) II (1 L, 2 3-Hr Lb)
Practice in geologic surveying with Brunton compass, plane table, altimeter; general field procedure; air photos. Pre: Geology 265; CE 111.

300 PALEONTOLOGY (3) I (2 L, 1 3-Hr Lb)
Morphology and identification of index fossils; principles of evolution; paleoecology and biostratigraphy. Pre: Geology 151 or Zoology 101.

310 PRINCIPLES OF STRATIGRAPHY (3) II (2 L, 1 3-Hr Lb)
Elements of sedimentary petrology and sedimentation. Description, classification, and correlation of sedimentary rock units. Pre: Geology 151.

399 DIRECTED READING (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: Geology 150; Chemistry 102 or 104.

415 PETROLOGY (4) II (2 L, 2 3-Hr Lb)
Hand specimen identification and origin of igneous, sedimentary, and metamorphic rocks. Pre: Geology 410.
420 OPTICAL MINERALOGY (3) I (2 L, 1 3-Hr Lb) ABBOTT
Introduction to petrographic microscope and to optical properties of minerals. Pre: Geology 415; or consent of instructor.

454 ECONOMIC GEOLOGY (3) II ABBOTT
Distribution, nature, and origin of deposits of metallic and nonmetallic minerals. Pre: Geology 150.

460 GEOMORPHOLOGY (3) II ABBOTT
Study of landforms and their relation to geologic structure. Pre: Geology 151, or consent of instructor.

470 MARINE GEOLOGY (2) I MOBERLY
Geologic processes in the ocean; origin and distribution of sediments. Geologic aspects of marine biology and geophysics. Pre: Geology 151 or consent of instructor.

480 PETROGRAPHY AND PETROLOGY (3) II (1 L, 2 3-Hr Lb) MACDONALD
Microscopic study of minerals and rocks. Origin and alteration of the several types of rocks. Pre: Geology 420; Chemistry 102 or 104.

601 SEMINAR IN VOLCANOLOGY (2) II MACDONALD
Volcanic products and processes; form and structure of volcanoes; nature and origin of volcanism. Pre: Geology 415 or consent of instructor.

699 DIRECTED READING (Ar.) I, II STAFF
Pre: consent of instructor.

Government

Professors LEVI, MELLER, SAUNDERS, SPELLACY; Associate Professors STAUFFER, VAN DER VEUR; Assistant Professors KOSAKI, THROMBLEY, TUTTLE

Government 110, 210, or the equivalent, is prerequisite to all other courses in government, except 105 and 120.

105 CURRENT POLITICAL AFFAIRS (1) I, II TUTTLE
Survey of current political topics and problems.

110 INTRODUCTION TO GOVERNMENT (3) I, II STAFF
Role of government in modern society. Types and practices of government; processes of political change; citizen participation. Not open to juniors or seniors.

111 INTRODUCTORY GOVERNMENT LABORATORY (1) I, II STAFF
Application of concepts and data pertinent to government in modern society. Pre: concurrent registration in Government 110.

120 AMERICAN GOVERNMENT (3) I THROMBLEY
Development, organization, and functioning of national, state, and local government. Not open to students who have had 110.

210 MODERN GOVERNMENT AND POLITICS (3) I MELLER
Role of government in modern society; governmental structures and political processes. Juniors and seniors only. Closed to those with credit in 110.

260 INTRODUCTION TO INTERNATIONAL RELATIONS (2) I, II van der VEUR
Factors which condition the foreign policy of states: nationalism, imperialism, and power politics. Outstanding problems of world politics.

261 UNITED NATIONS (2) II STAUFFER
Problems involved in the development and structure of international organizations with special emphasis on the United Nations.
399 DIRECTED READING OR RESEARCH (Ar.) I, II  
(1) Theory—Saunders; (2) American government—Thrombley, Tuttle; (3) comparative government—Stauffer; (4) international relations—Stauffer, van der Veur; (5) politics—Tuttle, Meller; (6) public administration—Meller, Thrombley. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in government.

400 POLITICAL THEORY: MAJOR CONCEPTS (3) I, II  
KOSAKI, SAUNDERS  
Analysis of some of the major concepts of political theory; their statement by the major political philosophers.

401 POLITICAL THEORY: PROBLEMS (3) II  
KOSAKI  
Intensive analysis of one or two problems in political theory. Pre: Government 400 or consent of instructor.

402 DEMOCRACY AND COMMUNISM (3) I  
SAUNDERS  
Survey of the ideological development of the rivals for man's political allegiance.

420 STATE GOVERNMENT AND ADMINISTRATION (3)  
Constitutions; historical evolution; structure with reference to judicial, legislative, and executive branches; limitations on authority. (Not offered 1960–61.)

421 MUNICIPAL GOVERNMENT AND ADMINISTRATION (3) I  
THROMBLEY  
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) I  
MELLER  
State and local government; consideration of the state constitution; formative political factors in Hawaii.

423 INTRODUCTION TO CONSTITUTIONAL LAW (3) I  
SPELLACY  
Examination of principal cases concerned with state relations, due process of law, interstate commerce, and related subjects.

424 CIVIL RIGHTS (3) II  
MELLER  
Study of the principal court decisions on freedom of speech, press, assembly, conscience, and other basic civil liberties.

425 PROBLEMS IN AMERICAN GOVERNMENT (3)  
Special topics in American government and politics. Varied from year to year. Training in research methods. Pre: consent of instructor. (Not offered 1960–61.)

440 COMPARATIVE POLITICS: POLITICAL PARTIES (3) I  
STAUFFER  
Nature and morphology of political parties; party systems; relation to electoral systems.

441 COMPARATIVE POLITICS: INSTITUTIONS AND PROCESSES (3) II  
STAUFFER  
Classification of major structural types; levels, range, and "universe" of decision-making; patterns in executive-legislative relations.

443 GOVERNMENT AND POLITICS OF CHINA AND JAPAN (3) II  
STAUFFER  
The 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) II  
van der VEUR  
Analysis of relevant colonial patterns that have conditioned the newly created governmental structures, followed by a study of present developments.

460 PROBLEMS IN INTERNATIONAL RELATIONS (3) II  
LEVI  
Special topics in international relations; change in the nation-state system; emergent regionalism; military blocs; neutralism; new dimensions of international cooperation.

461 FORMULATION AND ADMINISTRATION OF FOREIGN POLICY (3) II  
von der VEUR  
Historical, institutional, political, and economic influences on the formation and execution of American foreign policy.
462 INTERNATIONAL RELATIONS OF THE FAR EAST (3) I van der VEUR
   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)
   Emergence from colonialism of these new states. "Neutralism"; intra-regional struggles; cooperation; Afro-Asian bloc; United Nations' activities. (Not offered 1960–61.)

480 POLITICAL BEHAVIOR (2) I KOSAKI
   Review and analysis of the methodology and findings of some recent "behavioral science" studies in politics.

481 AMERICAN POLITICAL PARTIES (3) II TUTTLE
   Organization, methods, and functions of political parties, with special attention to the electoral and organizational aspects of party behavior.

482 CAMPAIGNS AND ELECTIONS (2) I TUTTLE
   Management and conduct of elections, with attention to techniques employed by candidates for public office. Field investigations.

483 PROPAGANDA AND PUBLIC OPINION (3) I TUTTLE
   Characteristics, methods, and results of propaganda and pressure group activity. Nature of public opinion; methods of influencing it; techniques for measuring political opinions.

484 THE LEGISLATIVE PROCESS (3) II MELLER
   The lawmaking process in the United States. Role of representative assemblies, the executive branch, interest groups, and the public.

500 INTRODUCTION TO PUBLIC ADMINISTRATION (3) I THROMBLEY
   Relationship of administration to policy-forming agencies and to the courts; structure of administration; devices for integration; related materials.

501 PRINCIPLES OF MANAGEMENT (3) I MELLER
   Basic principles of management and techniques of application; human relations in management.

502 PERSONNEL ADMINISTRATION (3) II TUTTLE
   Organization and administration of civil service systems; recruitment, classification, discipline, and status of civil servants. Pre: Government 500.

503 INTRODUCTION TO ADMINISTRATIVE LAW (3) II SPELLACY
   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.

504 PROBLEMS IN PUBLIC ADMINISTRATION (3) II MELLER
   Introduction to materials and research methods used in public administration. Individual and group research projects. Restricted to seniors.

600 SEMINAR IN POLITICAL THEORY (3) I KOSAKI
   Pre: consent of instructor.

620 SEMINAR IN FAR EASTERN POLITICS (3) I STAUFFER
   Pre: consent of instructor.

621 SEMINAR IN SOUTH AND SOUTHEAST ASIA (3) II van der VEUR
   Pre: consent of instructor.

630 SEMINAR IN INTERNATIONAL RELATIONS (3) II LEVI
   Pre: consent of instructor.

640 SEMINAR IN POLITICS (3) II TUTTLE
   Pre: consent of instructor.

650 SEMINAR IN PUBLIC ADMINISTRATION (3) I MELLER
   Pre: consent of instructor.
HEALTH AND PHYSICAL EDUCATION

651 SEMINAR IN COMPARATIVE PUBLIC ADMINISTRATION (3) II
   Pre: consent of instructor.

699 DIRECTED READING AND RESEARCH (Ar.) I, II
   Individual problems in the same fields as in 399. Pre: consent of instructor.

Health and Physical Education

Associate Professor SAAKE; Assistant Professors CHUI, GAY, GUSTUSON, O'BRIEN, RATHBURN, SAKAMOTO, VASCONCELLOS; Instructors ASATO, BEAMER, BRUHN, FURUKAWA, GIBSON

An activities and locker fee of $3.00 is assessed in Health and Physical Education 101-120.

101 INDIVIDUAL AND TEAM SPORTS (1) I, II
   Swimming and/or tennis. Freshmen.

102 INDIVIDUAL AND TEAM SPORTS (1) I, II
   Golf and social dancing. Freshmen.

103 INDIVIDUAL AND TEAM SPORTS (1) II
   Basketball and volleyball. Sophomores.

109 RESTRICTED ACTIVITIES (1) I, II
   For physically handicapped students. Admittance only upon recommendation of University physician.

111 INTERMEDIATE SWIMMING (1) II
   For students who have met basic requirements and desire to develop additional skills in swimming and diving. (Not offered 1960-61.)

113 ADVANCED TENNIS (1) II
   For those interested in developing advanced skills and strategy in tennis.

114 DEVELOPMENTAL ACTIVITIES (1-1) Yr.
   Exercises with and without apparatus selected to meet personal needs; various forms and systems of exercise surveyed.

115 TUMBLING (1) I
   Exercises suitable for use with child and adult groups.

116 HEAVY APPARATUS (1) II
   Heavy apparatus, including trampoline, for the development of balance, strength, and skills.

118 TRAMPOLINE (1) II
   History, principles, methods, safety procedures. Tumbling and exercises.

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 application.

123 FOLK AND NATIONAL DANCES (1) I
   Selected dances of various national groups now in popular use. Square dances included.

124 DANCES OF HAWAII (1) I
   Introduction to the hula. The background and fundamentals will be presented, and selected dances given. Activities and locker fee $3.00. (Not offered 1960-61.)

126 GOLF FOR BEGINNERS (1) II
   Emphasis upon basic skills and fundamentals.
127 INTERMEDIATE GOLF (1) II  STAFF
For those with some experience. Improving basic skills.

128 ADVANCED GOLF (1) II  STAFF
For those with considerable experience. Advanced techniques, scoring, rules and conditions relating to tournament play.

130 PERSONAL HYGIENE (1) I, II  STAFF
Scientific health information as a basis for hygienic living. Personal health problems.

132 PERSONAL HEALTH (2) I  RATHBURN
The proper care of the body and development of desirable health habits and attitudes. Intended primarily for majors in physical education and recreation.

140 NATURE AND FUNCTION OF PLAY (2) II  SAAKE
Place of play in community and school life; applications to the various age groups.

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

215 ATHLETIC COACHING, FOOTBALL AND BASKETBALL (2) I  STAFF
Fundamentals, position play, team play, and strategy in football and basketball.

217 ATHLETIC COACHING, BASEBALL AND TRACK (2) II  STAFF
Fundamentals, team play, and strategy in baseball; basic skills, analysis of form, and conditioning in track.

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

221 PHYSICAL EDUCATION, ELEMENTARY (2) I, II  BEAMER
Content and method for elementary school programs. Adaptations to meet situations with like age groups outside of school. Activities and locker fee $3.00.

222 PHYSICAL EDUCATION, SECONDARY (2) II  GUSTUSON
Activities and methods for junior and senior high school programs. Activities and locker fee $3.00.

225 THE TEACHING OF INDIVIDUAL SPORTS (2) I  GAY
Organization and teaching of athletic activities for girls, such as tennis, archery, badminton, golf, etc., on the secondary level.

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

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

231 HEALTH TEACHING IN SCHOOLS (2) II  RATHBURN
Methods used in teaching for health in elementary and secondary schools.

232 MATERIALS IN HEALTH EDUCATION (2) I  RATHBURN
Materials available in health education, their sources, authenticity and use. Methods of evaluation.

234 SAFETY PROCEDURES IN PHYSICAL EDUCATION (2) I  SAAKE
Prevention and emergency treatment of injuries; emphasis upon school, playground, and athletic situations. Practical work in first aid. Red Cross Certificate may be earned.
HEALTH AND PHYSICAL EDUCATION

235 THE HEALTH CURRICULUM (2) I
   Procedures for the development and construction of a health education program, including criteria for selection and evaluation of content. (Not offered 1960–61.)

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.

237 PRINCIPLES OF HEALTH EDUCATION (2) I
   Historical development and present status of the health education program. Emphasis upon current trends and basic principles involved. (Not offered 1960–61.)

239 HEALTH OF THE SCHOOL CHILD (2) II
   Deals with various problems in child health and the role of the school in meeting them. (Not offered 1960–61.)

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

245–246 OFFICIATING IN ATHLETICS (2–2) Yr.
   Techniques used by officials in the various sports. Practice in officiating is included.

248 HOBBIES IN RECREATION (2) II
   Development of procedures and skills in various hobbies for recreation majors. Others by permission of instructor only.

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.

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.

252–253 FIELD WORK IN RECREATION (5–5) Yr.
   Students assigned to recreational agencies for experience. One hour each week in discussion of problems. Pre: consent of instructor. For recreation majors only.

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

276–277 CURRENT TRENDS IN HEALTH (2–2) Yr.
   The health situation and functions of health agencies dealing with specific diseases and problems. Primarily for teachers and administrators. (Not offered 1960–61.)

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.

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.

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.

430 SEMINAR IN HEALTH EDUCATION (2) II
   Study and discussion of selected problems in health education as determined by individual and group interests and needs. (Not offered 1960–61.)
History

Senior Professor MARDER; Professors HUNTER, D. JOHNSON, MURPHY, SAKAMAKI, J. WHITE; Associate Professor STALKER; Assistant Professors COWING, ERNEST, MARGULIES, SHINODA

151–152 WORLD CIVILIZATION (3–3) Yr. STAFF
Development of civilization from the ancient Orient and classical Greece and Rome to the present; emphasis on Western civilizations. Prerequisite for advanced courses.

161–162 WORLD CULTURES IN PERSPECTIVE (3–3) Yr. STAFF
Problems in world history; development of ideas, institutions. Alternative for 151–152. Admission only by approval of the dean and instructor.

171 INTRODUCTION TO AMERICAN HISTORY (3) I, II STAFF
Religious, cultural, and social backgrounds of the American people. Prerequisite for advanced courses in American history.

396 SENIOR SEMINAR IN EUROPEAN HISTORY (3) II ERNEST
Selected problems; use of historic materials; form and content of historical writing.

397 SENIOR SEMINAR IN AMERICAN HISTORY (3) I MARGULIES
Same as in 396.

398 SENIOR SEMINAR IN ASIAN-PACIFIC HISTORY (3) II SHINODA
Same as in 396. (Not offered 1960–61.)

399 DIRECTED READING (Ar.) I, II
Individual reading in (1) American history—Cowing, Stalker; (2) Pacific history—Murphy; (3) Japanese history—Shinoda; (4) European history—Marder, Erneart; (5) English history—Murphy; (6) Hispanic-American history—Johnson; (7) Chinese history—White; (8) Hawaiian history—Hunter. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in history.

See Greek 401, Greek Civilization, and Latin 402, Roman Civilization.

405–406 MEDIEVAL EUROPE, 300–1300 (3–3) Yr. ERNEST
Cultural, social, economic, and political changes in the development of the European community.

409 RENAISSANCE AND REFORMATION, 1300–1600 (3) I ERNEST
Ideas and institutions in the early period of commercial and national development.

410 EARLY MODERN EUROPE, 1600–1800 (3) II ERNEST
Thought and culture of Europe in the age of expansion. (Not offered 1960–61.)

415 EXPANSION OF EUROPEAN CIVILIZATION (3) I SHINODA
Survey of cultural changes and developments in Europe, the Western Hemisphere, and Asia resulting from European expansion. Interchangeable credit: Asian or European.

419–420 EUROPEAN IDEAS AND THE WORLD SINCE 1800 (3–3) Yr. ERNEST
Development of the major ideas and movements that have influenced Europe and the world community. (Not offered 1960–61.)

425 EUROPE IN THE NINETEENTH CENTURY (3) I MARDER
Major political, social, economic, and intellectual trends in the evolution of Europe from Napoleon to the end of World War I. (Not offered 1960–61.)

426 EUROPE SINCE VERSAILLES (3) II MARDER
Problems of contemporary Europe and their historical background. (Not offered 1960–61.)

427 CONTEMPORARY WESTERN EUROPE (3) MARDER
Land, people, institutions, historical and cultural heritage of northern Europe, especially England and Germany.
428 CONTEMPORARY WESTERN EUROPE (3) MARDER
Land, people, institutions, historical and cultural heritage of southern Europe, especially France, Italy, and Spain.

431 HISTORY OF ENGLAND TO 1688 (3) I MURPHY
Major trends in the development of English civilization from the origins to the Glorious Revolution.

432 HISTORY OF ENGLAND FROM 1688 (3) II MURPHY
Major trends in modern English history; origins of twentieth-century developments.

435 CONSTITUTIONAL HISTORY OF ENGLAND (3) I HUNTER
Anglo-Saxon institutions; Norman innovations; legal, administrative, parliamentary development under Angevins; rise of cabinet system. (Alt. yrs.; not offered 1960–61.)

438 BRITISH EMPIRE AND COMMONWEALTH FROM 1815 (3) MURPHY
The Empire; transformation of colonies and dependencies into member nations of the Commonwealth; present problems; relationships. (Alt. yrs.; offered 1960–61.)

439 AUSTRALIA AND NEW ZEALAND (3) II MURPHY
Major historical developments from colonization to independent nationhood; present problems and policies. (Alt. yrs.; not offered 1960–61.)

451 HISTORY OF RUSSIA TO 1850 (3) I WHITE
Survey of the development of thought and institutions, and of territorial expansion.

452 HISTORY OF IMPERIAL AND SOVIET RUSSIA SINCE 1850 (3) II WHITE
The impact of revolutionary changes on recent Russian thought and institutions.

461–462 HISTORY OF THE UNITED STATES TO 1876 (3–3) Yr. COWING
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. STALKER
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. JOHNSON
History of American foreign policy, with emphasis upon recent developments.

475 CONSTITUTIONAL HISTORY OF THE UNITED STATES (3) II MARGULIES
The genesis, drafting, ratification, and development of the federal Constitution.

477 AMERICAN ECONOMIC HISTORY (3) II MARGULIES
Emphasis on the role of techniques, agricultural developments, the entrepreneur and the rise of the labor movement. Economics 150–151 recommended as preparation.

481 AMERICAN THOUGHT AND CULTURE (3) I HUNTER
An advanced course in American social customs, institutions, and intellectual pursuits. (Alt. yrs.; offered 1960–61.)

483 AMERICAN SOCIAL REFORM MOVEMENTS SINCE 1865 (3) II COWING
A detailed survey of America’s quest for social justice.

491 THE WEST IN AMERICAN HISTORY (3) I COWING
Western expansion forces in the development of the economic, cultural, and political trends of the nation. (Alt. yrs.; not offered 1960–61.)

501 REPRESENTATIVE AMERICANS (3) I MARGULIES
A series of biographical sketches of leading characters in American history from the Revolution to the present.

511–512 HISTORY OF HISPANIC AMERICA (3–3) Yr. JOHNSON
Political, economic, and social development of the Hispanic-American republics from colonial times to the present. (Alt. yrs.; not offered 1960–61.)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>515</td>
<td>THE UNITED STATES AND HISPANIC AMERICA (3)</td>
<td>JOHNSON</td>
<td>3</td>
<td>Development of political and economic problems and policies in inter-American relations. (Alt. yrs.; offered 1960–61.)</td>
</tr>
<tr>
<td>521-522</td>
<td>HISTORY OF THE FAR EAST (3-3) Yr.</td>
<td>SHINODA</td>
<td>3-3</td>
<td>Survey of the political, social, and economic history of the Far East as a unit.</td>
</tr>
<tr>
<td>523</td>
<td>EARLY CIVILIZATION IN THE FAR EAST (3) I</td>
<td>SAKAMAKI</td>
<td>3</td>
<td>Study of the origins of the peoples and cultures in Eastern Asia.</td>
</tr>
<tr>
<td>527</td>
<td>RUSSIAN SIBERIA AND THE PACIFIC (3) II</td>
<td>WHITE</td>
<td>3</td>
<td>Russia's eastward expansion; dynamic role as a Far Eastern power; relations with China and Japan. Interchangeable credit: Asian or European. (Alt. yrs.; offered 1960–61.)</td>
</tr>
<tr>
<td>529</td>
<td>SOUTHEAST ASIA (3) I</td>
<td>WHITE</td>
<td>3</td>
<td>Survey of Burma, Siam, Indo-China, Malaya, Indonesia, Philippines; history; relations with Europe and United States. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>531</td>
<td>HISTORY OF CHINA TO 1800 (3)</td>
<td>WHITE</td>
<td>3</td>
<td>Thought and institutions from ancient to early modern times.</td>
</tr>
<tr>
<td>532</td>
<td>HISTORY OF CHINA SINCE 1800 (3)</td>
<td>WHITE</td>
<td>3</td>
<td>Response to Western culture; recent revolutionary changes.</td>
</tr>
<tr>
<td>539</td>
<td>AMERICAN-CHINESE RELATIONS (3) II</td>
<td>WHITE</td>
<td>3</td>
<td>Diplomatic, economic, and cultural relations of the United States and China, with emphasis on American Far Eastern policy. Interchangeable credit: Asian or European.</td>
</tr>
<tr>
<td>541-542</td>
<td>HISTORY OF JAPAN (3-3) Yr.</td>
<td>SHINODA</td>
<td>3-3</td>
<td>Historical survey of Japanese culture, government, economics, and institutions.</td>
</tr>
<tr>
<td>545</td>
<td>HISTORY OF THOUGHT IN JAPAN (3) II</td>
<td>SAKAMAKI</td>
<td>3</td>
<td>Major schools of thought and important thinkers, social reformers, economists, statesmen, and educators of Japan.</td>
</tr>
<tr>
<td>551</td>
<td>INDIA, PAKISTAN, AND CEYLON (3) II</td>
<td>SHINODA</td>
<td>3</td>
<td>General historical survey of South Asia from earliest times to the present.</td>
</tr>
<tr>
<td>553</td>
<td>RUSSIAN CENTRAL ASIA AND THE CAUCASUS (3) I</td>
<td>WHITE</td>
<td>3</td>
<td>Russia's expansion; impact on Muhammadan and Christian peoples; relations with Middle East. Asian or European credit. (Alt. yrs.; offered 1960–61.)</td>
</tr>
<tr>
<td>571</td>
<td>PACIFIC EXPLORATION AND DISCOVERY TO 1779 (3) I</td>
<td>MURPHY</td>
<td>3</td>
<td>Europe in the Pacific; first contacts through Cook's voyages. Emphasis on island areas. (Alt. yrs.; not offered 1960–61.)</td>
</tr>
<tr>
<td>572</td>
<td>PACIFIC ISLANDS FROM 1779 (3) I</td>
<td>MURPHY</td>
<td>3</td>
<td>Expansion of European commerce, missionary activity, settlement; effects on native peoples in Australasia, Melanesia, Micronesia, Polynesia. (Alt. yrs.; offered 1960–61.)</td>
</tr>
<tr>
<td>575</td>
<td>THE UNITED STATES IN THE PACIFIC (3) I</td>
<td>JOHNSON</td>
<td>3</td>
<td>Growth of economic and political interests and policies in the Pacific area. Interchangeable credit: Asian, Pacific, or American. (Alt. yrs.; offered 1960–61.)</td>
</tr>
<tr>
<td>577</td>
<td>HISTORY OF THE HAWAIIAN ISLANDS (3) II</td>
<td>HUNTER</td>
<td>3</td>
<td>A general course with some detail. Emphasis on the period of the monarchy. Interchangeable credit: Asian, Pacific, or American.</td>
</tr>
<tr>
<td>665</td>
<td>SEMINAR IN JAPANESE HISTORY (3) I</td>
<td>SHINODA</td>
<td>3</td>
<td>Main fields of Japanese historical research; the principal sources of bibliographical information; selected problems in modern Japanese history.</td>
</tr>
<tr>
<td>671-672</td>
<td>SEMINAR IN RUSSIAN HISTORY (3-3) Yr.</td>
<td>WHITE</td>
<td>3-3</td>
<td>(Not offered 1960–61.)</td>
</tr>
</tbody>
</table>
699 DIRECTED RESEARCH (Ar.) I, II
Individual research in the same fields as in 399.

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.

750 SEMINAR IN CURRENT PROBLEMS OF NATIONAL DEVELOPMENT (2) I
Dealings with peoples of Asia, Africa, Latin America, and the Middle East. May be repeated. Pre: consent of instructor.

790 SEMINAR IN HISTORY AND LITERATURE (2) I
Problems in contemporary American culture, with emphasis on the history of ideas. History 790 the first semester; English 790 the second. Pre: consent of instructor.

Home Economics

Associate Professors BOATMAN, GRUELLE, TULL, UMBEL; Assistant Professors COOKSEY, MURAI, SIDWELL, STANDAL; Instructors BARTOW, MURAKAMI, RINGER, SATO; Lecturer FURER

The following courses have no prerequisites, except for year level, and are open to students in any college or curriculum:


100 ORIENTATION IN HOME ECONOMICS (2) I
Factors contributing to success in college and development of habits for effective living. Home economics in education; vocational study and planning.

101 HOME NURSING (2) I, II (1 L, 1 Lb)
Nursing procedures for home care and emergencies. Prevention of disease; physiological aspects of reproduction and the prenatal period; care of mother and infant.

103 CHILD CARE AND TRAINING (3) II (2 L, 1 Lb)
Importance of the preschool years in development of the individual; a constructive program for the normal child in the home. Pre: Psychology 102 or 104.

110 AESTHETICS OF CLOTHING AND PERSONAL APPEARANCE (3) I, II
Individual analysis; principles of color, design, grooming, wardrobe planning. Personality projection through clothing. Course fee $3.00.

112 CLOTHING CONSTRUCTION (2) I (2 Lb)
Selection and use of equipment and commercial patterns. Principles of fitting. Open to all students. Course fee $2.00.

113 FAMILY CLOTHING PROBLEMS (2) II (2 Lb)
Conservation of family clothing; selection of children’s clothing; continuation of clothing construction. Pre: HE 112. 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.

117 FASHION DESIGN ANALYSIS (3) I
Factors determining fashion; characteristics of selected designers; organization, structure, techniques, terminology of fashion industry. Sources for creative design. (Not offered 1960–61.)

118 COSTUME DESIGN AND SKETCHING (3) II
Development of originality through sketching the lay figure. Comparison of actual and fashion figure. Pre: Art 112. (Not offered 1960–61.)
120 ELEMENTARY FOOD PREPARATION (3) I, II (1 L, 2 Lb) BARTOW
Fundamentals of food preparation; practical application in meal planning to provide good nutrition and promote good food habits. Majors only. Course fee $8.00.

122-123 ADVANCED FOOD PREPARATION (3-3) Yr. (1 L, 2 Lb) BARTOW, GRUELLE
Economics of food selection; experimental food preparation; meal planning and serving. Pre: HE 120, Chemistry 102 or 104. Course fee $8.00 each semester.

126 NUTRITION AND PHYSICAL FITNESS (2) I, II COOKSEY
Factors involved in good nutrition, with emphasis on foods used in Hawaii. For general students, men and women.

128 NUTRITION IN HEALTH AND DISEASE (4) I (2 L, 2 Lb) COOKSEY
Fundamentals of normal and therapeutic nutrition; application to individuals of all ages. Emphasis on cultural patterns and island foods. Course fee $8.00.

214-215 CLOTHING DESIGN AND CONSTRUCTION (2-2) Yr. (2 Lb) UMBEL
Pattern blocking and costume draping. Fitting techniques and design selection for individuals. Pre: HE 113 or consent of instructor. Course fee $4.00.

217 ADVANCED CLOTHING (3) II (2 Lb) UMBEL
Study of fabrics, designs, and techniques in clothing construction; use of commercial patterns. Pre: HE 113, or consent of instructor. Course fee $2.00.

218 HISTORIC COSTUME (2) II FURER
Survey of historic costume, showing how fashion has reflected the life of the people. Historic costume as inspiration for modern dress.

219 CREATIVE PROBLEMS IN COSTUME DESIGN (3) I Development of design by draping and flat pattern blocking; adapting designs to individuals and occasions. Pre: HE 118, 215. Course fee $4.00. (Not offered 1960-61.)

221 FOOD PREPARATION (3) I, II (2 3-Hr Lb) BARTOW
Problems in preparation of adequate meals; practical experience in meal planning, preparation, and service. Not open to HE majors. Course fee $8.00.

228 NUTRITION FOR PUBLIC HEALTH NURSES (3) I (2 L, 1 Lb) GRUELLE
Dietary needs of individuals and families; emphasis on nutritive values of local foods and racial diets. Course fee $5.00.

224 INSTITUTIONAL FOOD PRODUCTION (3) I (1 L, 2 Lb) STAFF
Preparation and service of food in quantity; menu planning, cost, use and care of equipment. Pre: HE 122-123.

236 INSTITUTIONAL ADMINISTRATION (3) I STAFF
Organization and management of food service in various types of institutions. Pre: HE 234.

237 INSTITUTIONAL ACCOUNTING (3) II (1 L, 2 Lb) STAFF
Principles of accounting applied to food service in various types of institutions. Pre: HE 234.

238-239 INSTITUTIONAL PURCHASING (3-3) Yr. STAFF
Food and equipment specifications and requirements for various types of institutions. Pre: credit or concurrent registration in HE 234

240 ELEMENTARY NUTRITION (2) I COOKSEY
Basic principles of nutrition. Pre: HE 123 or consent of instructor.

241 LABORATORY IN ELEMENTARY NUTRITION (2) I (2 Lb) COOKSEY
Quantitative study of food materials, calculation of food values and food requirements. Credit or concurrent registration in HE 240. Course fee $8.00.
250 HOME MANAGEMENT (3) I (2 L, 1 Lb)  
Contribution of homemaker and family to better home living; management of time, energy, and money; selection and care of furnishings.

251 HOUSEHOLD EQUIPMENT (2) II (1 L, 1 Lb)  
Selection, care, repair, use, and limitations of gas and electrical appliances; demonstration techniques.

252 FAMILY HOUSING (2) I (2 Lb)  
Evaluation of housing; needs, convenience, economy, aesthetic qualities, safety, health, etc. Pre: Art 104 or 132, or consent of instructor. Course fee $2.00.

253 HOME FURNISHINGS (2) II (2 Lb)  
Selection and arrangement of furnishings and accessories in relation to family living. Pre: HE 252. Course fee $2.00.

258 HOME-MANAGEMENT LABORATORY (4) I, II  
Living in a supervised residence for six weeks; practical application of training in home economics. Students share subsistence cost. Pre: senior standing.

260 CONSUMER EDUCATION (2) I  
The marketing system as it affects consumers. Better buying, consumer protection and responsibility. Pre: Economics 140 or 150.

262 MARRIAGE AND FAMILY RELATIONS (3) I, II  
The individual's contribution to family living. Courtship, marriage, and relationships within the family. Open to men and women.

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.

338 RESIDENCE HALL MANAGEMENT (4) I, II  
Planning and supervising food service and housekeeping in a residence hall. Pre: HE 234, 238, 239.

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.

399 DIRECTED READING OR RESEARCH (Ar.) I, II  
(1) Agricultural extension, (2) child development, (3) clothing selection or construction, (4) consumer problems, (5) dietary problems, (6) experimental cookery, (7) historic costume or design, (8) home economics education, (9) home management, (10) nutrition, (11) related art, (12) textiles, (13) institutional management. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in home economics.

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. (Not offered 1960-61.)

441 FOOD HABITS IN HAWAII (3) II (1 L, 2 Lb)  
Meals for various racial groups at different income levels; emphasis on adequate diets at minimum cost. Pre: HE 240, 241. Course fee $8.00.

443 ADVANCED NUTRITION (3) II (2 L, 1 Lb)  
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.

631 DIETARY STUDIES (Ar.) I  
Individual, group, family, and/or institutional studies of the nutritive value of diets. Pre: HE 443; consent of instructor.

652 LABORATORY METHODS IN NUTRITION (3) I  
Experiments; vitamin determinations; food analyses; basal metabolism; balance experiments with animals or humans. Pre: HE 443; Chemistry 132, 171. Course fee $10.00.

699 DIRECTED READING OR RESEARCH (Ar.) I, II  
(1) Nutritional investigations; animal and human feeding experiments. Pre: HE 443 and consent of instructor. Lab fee $5.00 per credit hour—STANDAL; (2) agricultural extension; (3) clothing and textiles; (4) foods and nutrition; (5) home economics education; (6) home management; (7) institutional management. Pre: consent of department chairman and instructor.

Industrial Arts
Associate Professor POYZER

101 HAND WOODWORKING (3) I  
Fundamental operations and information topics in woodworking. Construction of projects. Course fee $10.00. (Not offered 1960–61.)

102 GENERAL METALWORKING (3) I  
Fundamental operations and information topics in metalworking. Projects in benchmetal, sheetmetal, tempering, casehardening, and other operations. Course fee $10.00.

103 MACHINE WOODWORKING (3) I  
Nomenclature, setup and operation of power equipment. Working drawings, patterns, jigs, and templates; bills of material and routing procedures. Course fee $10.00.

104 ADVANCED METALWORKING (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.

201 ELECTRICITY (3) I  
Series and parallel circuits, magnetism, electromagnetism, measuring instruments, generator and motor principles. Course fee $10.00. (Not offered 1960–61.)

202 ELECTRICITY (3) II  
Circuits, coils, motors, generators, transformers; armature windings; inductance; conduit wiring. Radio. Course fee $10.00. (Not offered 1960–61.)

206 POWER MECHANICS (3) II  
POYZER  
Basic power units: internal combustion, diesel, jet atomic engines. Experience with handtools in repair of two- and four-cycle engines.

301 GENERAL CRAFTS (3) I  
Crafts in wood, leather, plastic, ceramics. Appropriate projects and related information. Course fee $10.00. (Not offered 1960–61.)
320 GENERAL SHOP (3) II
Use of various media in constructing projects in Industrial Arts; opportunities for additional experience in areas not covered in earlier courses.

401-402 PROBLEMS IN INDUSTRIAL ARTS (5-5) I, II
POYZER
A program of arranged studies at the Honolulu Technical School providing opportunities for specialization in several technical areas.

Interdepartmental Courses

120-121 INTRODUCTION TO SCIENCE (4-4) Yr.
YN BERNATOWICZ, STAFF
Nature and objectives; understanding of nature; relationships of science and society. Course fee $2.50 each semester.

600 PACIFIC ISLANDS RESEARCH (3) II
STAFF
Interdepartmental seminar dealing with scientific hypotheses about social and cultural change in the Pacific islands area. May be repeated. Pre: consent of instructor.

620 NATURAL SCIENCE AS A HUMAN ACTIVITY (1) I, II
KAY, BERNATOWICZ
Seminar in features distinguishing science from other disciplines; science and society, science in history, comparative anatomy of several sciences.

750 SEMINAR IN CURRENT PROBLEMS OF NATIONAL DEVELOPMENT (2) I
J. WHITE
See History 750.

790 SEMINAR IN HISTORY AND LITERATURE (2-2) Yr.
BOUSLOG, STALKER
See English 790 and History 790.

Library Science

Assistant Professors GEISER, LANTZ; Instructor TOM

Students may enroll in library science courses only after consultation with instructors concerned. Individual problems may be registered for under Education 699(9).

300 LIBRARY PARTICIPATION (1-1) Yr.
GEISER, TOM
Observation and participation in routines designed to determine aptitude for library work. Second semester sophomores may register.

310 THE LIBRARY IN TEACHING (2) I, II
LANTZ
For prospective teachers and librarians. Use of the library in classroom instruction; use of school and public library resources; teaching library skills.

320 REFERENCE MATERIALS (3) II
TOM
Introduction to basic types of reference sources; their evaluation, content and use.

330 BOOK SELECTION AND READING GUIDANCE (3) I
GEISER
Selection and use of school library materials in terms of the curriculum and children’s needs and interests. Pre: Education 223 or 233.

340 CATALOGUING AND CLASSIFICATION (3) I
LANTZ
Introduction to the Dewey Decimal classification; dictionary cataloguing; subject headings and filing. Pre: typing ability. Course fee $3.00.

380 ADMINISTRATION OF SCHOOL LIBRARIES (3) I
LANTZ
Methods of organizing various types of library materials; keeping essential records. Objectives and contributions of the school library to the educational program.

610 PROMOTING LIBRARY USE (2) I
LANTZ
Techniques of staff and public relations; book lists and school news; book talks and storytelling; bulletin boards and exhibits.
640 ADVANCED TECHNICAL PROCESSES (2) II
LANTZ
More detailed cataloguing problems, including the organization of audio-visual aids. Pre: typing ability. Course fee $3.00.

680 SEMINAR IN SCHOOL LIBRARY PROBLEMS (2) I
LANTZ
Analysis of major problems, issues, and practices in the school library field. For in-service librarians and graduate students. (Not offered 1960–61.)

690 LIBRARY INTERNSHIP (14) I, II
GEISER, TOM
Full-time supervised service in laboratory or public school libraries. Pre: Library Science 300, 320, 330, 340, 380; Education 390.

Mathematics

Professors GREGORY, TOWNES; Associate Professor COMBA; Assistant Professors CLARK, F. DAVIS, RIFFENBURGH, SPELLER, YAMAUCHI; Instructors C. LEONG, SIU, G. WHITE

101 INTERMEDIATE ALGEBRA (3) I, II
STAFF

102 PLANE TRIGONOMETRY (3) I, II
STAFF
Pre: two years of high school algebra or Mathematics 101; one year of plane geometry. No credit if taken after 104.

103 COLLEGE ALGEBRA (3) I, II
STAFF
Pre: two years of high school algebra or Mathematics 101.

104 PLANE ANALYTICAL GEOMETRY (3) I, II
STAFF
Pre: Mathematics 102; credit or concurrent registration in Mathematics 103.

111 INTRODUCTION TO MATHEMATICS (3) I
DAVIS
To acquaint the nonspecialist with the position of mathematics in modern culture.

131 DIFFERENTIAL CALCULUS (3) I, II
STAFF
Pre: Mathematics 104.

132 INTEGRAL CALCULUS (3) I, II
STAFF
Pre: Mathematics 131.

133 CALCULUS APPLICATIONS (3) I, II
STAFF
Includes partial differentiation, multiple integration, and elementary differential equations. Pre: Mathematics 132.

399 DIRECTED READING (Ar.) I, II
STAFF
Individual reading in advanced mathematics. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in mathematics.

401-402 DIFFERENTIAL EQUATIONS (3-3) Yr.
GREGORY

421 INTRODUCTION TO MODERN ALGEBRA (3) I
TOWNES
Matrices, determinants, groups, properties of number systems, and the theory of fields. Pre: consent of instructor.

422 MATRICES AND THEORY OF EQUATIONS (3) II
TOWNES

431-432 ADVANCED CALCULUS (3-3) Yr.
Limits and continuity, functions of several variables, multiple integrals, infinite series, calculus of variations. Pre: Mathematics 133.

442 VECTOR ANALYSIS (3) II
YAMAUCHI
444 THEOREY OF FUNCTIONS OF A COMPLEX VARIABLE (3) II YAMAUCHI
Residue theory; contour integration; other topics of analysis. Pre: Mathematics 133.

471 PROBABILITY (3) I RIFFENBURGH
Probability laws, discrete and continuous probability distributions, expectations, moments, cumulants, generating functions. Pre: Mathematics 133.

472 STATISTICAL INFERENCE (3) II RIFFENBURGH
Sampling and parameter estimation, tests of hypotheses, correlation, regression, analysis of variance, sequential analysis, rank order statistics. Pre: Mathematics 471.

650 SEMINAR (1) I, II
Pre: consent of department chairman.

699 DIRECTED READING OR RESEARCH (Ar.) I, II
Pre: graduate standing in mathematics; consent of department chairman.

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) KAGAWA
Student technician training in a cooperating laboratory under the supervision of a qualified director. Pre: Microbiology 262, 464. Offered only in summer sessions.

267-268 MEDICAL TECHNOLOGY (12-12) Yr. KAGAWA
Student technician training in a cooperating laboratory under the supervision of a qualified director. Pre: Medical Technology 266.

Meteorology and Oceanography

Professors NOFFSINGER, RAMAGE; Assistant Professors LAVOIE, ORGILL

Meteorology

Meteorology 160, or the equivalent, is prerequisite to all advanced courses.

160 INTRODUCTION TO METEOROLOGY (2) II NOFFSINGER
General survey of meteorology; instruction and practice in observation, coding, plotting, elementary analysis.

202 METEOROLOGICAL INSTRUMENTS AND OBSERVATIONS (3) I (2 L, 1 3-Hr Lb) NOFFSINGER
Principles of meteorological instruments and their care; instrumental and visual weather observation; coding.

204 APPLIED TROPICAL METEOROLOGY (3) I RAMAGE
The effects of the tropics on health, comfort, housing, hydrologic cycle, industry, communications. (Not offered 1960–61.)

206 PHYSICAL CLIMATOLOGY (3) II NOFFSINGER
Climates related to physical processes and their regional variations; synoptic climatology.

220 GENERAL METEOROLOGY (4) I LAVOIE
Atmospheric structure, heat balance, thermodynamics; condensation; hydrometeors; air masses, fronts. Pre: Mathematics 133; Physics 181. Physics 310, 530 concurrently.

221 DYNAMIC METEOROLOGY (4) II LAVOIE
Equations of atmospheric motion; divergence, vorticity, vertical motion, trajectories, friction, turbulence, wave motion; pressure changes. Pre: Meteorology 220.
230 MID-LATITUDE SYNOPTIC METEOROLOGY AND FORECASTING (3) II (3 3-Hr Lb) STAFF
Techniques of analysing charts as applied especially to latitudes above 30°. Prognosis. Pre: Meteorology 220.

425 TROPICAL METEOREOLOGY (3) II RAMAGE
History; tropical clouds and hydrometeors; easterly waves and typhoons; monsoons; local and diurnal effects. Pre: Meteorology 220. (Not offered 1960–61.)

431 TROPICAL SYNOPTIC METEOROLOGY AND FORECASTING (3) II (3 3-Hr Lb) STAFF
Techniques of analysing charts as applied especially to latitudes below 30°. Prognosis. Pre: Meteorology 220. (Not offered 1960–61.)

475 CLOUD PHYSICS (3) II
Physical processes attending formation and subsequent history of clouds and cloud particles. Pre: Meteorology 220. (Not offered 1960–61.)

575 ADVANCED TROPICAL METEOROLOGY (6) STAFF
Modern methods of analysis and forecasting in the tropics. Pre: Professional experience or graduate standing.

675 ADVANCED MID-LATITUDE ANALYSIS AND FORECASTING (4) I STAFF
Principles of and practice in recent developments in synoptic meteorology as applied especially to latitudes above 30°.

680 THEORETICAL METEOROLOGY (3) I STAFF
Atmospheric laws of motion from the standpoint of classical hydrodynamics and thermodynamics. (Not offered 1960–61.)

685 SEMINAR (1) II STAFF
Reports on research or reviews of literature. Pre: consent of instructor.

699 DIRECTED READING OR RESEARCH (Ar.) I, II STAFF

OCEANOGRAPHY

For courses in biological or chemical oceanography see departments of Botany, Chemistry, Zoology.

550 GENERAL OCEANOGRAPHY (3) STAFF
Submarine geology; physical oceanography. Pre: Geology 150; Chemistry 103; Physics 160–161.

Microbiology

Professors BUSHNELL, CHU, HISCOCK; Assistant Professors BERGER, CONTOIS

130 MICROBES AND MAN (2) I, II CHU
Microorganisms as they affect people and their possessions. Not open to those who have had 151.

145 MICROBIOLOGY FOR NURSES (3) II (2 L, 1 Lb) CHU
General and pathogenic microbiology. Intended for students who do not plan to take other courses in the department. Course fee 6.00.

151 GENERAL BACTERIOLOGY (4) I, II (2 L, 2 Lb) BERGER, CONTOIS
Fundamentals. Pre: Botany or Zoology 101; Chemistry 104. Recommended: Chemistry 141 or 144. Lectures only (2 credits) require approval. Course fee $6.00.

251 AGRICULTURAL MICROBIOLOGY (3) I (2 L, 1 3-Hr Lb) BERGER
Soil, sewage, water, milk, and dairy microbiology. Pre: Microbiology 151; Chemistry 141 or 144. Course fee $3.00. (Alternates with 252; offered 1960–61.)

252 INDUSTRIAL MICROBIOLOGY (3) I (2 L, 1 3-Hr Lb) BERGER
Foods, fermentation, biologicals. Pre: Microbiology 151; Chemistry 141 or 144. Course fee $3.00. (Alternates with 251; not offered 1960–61.)
260 MEDICAL BACTERIOLOGY (3) I
Bacteria as agents of disease in man. Pre: Microbiology 151; Chemistry 141 or 144.

262 LABORATORY IN MEDICAL BACTERIOLOGY (2) I (3 lb)
Laboratory diagnosis of bacterial diseases. Pre: credit or concurrent registration in Microbiology 260. Course fee $6.00.

399 MICROBIOLOGICAL PROBLEMS (Ar.) I, II
Directed reading and laboratory. Limited to senior majors with 2.7 grade-point ratio, or 3.0 in microbiology. Course fee $6.00.

415 DESCRIPTIVE MICROBIOLOGY (3) II
Isolation and identification of selected groups of microorganisms. Pre: Microbiology 251 or 252, 260, 262. Course fee $6.00.

464 IMMUNOLOGY (3) II (2 L, 2 Lb)
Concepts of immunity and techniques of diagnostic serology. Pre: Microbiology 151 and 260, or consent of instructor. Course fee $6.00.

590 SEMINAR IN HEALTH ADMINISTRATION (1)
Procedures in public health concerned with control of diseases, surveys, and other health services. Pre: consent of instructor.

620 ADVANCED GENERAL MICROBIOLOGY (3) I (2 L, 2 Lb)
Study of the autotrophs, higher bacteria, and ultramicroscopic forms. Pre: Microbiology 151 or consent of instructor. Course fee $6.00.

630 MICROBIAL PHYSIOLOGY (3) II (2 L, 2 Lb)
Mechanisms of microbial metabolism and techniques of study. Pre: Microbiology 151; Chemistry 271 or 572; or consent of instructor. Course fee $6.00.

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.

Military Science

Professor BOYLEN; Associate Professor BRUYERE; Assistant Professors CONVERSE, FULTON, GOOD, IVEs, MCCASKILL; Instructors ALLEN, ARNOLD, P. CABRAL, VEAL

Uniform and awards fee, 75 cents each semester (not refundable). Two selected academic subjects required of all advanced-course students.

101-102 FIRST-YEAR MILITARY SCIENCE (1-1) Yr.
American military history; organization of the Army and ROTC; individual weapons and marksmanship.

91-92 FIRST-YEAR LEADERSHIP LABORATORY (0-0) Yr.
Required of all students enrolled in MS 101-102. School of the soldier; exercise of command.

151-152 SECOND-YEAR MILITARY SCIENCE (1-1) Yr.
Basic tactics; map and aerial photograph reading; role of the Army.

93-94 SECOND-YEAR LEADERSHIP LABORATORY (0-0) Yr.
Required of all students enrolled in MS 151-152. School of the soldier; exercise of command.

202 THIRD-YEAR MILITARY SCIENCE (3) II
Advanced military subjects; training in leadership leading to a commission. Selected students only. Pre: MS 152, or equivalent.
95-96 THIRD-YEAR LEADERSHIP LABORATORY (0-0) Yr.  
Required of all students enrolled in the first year of the advanced course. Leadership, drill, and exercise of command.

230 SUMMER CAMP (2)  
A six-week training period to supplement previous instruction. Pre: MS 152, or equivalent.

252 FOURTH-YEAR MILITARY SCIENCE (3) II  
Advanced military subjects; training in leadership leading to a commission. Pre: MS 202.

97-98 FOURTH-YEAR LEADERSHIP LABORATORY (0-0) Yr.  
Required of all students enrolled in the second year of the advanced course. Leadership, drill and exercise of command.

Music

Professors RIAN, VINE; Associate Professors B. SMITH, VAUGHT; Assistant Professors BECKER, KERR; Instructors BROWN, GILLETT, MUNDY, SACLUSA, UCHIMA; Lecturers ALEXANDER, HARLING, K. VAUGHT

109 UNIVERSITY FIELD BAND (1) I, II  
For ROTC band members but open to others. Two sessions weekly with an additional hour arranged.

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: Music 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 only.

115-116 GROUP INSTRUCTION IN SECONDARY PIANO (1) I, II  
Continuation of 113-114.

140 RECREATIONAL MUSIC (2) I  
MUNDY  
Elementary music skills including instruction on the ukulele. For recreation majors but open to others. Not open to those who have had 150.

150 ELEMENTARY MUSICIANSHIP (3) I, II  
STAFF  
Terminology, notation, sight singing, rhythmic and melodic dictation, and ukulele instruction. For prospective teachers. Not open to those who have had 140.

151-152 INSTRUMENTAL MUSIC (2-2) Yr.  
STAFF  
Basic skills and teaching methods on stringed instruments. For students preparing to teach instrumental music.

153 INSTRUMENTAL MUSIC (2) II  
Similar to 151-152, with woodwind instruments.

154 INSTRUMENTAL MUSIC (2) I  
Similar to 153, with brass instruments.

155 INSTRUMENTAL MUSIC (2) I  
Similar to 154, with percussion instruments.

160 INTRODUCTION TO MUSIC LITERATURE (3) I, II  
STAFF  
Orchestral literature from the classical through the modern period. From the listener's point of view. Course fee $2.00.

181-182 THEORY (4-4) Yr.  
SMITH  
Basic rhythmic, melodic, harmonic, and formal elements of eighteenth and nineteenth century music.
183-184 ADVANCED HARMONY (2-2) Yr.  
Continuation of harmonic materials of 182. Secondary seventh, altered and higher form chords; modulation. Pre: Music 182.

200 UNIVERSITY CHORUS (1) I, II  
Three hours a week. May be repeated.

251–252 MUSIC, ELEMENTARY CURRICULUM (2–2) Yr.  
Organization and direction of music in childhood experience. Materials and procedures. Pre: Music 150; junior standing in education. 251 is prerequisite to 252.

253 MUSIC, ELEMENTARY CURRICULUM (2) I  
Combination of 251–252. Auxiliary Teacher Training only. Pre: Music 150.

257–258 CONDUCTING (2–2) Yr.  
Preparation for school, community, and church conducting. Score reading, organizing and conducting choral and instrumental groups. Pre: Music 152, 182.

259 PIANO METHODS (2) I  
Methods and materials for class and private instruction in piano. Pre: Music 182 or consent of instructor. (Not offered 1960–61.)

Credit in Music 160, or consent of instructor, is necessary for Music 261, 262, 263, 264, 361, 362, 470.

261 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 1960–61.)

262 MUSIC OF THE CLASSIC PERIOD (2) II  
Haydn, Mozart, and Beethoven. Opera, choral, and instrumental music. Course fee $2.00. (Not offered 1960–61.)

263 MUSIC OF THE ROMANTIC PERIOD (2) I  
Emergence of the romantic style of the nineteenth century. Major composers. Course fee $2.00.

264 CONTEMPORARY MUSIC (2) II  
From Debussy to the present. Compositions by Schoenberg, Bartok, Hindemith, Stravinsky, and contemporary American composers. Course fee $2.00.

269 PIANO LITERATURE (2) I  
Survey of styles and forms of music for the piano and its forerunners. Pre: Music 138 (piano) or consent of instructor.

281–282 ORCHESTRATION (2–2) Yr.  
Arranging and composing for band, orchestra, and chamber groups. Pre: Music 152, 182, or consent of instructor.

283–284 ADVANCED SIGHT-SINGING, DICTATION AND KEYBOARD (2–2) Yr.  
Continuation of the oral work of 182. Pre: Music 182.

285–286 FORM AND ANALYSIS (2–2) Yr.  

300 UNIVERSITY CONCERT CHOIR (1–1) Yr.  
Three hours a week. May be repeated. Auditions required.

301 ENSEMBLE MUSIC (1) I, II  
Vocal (11, opera workshop; 12, University singers); 21, keyboard; 31, string; 41, woodwind; 51, brass; keyboard instrumental ensembles. May be repeated. Pre: consent of instructor.

309 UNIVERSITY CONCERT BAND (1) I, II  
Three hours a week. May be repeated. Pre: consent of instructor.
361-362 HISTORY AND LITERATURE OF MUSIC (3-3) Yr. VAUGHT
Development of music from its origins to the present. Nationalities, schools, and com­posers. Course fee $2.00.

383 COUNTERPOINT (2) I STAFF
Contrapuntal elements of music and their use from the fourteenth century to the present. Pre: Music 182.

384 COMPOSITION (2) II STAFF
Selected masterpieces and creative writing in smaller forms. Pre: recommendation of the department.

470 MUSIC OF THE FAR EAST (3) II SMITH
Introduction to the folk and traditional music of Asia. Recordings, demonstrations, pictures, etc. Course fee $3.00.

650 PROBLEMS IN MUSIC EDUCATION (2) I RIAN
Areas and levels of musical experience. Analysis of long and short term goals in elementary and secondary schools. Pre: teaching experience.

651 SEMINAR IN MUSIC EDUCATION (2) II RIAN
Consideration of special problems. Pre: Music 650.

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. To receive credit in Applied Music 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 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 phrasing 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 ........................................................................................................... $20.00
One lesson each week (half hour) ................................................................................................. $55.00
Two lessons each week (half hour each) ....................................................................................... $90.00
121–122 CLASS INSTRUCTION (1–1) Yr.  
Class instruction at the beginning level in piano, voice, orchestra, band instruments, and Asian instruments.

131 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, organ, voice, orchestral or Asian instruments. Nonmusic majors, or majors as a secondary medium. May be repeated.

135–136 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, organ, voice, or orchestral instruments at the freshman level. For prospective music majors. Pre: Music 131 or consent of instructor.

137–138 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, organ, voice, or orchestral instruments at the sophomore level. For prospective music majors. Pre: Music 136 or consent of instructor.

231 INDIVIDUAL INSTRUCTION (Ar.) I, II  
Piano, organ, voice, or orchestral instruments. Nonmusic majors at junior-senior level, or majors as a secondary medium. May be repeated.

235–236 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, voice, organ, or orchestral instruments at the junior level. Recital required second semester (236). For music majors. Pre: Music 138 or consent of instructor.

237–238 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, voice, organ, or orchestral instruments at the senior level. Recital required for graduation (238–71). For music majors. Pre: Music 236 or consent of instructor.

435–436 INDIVIDUAL INSTRUCTION (Ar.) Yr.  
Piano, voice, organ, or orchestral instruments at the graduate level. For music majors. Pre: Music 238 or consent of instructor.

Nursing

Professor V. Jones; Assistant Professors Adam, Frouen, Gross, E. R. Smith, Wolfe; Instructors Char, Imanaka, Kim, Najita, Ozaki, Schmidt; Lecturers Hirschy, McLaren, Uyeda

Registration in nursing courses is restricted to students preparing for nursing except by special permission.

100 ORIENTATION (1) I  
Problems of university adjustment. Nursing as a profession.

102 INTRODUCTION TO NURSING (2) II  
Principles, techniques, and responsibilities of professional nursing. Guided experience in total patient care.

110–111 NURSING (8–8) Yr.  
Imanaka, Schmidt, Smith, Uyeda

Study and supervised experience in total care of patients with medical and surgical disorders, including operating-room nursing.

131 HUMAN RELATIONS IN NURSING (2) II  
Gross

Study and application of principles and methods of interviewing pertinent to nursing care. Emphasis on interpersonal relationships.

181 HEALTH TEACHING IN NURSING (2) I  
Jones

Basic principles underlying teaching and learning; selection and organization of materials and methods for groups and individuals.

220–230 MATERNAL AND CHILD HEALTH NURSING (8–8) I, II  
Char, Najita, Ozaki

Study and supervised experience in total care of maternity patients, and of children from birth through adolescence.
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.

340 PUBLIC HEALTH NURSING (6) I, II
Principles of public health nursing and guided experience, including home visiting, clinic services, school health programs, and use of community agencies.

345 SENIOR NURSING (8) I, II
Trends and demands in nursing in light of their historical background. Experience in team nursing and managerial responsibilities.

350 SEMINAR (1) II
Significant topics and problems in nursing. Pre: consent of instructor.

383 PUBLIC HEALTH (3) I
Hirschy
Principles of public health and preventive medicine; application in protecting the health of citizens through organized community effort.

399 DIRECTED READING (Ar.) I, II
STAFF
(1) Public health nursing, (2) nursing service, (3) nursing education. Limited to seniors in nursing with 2.7 grade-point ratio, or 3.0 grade-point ratio in nursing.

Oceanography
The University does not offer a degree program in this area, but the courses listed below are available. Course descriptions are given under the respective departments.

BOTANY 586 BIOLOGICAL PRODUCTIVITY OF THE SEA (3) II
Austin, Doty
CHEMISTRY 580 OCEANOGRAPHIC CHEMISTRY (3) II
Zeitlin
GEOLOGY 470 MARINE GEOLOGY
Moberly
OCEANOGRAPHY 550 GENERAL OCEANOGRAPHY (3) I
Towsley
ZOOLOGY 201 SCIENCE OF THE SEA (3) I
Townesley
ZOOLOGY 536 OCEANOGRAPHY (3) II
Banner

Philosophy
Senior Professor Moore; Professor McCarthy; Associate Professor Nagley; Assistant Professor Inada

One of the following is generally a prerequisite to each advanced course: Philosophy 100, 110, 150, 155, or the equivalent.

100 INTRODUCTION TO PHILOSOPHY (3) I, II
Problems, methods, and fields of philosophy.

110 BUSINESS ETHICS (3) I, II
Consideration of basic ethical concepts for business enterprise and the professions.

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: Philosophy 150.

250 ETHICS (3) I, II
Relevance of the major theories of the good life to the process of decision making.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Instructor</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>399</td>
<td>DIRECTED READING (Ar.) I, II</td>
<td></td>
<td>STAFF</td>
<td>Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in philosophy.</td>
</tr>
<tr>
<td>400</td>
<td>CONTEMPORARY PHILOSOPHY (3) I</td>
<td>3</td>
<td>NAGLEY</td>
<td>Survey of recent developments in Western philosophy.</td>
</tr>
<tr>
<td>410</td>
<td>AMERICAN PHILOSOPHY (3) I</td>
<td>3</td>
<td>NAGLEY</td>
<td>Major trends in the development of American philosophy in relation to socio-political background and influence. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>415</td>
<td>TYPES OF PHILOSOPHY (3) II</td>
<td>3</td>
<td>INADA</td>
<td>Analysis of the following basic types: Idealism, Naturalism, Mysticism, Skepticism, etc.</td>
</tr>
<tr>
<td>420</td>
<td>PROBLEMS OF PHILOSOPHY (3) II</td>
<td>3</td>
<td>McCARTHY</td>
<td>Persistent specific problems of philosophy, primarily those concerning nature, man, God, etc. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>430</td>
<td>LOGIC (3) II</td>
<td>3</td>
<td>McCARTHY</td>
<td>Principles of deductive and inductive logic, traditional and modern.</td>
</tr>
<tr>
<td>450</td>
<td>INTRODUCTION TO INDIAN PHILOSOPHY (2) I</td>
<td>2</td>
<td>MOORE</td>
<td>Philosophical systems and movements in India; the Vedas, Upanishads, Six Systems of Hinduism, Charvaka, Jainism, and Buddhism. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>455</td>
<td>INTRODUCTION TO CHINESE PHILOSOPHY (3) I</td>
<td>3</td>
<td>INADA</td>
<td>Historical survey of the important philosophical schools and tendencies in China, ancient and modern.</td>
</tr>
<tr>
<td>456</td>
<td>CONFUCIANISM (3) II</td>
<td>3</td>
<td>INADA</td>
<td>Doctrinal, ethical, social and institutional problems from Confucius to the present. Pre: Philosophy 455; consent of instructor.</td>
</tr>
<tr>
<td>460</td>
<td>INTRODUCTION TO BUDDHIST PHILOSOPHY (3) I</td>
<td>3</td>
<td>INADA</td>
<td>Survey of the basic schools and tenets of Buddhist philosophy.</td>
</tr>
<tr>
<td>462</td>
<td>MAHAYANA BUDDHIST PHILOSOPHY (3) II</td>
<td>3</td>
<td>INADA</td>
<td>Basic principles and major schools. Emphasis upon early Chinese and later Japanese developments. Pre: Philosophy 460; consent of instructor.</td>
</tr>
<tr>
<td>465</td>
<td>PHILOSOPHY, EAST AND WEST (2) II</td>
<td>2</td>
<td>MOORE</td>
<td>Basic systems and methods of Eastern and Western philosophy, with special attention to similarities and contrasts.</td>
</tr>
<tr>
<td>500</td>
<td>PHILOSOPHY OF ART (3) I</td>
<td>3</td>
<td>McCARTHY</td>
<td>Study of art from the points of view of creation, appreciation, and criticism. Particular attention to painting, sculpture, music, and poetry. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>505</td>
<td>PHILOSOPHY OF RELIGION (3) I</td>
<td>3</td>
<td>NAGLEY</td>
<td>Western religious philosophy: Thomism, Mysticism, Reformationism, Rationalism, Agnosticism, Romanticism, Humanism, and Existentialism. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>510</td>
<td>PHILOSOPHY IN LITERATURE (3) II</td>
<td>3</td>
<td>McCARTHY</td>
<td>Literary expression of philosophical ideas. Consideration of such writers as Beckett, Camus, Hemingway, Kafka, Rilke, Sartre, and T. S. Eliot.</td>
</tr>
<tr>
<td>515</td>
<td>PHILOSOPHICAL INTERPRETATIONS OF HISTORY (3) I</td>
<td>3</td>
<td>NAGLEY</td>
<td>Occidental and Oriental conceptions of the meaning of historical processes. Particular attention to Augustine, Hegel, Marx-Engels. (Not offered 1960–61.)</td>
</tr>
<tr>
<td>520</td>
<td>EXISTENTIAL PHILOSOPHY (3) II</td>
<td>3</td>
<td>NAGLEY</td>
<td>Survey of the main themes of European existential philosophy. Particular attention to Kierkegaard and Heidegger. (Not offered 1960–61.)</td>
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</tbody>
</table>
550 SCIENTIFIC METHOD (3) II
McCarthy
A systematic study of the methods and procedures of reliable knowledge in the formal, natural, and social sciences.

555 FOUNDATIONS OF SCIENCE (3) I
McCarthy
Philosophical foundations and implications of modern physical science. Particular reference to Copernicus, Galileo, Newton, and Einstein. (Not offered 1960–61.)

560 PHILOSOPHY IN CONTEMPORARY SCIENCE (3) I
McCarthy
Philosophical implications of recent trends in physical science. Particular attention to the development of operationalism. (Not offered 1960–61.)

610 SEMINAR IN PROBLEMS OF PHILOSOPHY (3) II
McCarthy
Aims, methods, and fields of philosophy. Pre: graduate standing; consent of instructor. May be repeated. (Not offered 1960–61.)

620 SEMINAR IN CONTEMPORARY PHILOSOPHY (3) II
Nagley
Pre: graduate standing; consent of instructor.

699 READING AND RESEARCH (Ar.) I, II
STAFF
Reading and research in the same fields as in 399. Pre: consent of instructor.

Physics

Professors I. Miyake, Watanabe; Associate Professors Kudar, Steiger; Assistant Professor McAllister; Instructor Chang

Mathematics 132 and Physics 160–161 or 180–181 are prerequisite to all courses numbered 200 or above.

110 ASTRONOMY (3) II
Steiger
Introduction to the nature of the astronomical universe; survey of observational methods and historical development. Pre: Mathematics 101 or equivalent.

151 INTRODUCTION TO ELECTRONIC CIRCUITS (3) I (2 L, 1 Lb)
Miyake
An electricity course covering DC and AC theory and applications; emphasis on vacuum tube circuits. Pre: Mathematics 102. Course fee $6.00.

153 PRINCIPLES OF RADIO AND VACUUM TUBE CIRCUITS (3) II (2 L, 1 Lb)
Miyake
Introduction to theory, design, construction of vacuum tube circuits; emphasis on radio receivers, amplifiers. Pre: Physics 151. Course fee $6.00.

160-161 COLLEGE PHYSICS (4-4) Yr. (3 L, 1 Lb)
Miyake
Fundamental principles, theories, and experimental methods. Pre: Mathematics 102 and credit or concurrent registration in Mathematics 103. Course fee $6.00 each semester.

180-181 ENGINEERING PHYSICS (5-5) Yr. (4 L, 1 Lb)
STAFF
Basic principles, theories, experimental methods, and use of calculus. Pre: credit or concurrent registration in Mathematics 132. Course fee $6.00 each semester.

253-254 ELECTRICAL MEASUREMENTS (1-1) Yr.
Chang
Experimental determination of fundamental electromagnetic quantities and applications to high vacuum and microwaves. Course fee $6.00 each semester.

280 A SURVEY OF MODERN PHYSICS (3) I
McAllister
Introductory treatment of quantization of energy and atomicity of matter.

310 THEORETICAL MECHANICS (3) I
Kudar

350 ELECTRICITY AND MAGNETISM (3) I
STAFF
Experimental laws, field theory, and mathematical application to special problems.

399 INDIVIDUAL WORK IN ADVANCED PHYSICS (Ar.) I, II
STAFF
Limited to senior majors with 2.7 grade-point ratio, or 3.0 in physics.
420 SOUND (3) II
Theory of sound and its application.

440 ELECTRONICS (3) II

460 LIGHT (3) II
Geometrical optics, interference, diffraction, and other topics of physical optics.

461 OPTICS LABORATORY (1) II (1 Lb)
Experiments in geometric and physical optics. Pre: credit or concurrent registration in Physics 460. Course fee $6.00.

480 ATOMIC AND NUCLEAR PHYSICS (3) II
Quantum mechanics, atomic and nuclear structure, nuclear reactions, cosmic rays, and electrons in solids. Pre: Physics 280.

530 HEAT (3) I
Laws of thermodynamics, heat transfer, kinetic theory, and statistical mechanics.

550 ELECTROMAGNETIC WAVES (3) II
Field equations, plane and spherical waves, and guided waves. Pre: Physics 350; Mathematics 133.

610 THEORETICAL PHYSICS—ANALYTICAL DYNAMICS (3) I
Dynamics of rigid bodies and fluids, Lagrangian and Hamiltonian methods, and theory of vibration. Pre: Physics 310; Mathematics 402.

620 PHYSICS OF THE UPPER ATMOSPHERE (3) II
Basic parameters, experimental methods, absorption and recombination processes, intrusion of extraterrestrial particles and fields. Pre: Physics 310, 350, or consent of instructor.

650 THEORETICAL PHYSICS—ELECTROMAGNETISM (3) II

670 INTRODUCTION TO QUANTUM MECHANICS (3) I
Formulation of theory and solution of Schroedinger’s equation. Pre: Physics 280 or equivalent; Mathematics 133.

680 ATOMIC AND MOLECULAR SPECTRA (3) II
Study of atomic and molecular structure by quantum mechanical interpretation of line, band, and continuous spectra. Pre: Physics 670.

690-691 SEMINAR (1-1) Yr.
Discussion and reports on physical theory and recent development. Pre: graduate standing or consent of the chairman.

699 DIRECTED READING OR RESEARCH (Ar.) I, II
Pre: consent of instructor.

Psychology

Professors BITNER, HARLOW, HERRICK, VINACKE, WEAVER; Associate Professors ARKOFF, CROWELL, DIAMOND, DIGMAN, DOLE; Assistant Professor GRINDER

Psychology 102 or 104 is prerequisite to all other courses except 270. 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.

150 PSYCHOLOGY OF INFANCY AND CHILDHOOD (2) I, II
   CROWELL, GRINDER
   Principles basic to the normal development of the infant and child; emphasis upon
   physical, emotional, intellectual, and social development.

152 PSYCHOLOGY OF ADOLESCENCE AND MATURITY (2) I, II
   GRINDER, HERRICK
   Developmental characteristics during preadolescent, adolescent, and adult years; empha-
   sis upon physical, emotional, intellectual, and social factors and changes.

158 DEVELOPMENTAL PSYCHOLOGY (3) II
   STAFF
   Emotional, mental, physical, and social development from infancy to adulthood; in-
   terests and abilities at the different age levels.

230 INTRODUCTORY EXPERIMENTAL PSYCHOLOGY (4) I (2 L, 1 4-Hr Lab)
   DIGMAN
   Basic methodology and experimental literature. Sensation, perception, emotion, con-
   ditioning, thinking, social phenomena.

270 APPLIED PSYCHOLOGY (3) I
   WEAVER
   Application of psychological principles to various fields of life. Leadership and problem
   solving.

280 PSYCHOLOGY OF ADJUSTMENT (3) I, II
   WEAVER
   Understanding and improving personal adjustment. Adjustment in family, school, vocation, sex, marriage, and later maturity.

404 PSYCHOLOGY OF MOTIVATION (2) I
   VINACKE
   Instinct, drive, motives, emotion, and attitudes; their biological bases, modification, and
   organization. (Alt. yrs.; not offered 1960–61.)

406 PSYCHOLOGY OF LEARNING (3) I, II
   DIGMAN, HARLOW
   The major conditions influencing learning and forgetting; the role of motivation, re-
   wards, and practice; theoretical interpretations of the learning process.

408 PSYCHOLOGY OF THINKING (2) II
   VINACKE
   Concept formation, problem solving, creative imagination, autistic thinking, attitudes, and opinions. (Not offered 1960–61.)

410 HISTORY OF PSYCHOLOGY (3) I
   HERRICK
   The background of modern psychology. Origins and development of contemporary
   points of view. Relationship to Western thought.

420 STATISTICAL TECHNIQUES (3) I, II
   WEAVER
   Measures of central tendency and variability; graphic methods; correlation; reliability; tests of significance. Pre: two years of high school algebra or Mathematics 101.

426 PSYCHOLOGICAL MEASUREMENTS (3) II
   WEAVER
   Construction, validation, and administration of tests; interpretation and application of
   scores; familiarization with types of group tests. Pre: Psychology 420.

430 INTERMEDIATE EXPERIMENTAL PSYCHOLOGY (3) II
   DIAMOND
   Original experiments with emphasis upon laboratory techniques. Control of variables,
   apparatus design, and statistics in research.

440 PHYSIOLOGICAL PSYCHOLOGY (3) I
   DIAMOND
   Physiological explanation of behavior in terms of sense organs, the nervous system, and
   muscles and glands.

450 SOCIAL DEVELOPMENT OF CHILDREN (3) I
   CROWELL
   Survey of the socialization process and acquisition of social behavior. Pre: Psychology
   150.
456 PSYCHOLOGY OF EXCEPTIONAL CHILDREN (3) II  
Evaluation of physical, emotional, and intellectual deviations and their effects upon the growth and development of children. Pre: Psychology 150.

460 PSYCHOLOGY OF PERSONALITY (3) I  (2 L, 1 Lb)  
Development of personality; components; critical evaluation of research. Lab fee $2.00.

462 SOCIAL PSYCHOLOGY (3) II  
Psychology of human relations; psychological factors that determine the behavior of an individual in his social relationships.

463 EXPERIMENTAL SOCIAL PSYCHOLOGY (1) II  
Experimental study of human relations; techniques pertinent to group work; evaluation. Pre: credit or registration in 402. Course fee $1.00.

468 POLITICAL PSYCHOLOGY (2) I  
Political behavior of individuals and groups; the voter, the politician, political parties; psychological problems which arise in the conduct of government.

472 EDUCATIONAL PSYCHOLOGY (3) I, II  
Major factors of learning and mental health as they apply to the educative process. Pre: Psychology 150 or 152.

474 INDUSTRIAL AND BUSINESS PSYCHOLOGY (3) I, II  
Job analysis, rating methods, selection and classification, fatigue and efficiency, human engineering, safety, training, motivation, social factors.

480 ABNORMAL PSYCHOLOGY (3) I, II  
Nature and causes of psychoneuroses and psychoses; abnormalities of intelligence; incipient abnormal traits manifested in everyday life; psychotherapy.

574 PROBLEMS IN INDUSTRIAL AND BUSINESS PSYCHOLOGY (3) II  
Consideration of special problems in the area. Pre: Psychology 474; consent of instructor. (Not offered 1960–61.)

600 SEMINAR (2) I, II  
(1) General, (2) history and theory, (3) statistics and measurements, (4) experimental, (5) physiological, (6) personality, (7) social, (8) developmental, (9) applied, (10) clinical, (11) counseling. Pre: consent of instructor. May be repeated.

614 CONTEMPORARY THEORY (3) II  
Examination of current theoretical systems. Special attention to meaning and uses of theory, theory construction, and basic concepts.

620 ADVANCED STATISTICAL TECHNIQUES (3) II  
Sampling procedures, elementary probability theory, tests of statistical hypotheses, analysis of variance, correlational techniques, factor analysis.

630 ADVANCED EXPERIMENTAL PSYCHOLOGY (3) I  
Advanced techniques and research procedures associated with experimental psychology.

662 ADVANCED SOCIAL PSYCHOLOGY (3) II  
Methods and objective verification of hypotheses; interpersonal relations, group structure and process, social conflict, propaganda, etc.

672 ADVANCED EDUCATIONAL PSYCHOLOGY (3) II  
Application of experimental evidence in psychology to major educational problems; the bearing of recent psychological theories upon education.

682 PSYCHOLOGICAL APPRAISAL (3) I, II  
Practice in individual intelligence tests, primarily with nonclinical cases. Pre: Psychology 426; consent of instructor. Course fee $5.00.
683 PSYCHOLOGICAL APPRAISAL (3) II  
Practice in individual intelligence tests and other special techniques, primarily with clinical cases. Pre: Psychology 682; consent of instructor. Course fee $5.00.

684 PSYCHOLOGICAL APPRAISAL (3) I  
Survey of individual personality tests with emphasis on the Rorschach and Thematic Apperception tests. Pre: Psychology 683; consent of instructor.

782 PSYCHOLOGICAL COUNSELING (3) I  
Theory and technique in psychological counseling. Pre: Psychology 600–11; consent of instructor.

783 PSYCHOLOGICAL COUNSELING (3) II  
Supervised experience in psychological counseling. Pre: Psychology 782; consent of instructor.

Religion

Assistant Professor AOKI; Lecturer BIXLER

150 INTRODUCTION TO THE STUDY OF RELIGION (3) I  
The nature of religion; the world's living religions—Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, Islam.

151 RELIGION AND THE MEANING OF EXISTENCE (3) II  
Contemporary problems of religious thought: faith and knowledge, God, freedom, evil, man, science, and immortality.

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 TEACHINGS 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. (Not offered 1960–61.)

310 THE PROPHETS AND SAGES OF THE OLD TESTAMENT (3) I  
The prophetic and wisdom literature of the Old Testament.

321 GREAT PERSONALITIES IN CHRISTIANITY (3) II  
An examination of the lives and thought of some outstanding representatives. (Not offered 1960–61.)

340 WESTERN RELIGIOUS THOUGHT TO 1492 (3) I  
Ideas of major religious thinkers and movements in the history of the Western world to 1492; concluding with an evaluation of Roman Catholicism.

341 WESTERN RELIGIOUS THOUGHT FROM 1500 (3) II  
The period of the Protestant Reformation to the present, with an evaluation of the Protestant movement.

360 AMERICAN RELIGIOUS THINKERS (3) I  
A study of some of the major American religious thinkers from Jonathan Edwards to the present.

382–383 THE HISTORY OF LIVING RELIGIONS (3–3) Yr.  
382: basic beliefs and practices of Hinduism, Confucianism, Taoism, Buddhism, Shintoism, Islam. 383: Judaism, Roman Catholicism, Protestantism, their history, beliefs, contributions. Semesters are independent.

386 CHRISTIAN ETHICS (3) I  
A study of historical types of Christian ethics. (Not offered 1960–61.)
Social Work

Professors HANDLEY, JAMBOR, KENDALL; Associate Professors COCHRAN, MERRITT, WALSH, ZALOHA; Lecturer CODY

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.

375 INTRODUCTION TO SOCIAL GROUP WORK (3) II
ZALOHA
Introduction to the philosophy and aims underlying social group work.

605 SOCIAL CASEWORK (2) I
MERRITT
Introduction to the basic principles and processes of social casework.

606 SOCIAL CASEWORK (2) II
MERRITT

608 SOCIAL GROUP WORK (2) I
ZALOHA
Introduction to the basic principles and processes of group work.

609 SOCIAL GROUP WORK (2) II
ZALOHA

610–611 HUMAN GROWTH AND BEHAVIOR (3–3) Yr.
WALSH
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.
ZALOHA
The program as a tool in meeting individual and group needs. To be taken concurrently with 660–661.

615 COMMUNITY ORGANIZATION (2) II
JAMBOR
Methods and processes of community organization in social work. Description and analysis of agencies and services concerned with social welfare planning.

624 HISTORY OF SOCIAL WORK (2)
KENDALL

625 CHILD WELFARE (2) I
COCHRAN

626 TREATMENT OF JUVENILE DELINQUENCY (2) II
Social work practice in relation to problems of juvenile delinquency.

650 PUBLIC WELFARE IN THE UNITED STATES (2) I
JAMBOR
Development of public welfare with emphasis upon public, federal, and state assistance, and social insurance programs. Open to seniors. Pre: Social Work 300.

652 SOCIAL STATISTICS AND RESEARCH (2) II
Problems and procedures in social research related to social work practice.

653 LEGAL ASPECTS OF SOCIAL WORK (2) I
JAMBOR
Problems in judicial administration and substantive law that affect individuals in relation to social problems.

656 SOCIAL WELFARE—ITS ORGANIZATION AND ADMINISTRATION (2) I
JAMBOR
Principles and problems of social agencies with respect to structure, management, and financing. Emphasis upon the effect of setting in relation to specialized practice.
660-661  
SUPERVISED FIELD WORK (3-3) Yr.  
STAFF  
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.  
STAFF  
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  
WALSH  
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  
WALSH  
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: Social Work 765; consent of instructor.

768  
SEMINAR IN REHABILITATION (2) II  
COCHRAN  
Problems of rehabilitation and the role of social work in this area.

770  
ADVANCED SOCIAL GROUP WORK (2) I  
ZALOHA  
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  
ZALOHA  
Analysis and evaluation of case material contributed from the student's experience and from selected records.

775  
ADVANCED SOCIAL PSYCHIATRY (2) I  
CODY  
Dynamics of behavior in the neuroses and in functional and organic psychoses, with emphasis on current treatment processes.

780  
ADMINISTRATIVE METHODS IN SOCIAL WORK (2) I  
Administration of social work agencies with emphasis upon the relationship between structure and function. Problems of internal administration.

781  
SEMINAR IN SOCIAL WELFARE POLICY (2) II  
JAMBOR  
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 social 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  
HANDLEY  
Significance of psychocultural factors in personality development and behavior. Pre: Social Work 611.

799  
SEMINAR IN RESEARCH (2) I  
HANDLEY, STAFF  
Principles of objective fact-finding, primary and secondary sources of social data; preparation of a report or thesis.

Sociology

Senior Professor LIND; Professors CHENG, GLICK, HORMANN; Associate Professors WITTERTMANS, YAMAMURA; Assistant Professors BARTOS, KRAUSS, YAMAMOTO; Instructor MCCABE

Sociology 151 or the equivalent is prerequisite to all advanced courses in sociology.

100  
ORIENTATION FOR FOREIGN STUDENTS (0) I  
McCabe  
Introduction to the American community and university. For foreign students during the first semester of University residence. Course fee $5.00.
151 INTRODUCTION TO THE STUDY OF SOCIETY (3) I, II  
An orientation course. The basic social relationships, the corresponding social structures, and the processes affecting social change.

232 COMMUNITY FORCES IN HAWAII (3) I, II  
HORMANN, LIND, YAMAMOTO  
Basic factors and forces in contemporary society as exemplified in Hawaii. Course fee $2.00.

399 DIRECTED READING (Ar.) I, II  
STAFF  
Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in sociology.

410 POPULATION AND SOCIETY (3) II  
YAMAMURA  
Society analyzed in terms of the quantitative and qualitative aspects of population. Sociological aspects of birth and death rates, natural increase, and mobility.

418 HUMAN MIGRATION (3) II  
STAFF  

420 HUMAN ECOLOGY (3) I  
YAMAMURA  
Basic concepts, principles, and techniques. Factors affecting distribution and movement of population, utilities, and social institutions.

434 RURAL SOCIOLOGY (3) I  
YAMAMURA  
Organization of life in the rural environment. A comparative study of rural community types.

436 THE URBAN COMMUNITY (3) II  
KRAUSS  
Sociological principles applied to the modern city. Structure, growth, social and personal life organization.

440 FOLK AND PEASANT SOCIETY (3) I  
HORMANN  
Folk-peasant society in contrast to urban-industrial; world-wide transition of one into the other; reference to Chinese and Japanese peasant society.

444 PEOPLE AND INSTITUTIONS OF CHINA (3) II  
STAFF  
Analysis of social philosophies and their influence on basic institutions and traits of the people. Impacts of Western culture and Communism.

446 PEOPLE AND INSTITUTIONS OF JAPAN (3) I, II  
YAMAMOTO  
Social change in institutional patterns and attitudes of social classes in Japan. Special attention to the accelerated change since World War II.

450 RACE AND CULTURE CONTACTS IN HAWAII (3) II  
LIND  
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  
GLICK  
Survey of typical situations of race and culture contacts in the Pacific area.

458 RACE RELATIONS (3) II  
GLICK  
Race relations in world perspective; typical situations; conflict and accommodations; caste; race prejudice; miscegenation; effects upon personality.

464 SOCIAL INSTITUTIONS (3) I  
WITTERMANS  
Culture as a conceptual tool. Origin, structure, functions, and growth of institutions. Interrelations and integration.

472 THE FAMILY (3) I, II  
KRAUSS, YAMAMURA  
Culturally distinctive family types as background for analysis and interpretation of American family life in its societal contexts.
480  SOCIOPY OF RELIGION (3) II  WITTERMANS
Structure, function, and dynamics of religion in various types of society: folk, peasant, and mass.

486  INDUSTRIAL SOCIOLOGY (3) I  HORMANN

500  SOCIAL DISORGANIZATION (3) I  HORMANN
Social factors in the disorganization of communities, institutions, and groups. Deviant and pathological personal behavior. An integrated approach to social problems.

504  JUVENILE DELINQUENCY (3) I  YAMAMURA

506  CRIMINOLOGY (3) II  STAFF

520  SOCIAL CONTROL (3) II  WITTERMANS
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  WITTERMANS, YAMAMOTO
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) II  BARTOS
Practical application of theories and research findings involving face-to-face relations between persons: leadership, prestige, group morale.

540  COLLECTIVE BEHAVIOR (3) I  GLICK
Elementary forms of collective behavior; social unrest; crowd, public, mass behavior; operation of publics in democratic societies.

542  SOCIAL MOVEMENTS (3) II  WITTERMANS
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  STAFF
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  BARTOS
Nature and functions of public opinion in the contemporary world. Formation and polling. Problems of interviewing and sampling.

548  AMERICAN SOCIETY IN TRANSITION (3) II  KRAUSS
Major trends, particularly as reflected in the war and post-war periods.

560  METHODS OF SOCIAL RESEARCH (3) I, II  GLICK
Values and limitations of common 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  YAMAMURA
Introduction to statistical methods and resources as applied to social research data.

572  ADVANCED SOCIAL STATISTICS (3) II  YAMAMURA
Treatment of sociological data: sampling procedures, test of hypotheses, analysis of variance, correlation and regression, scale analysis. Pre: Sociology 570 or equivalent.
580 SOCIOLOGICAL THEORY (3) II
   BARTOS
   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
   STAFF
   (1) Human ecology and demography; (2) social organization; (3) social disorganiza-
tion; (4) the group and the person; (5) collective behavior and social change. [5]     
Collective behavior and social change (I), (2) social organization, 1960-61.] Pre: con-
sent of instructor.

628 SEMINAR IN RACE RELATIONS (3) II
   GLICK
   Major theoretical developments and research problems in the field of race relations.
   Pre: consent of instructor.

660 SEMINAR IN METHODS OF RESEARCH (3) II
   YAMAMURA
   Fundamentals of research and thesis preparation. Applications to specific problems.
   Pre: consent of instructor.

680 SEMINAR IN SOCIOLOGICAL THEORY (3) I
   BARTOS
   Survey of contemporary sociological theory; principles of theory construction, analysis,        
and criticism. Pre: consent of instructor.

699 DIRECTED READING OR RESEARCH (Ar.) I, II
   STAFF
   Pre: graduate standing; consent of instructor.

Speech

Professors ANSBERRY, J. SMITH; Associate Professors BENTLEY, CARR, HOSHOR, LEP-
FORGE; Assistant Professors BILSBORROW, BRENFORD, BRENNER, M. GORDON, HERSHEY, KLOPF, 
LARSON, LINN, NEWCOMER, H. WONG; Instructors AUERBACH, LEWIS, LIN, McCABE, 
MCCROSKEY, PHIFFS, SCOTT, STIEDE, VANDERSLICE, WATSON, YONAN

Speech 100 is prerequisite to all other courses.

100 FUNDAMENTALS OF SPEECH (1) I, II
   STAFF
   Communication for social interaction. Speech production; organization of ideas; train-
ing for mastery of speech standards. Conferences required. Course fee $1.00.

101 SOUNDS AND RHYTHMS OF SPOKEN ENGLISH (1) I, II
   STAFF
   Sounds and rhythms of General American speech; effective communication of ideas. Interna-
tional Phonetic Alphabet. Conferences required. Course fee $2.00.

102 DEVELOPMENT OF ORAL SKILL (1) I, II
   STAFF
   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.
   STAFF
   Continued work on sounds and rhythms; idiom and grammar. Pre: Speech 110. Fee $1.00 each semester. 107 may be required by recommendation.

109 LANGUAGE SKILLS FOR PROSPECTIVE TEACHERS (1) I, II
   STAFF
   Further experience in speaking. Individual problems of poise, voice, vocabulary, or-
ganization. Conferences required. Pre: Speech 110. Course fee $1.00.

110 SOUNDS OF ENGLISH FOR PROSPECTIVE TEACHERS (1) I, II
   STAFF
   Sounds and rhythms of General American speech. Techniques for correction of pronun-
ciation and improvement of rhythm. Course fee $1.00.

130 READING ALOUD (3) I, II
   STAFF
   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.

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.

152 BUSINESS AND PROFESSIONAL SPEECH (3) I, II
Speaking in the business and professional world: interviews, conferences, committee work, oral reports, parliamentary procedure. (Credit only in 150 or 152.)

180 PRINCIPLES AND TYPES OF DISCUSSION (2) I, II
KLOPF, NEWCOMER
Discussion of problems, using cooperative investigation, round table, panel, symposium, case and incident methods, parliamentary procedure.

210 PHONETICS (3) I, II
CARR
English pronunciation with attention to Hawaii's linguistic background. Articulation, standards of pronunciation, dialect study, teaching of speech.

214 VOICE TRAINING FOR SPEECH (2) I, II
BENTLEY
Physical and physiological bases of voice production; problems of nasality, inaudibility, monotony. Pre: permission of instructor, or recommendation of department.

220-221 FUNDAMENTALS OF SPEECH CORRECTION (3-3) Yr.
ANSBERRY, HERVEY
First semester: survey; observation of diagnosis and therapy. Second semester: therapy for functional and organic speech disorders; observation and clinical practice.

270 INTRODUCTION TO BROADCASTING (3) I
PHIPPS
Analysis of radio and television as communications media and as industries. Comparison of American and foreign broadcasting; attention to the British system.

271 RADIO PRODUCTION (3) II
PHIPPS
Programs and analysis of techniques. Announcing; use of equipment; basic control. Study for operator's license optional. Pre: Speech 270 or consent of instructor.

285 PUBLIC DISCUSSION AND DEBATE (1) I, II
STAFF
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.

365 SPEECH FOR THE CLASSROOM TEACHER (3) I, II
STAFF
Pedagogy for the classroom teacher. Integration of speech improvement in the curriculum; speech problems of Hawaii. Pre: Speech 110.

369 TECHNIQUES OF SPEECH IMPROVEMENT (3) I, II
WONG
Principles of diagnosis and of improvement of substandard speech; emphasis upon Island speech. Discussion and practice. Prerequisite: consent of instructor.

399 DIRECTED READING (Ar.) I, II
STAFF
The same fields as in 598. Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in speech.

422 SPEECH PATHOLOGY (3) I
HERVEY
Diagnostic and therapeutic procedures involved in speech rehabilitation.

423 PRACTICUM IN SPEECH CORRECTION (3) II
ANSBERRY
Clinical experience in the use of rehabilitation techniques with a variety of defects and disorders at various age levels.
428 FUNDAMENTALS OF AUDIOLOGY (3) I  
Hearing and its effects on speech. Problems of the deaf and hard-of-hearing with emphasis on educational techniques. Training in the use of audiometric equipment.

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: English 151 or equivalent.

440 SEMANTICS (3) II  
Language in understanding; verbal meaning and implication; the role of assumption in interrelationships. Use of language for clarity, accuracy, and evaluation.

450 ADVANCED PUBLIC ADDRESS (3) I  
Composition and delivery; models from American Public Address; types of deliberative and ceremonial speeches. Pre: Speech 150 or consent of instructor.

455 PERSUASION: A STUDY IN RHETORIC (3) I  
Factors influencing attitudes, beliefs, and actions of audiences; analysis of oral propaganda. Theories and examples. (Alt. yrs.; not offered 1960–61.)

460 SEMINAR IN PHONETICS AND VOICE SCIENCE (3) I  
Problems in advanced phonetics and voice science. Pre: consent of instructor.

480 GROUP LEADERSHIP AND DISCUSSION (3) I, II  
Principles and techniques of effective group leadership; 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. (Alt. yrs.; offered 1960–61.)

598 SPECIAL PROBLEMS (Ar.) I, II  
(1) General speech education; (2) speech correction; (3) phonetics and voice science; (4) interpretation; (5) forensics, public address; (7) radio; (8) pedagogy; (9) audiology. Pre: consent of instructor or recommendation of department chairman.

610 SEMINAR IN PHONETICS AND VOICE SCIENCE (3) I  
Problems in advanced phonetics and voice science. Pre: consent of instructor.

620 SEMINAR IN SPEECH CORRECTION (3) II  
Problems in the etiology and therapy of speech deviations.

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) II  
Review of studies; preparation of reports. Pre: consent of instructor.

660 GENERAL SEMINAR (2) I, II  
Significant topics and problems in speech. May be repeated.

699 RESEARCH (Ar.) I, II  
The same fields as in 598. Four credits may be earned. Pre: undergraduate major in speech; consent of adviser or recommendation of department.

690 SEMINAR IN RESEARCH METHODS (3) I, II  
Research methods, analysis and reporting of data; bibliography; contemporary research.
Zoology and Entomology

Senior Professors Bess, Hiatt, Snyder, Tester; Professors Banner, Carter, Chu, Gosline, Hardy, Hsiao, Matthews, M. Sherman, Tuthill, Van Weel; Associate Professor Namba; Assistant Professors Habeck, Tamashiro, Townsley

Zoology 101 is prerequisite to all advanced courses with the exception of 111, 115, and 201.

101 GENERAL ZOOLOGY (4) I, II (2 L, 2 Lb) BANNER, MATTHEWS, STAFF
Zoological principles; studies of structure, development, relationships, and distribution of animals. Course fee $6.00.

111 PRINCIPLES OF HUMAN BIOLOGY (3) I MATTHEWS
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 ELEMENTARY HUMAN ANATOMY AND PHYSIOLOGY (3) I, II (2 L, 1 Lb) HSIAO
General survey of gross anatomy and physiology. Course fee $3.00. Not open to students who have had 445.

161 GENERAL ENTOMOLOGY (4) I, II (2 L, 2 Lb) HARDY, TUTHILL
Structure, habits, biology, and classification of insects; insects characteristic of Hawaii. Course fee $3.00.

201 SCIENCE OF THE SEA (3) I TOWNSLEY

311-312 COMPARATIVE ANATOMY AND EMBRYOLOGY (4-4) Yr. (2 L, 2 Lb) HSIAO, STAFF
Structure and relationship of vertebrates; dissection of typical vertebrates; principles of embryology illustrated by frog, chick, pig. Course fee $8.00 per semester.

321 HUMAN HEREDITY AND EUGENICS (3) I SMITH
Laws of heredity by way of human pedigree analysis; survey of inheritable traits; interaction of heredity and environment.

361 INSECT MORPHOLOGY (3) I (2 L-Lb) NAMBA
Comparative and gross morphology; homologies of structures; anatomy; development in representative groups. Pre: Zoology 161. Course fee $1.00.

362 SYSTEMATIC ENTOMOLOGY (3) II (2 L-Lb) TUTHILL
Classification of insects; orders and families. Use of taxonomic tools. Pre: Zoology 361. Course fee $2.00.

372 ECONOMIC ENTOMOLOGY (3) II (2 L, 2 Lb) SHERMAN
Insect pests; chemical, biological, and cultural control. Laboratory exercises on Hawaiian insects of economic importance. Pre: Zoology 161; Chemistry 104. Course fee $3.00.

390 GENERAL ZOOLOGY SEMINAR (1) II STAFF
Reports on research or reviews of literature. Pre: senior standing. Required of students majoring in zoology or entomology.

399 DIRECTED READING OR RESEARCH (Ar.) I, II STAFF
Limited to senior majors with 2.7 grade-point ratio, or 3.0 grade-point ratio in zoology.

401 INTRODUCTION TO ECOLOGY (2) I TOWNSLEY
Animals in relation to their biotic and physical environment; animal communities in the sea, on shore, and on land.
410  PARASITOLOGY (3) II  (2 L, 2 Lb)  CHU
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)  van WEEL
Studies of tissues, principles of histology, and microscopic anatomy of a limited number of vertebrate animals. Pre: Zoology 312. Course fee $6.00.

425  MICROTECHNIQUE (3) I, II  (2 L–Lb)  MATTHEWS
Fixing, staining, mounting of tissues, entire animals and organs. Course fee $15.00.

431  BIOMETRY (3) I  (2 L-Lb)  TESTER
Elementary statistical methods; confidence interval, chi-square, t-test, normal distributions, regression, correlation. Pre: Mathematics 103; desirable: 104.

432  ADVANCED BIOMETRY (3) II  (2 L–Lb)  TESTER
Analysis of variance and covariance, curvilinear regression, multiple correlation, design of experiments. Pre: Zoology 431; desirable: Mathematics 131.

441  HISTORY OF ZOOLOGY (2) I  BANNER
Development of zoological science as a specialized field of human knowledge.

445  GENERAL PHYSIOLOGY (3) I  (2 L, 2 Lb)  van WEEL
Properties of protoplasm; functions of organ systems; fundamental principles. Pre: Chemistry 141; desirable: Chemistry 132; Physics 161. Course fee $8.00.

461  MEDICAL AND VETERINARY ENTOMOLOGY (3) I  (2 L, 2 Lb)  HARDY

501  ZOOGEOGRAPHY (2) I  GOSLINE
Animal distributions; physiographic, climatic, and historic factors. Desirable preparation: Zoology 401; Geology 151. (Alt. yrs.; offered 1960–61.)

504  ANIMAL EVOLUTION (2) II  GOSLINE
Processes of evolution; interaction between population genetics and natural selection in animals. Desirable preparation: Genetics 451.

515–516  INVERTEBRATE ZOOLOGY (3–3) Yr.  (2 L, 2 Lb)  TOWNSLEY
Comparative anatomy, development, phylogeny of invertebrate animals. Identification, classification of reef and shore fauna. Course fee $6.00 per semester.

520  MARINE ECOLOGY (3) II  (2 L, 2 Lb)  TOWNSLEY

525–526  GENERAL ICHTHYOLOGY (3–3) Yr.  GOSLINE

531  METHODS OF FISHERY INVESTIGATION (3) I  TESTER

536  OCEANOGRAPHY (3) II  (2 L, 2 Lb)  BANNER
Physical, chemical, biological oceanography; pelagic life of oceans; relation to environment. Pre: Zoology 516; Chemistry 104; desirable: Zoology 401. Course fee $3.00.

546  COMPARATIVE INVERTEBRATE PHYSIOLOGY (3) II  (2 L-Lb)  van WEEL
Life processes with emphasis on marine invertebrates. Pre: Zoology 445; Physics 161. Course fee $8.00.
561 SCALE INSECTS (3) I (2 L-Lb) HARDY

571 IMMATURE INSECTS (3) II (2 L, 2 Lb) HABECK
Identification, structure, literature, and economic significance. Emphasis on the Holometabola. Course fee $5.00. (Alt. yrs.)

592 SEMINAR IN FISHERIES BIOLOGY (1) II TESTER
Investigations and literature pertaining to fisheries biology; stress on problems relating to pelagic fisheries of the Pacific.

601 ZOOLOGICAL LITERATURE (1) I STAFF
Survey of zoological literature with stress upon bibliographic tools. Required for advanced degrees in zoology or entomology.

602 PREPARATION OF SCIENTIFIC MANUSCRIPTS (1) II TUTHILL
Styles and methods of preparation for publication; proofreading and editing. Required for advanced degrees in zoology or entomology.

611 PRINCIPLES OF SYSTEMATIC ZOOLOGY (3) I GOSLINE
Taxonomic categories; processes of evolution in their development; taxonomic data; rules of nomenclature. (Alt. yrs.; not offered 1960–61.)

621 PHYSIOLOGICAL ECOLOGY (3) I (2 L-Lb) van WEEL
Physiological adaptations to environmental, physical, and biotic features. Pre: Zoology 445, 516; desirable: 401 or 520. Lab fee $8.00. (Alt. yrs.; not offered 1960–61.)

622 ISOTOPIC TRACERS IN BIOLOGY (3) I (2 L, 1 Lb) TOWNSLEY
Chemical and physical features of radioactive isotopes used in biological work. Methods of detection; application to biological systems. Course fee $10.00.

632 FISHERIES DYNAMICS AND MANAGEMENT (3) II TESTER

645 ADVANCED GENERAL PHYSIOLOGY (3) I (2 L-Lb) van WEEL

662 ADVANCED SYSTEMATIC ENTOMOLOGY (3) II (2 L-Lb) TUTHILL
Classification of special groups. Nomenclatorial problems; international code. Pre: Zoology 362. Lab fee $1.00. (Alt. yrs.; not offered 1960–61.)

671 INSECT ECOLOGY (3) I (2 L, 1 Lb) BESS
Insects as living units in an environment of physical and biotic factors. Pre: Zoology 362. (Alt. yrs.; not offered 1960–61.)

673 INSECT PATHOLOGY (3) II (2 L, 1 Lb) TAMASHIRO
Diseases of insects; histopathology; microbe agents and biological control. Pre: Zoology 161.

675 BIOLOGICAL CONTROL OF PESTS (3) I (2 L, 1 Lb) BESS

680 INSECT TOXICOLOGY (4) I (2 L, 2 Lb) SHERMAN
Principles of chemical control. Relationship of toxicology and physiology to use of insecticides. Pre: Zoology 372; Chemistry 141. (Alt. yrs.; offered 1960–61.)
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>686</td>
<td>INSECT-TRANSMITTED DISEASES OF PLANTS (3) II</td>
<td>Problems of insect transmission of plant diseases.</td>
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<tr>
<td>691</td>
<td>SEMINAR IN MARINE ZOOLOGY (1) I</td>
<td>Reports on research or reviews of literature. Graduate students in marine zoology are required to take this course, 592, or 692.</td>
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<tr>
<td>692</td>
<td>SEMINAR IN ADVANCED MARINE AND FISHERIES BIOLOGY (1) II</td>
<td>Literature of pelagic fishery problems; relation to oceanography and ecology. Open only to advanced students in marine and fisheries biology.</td>
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<tr>
<td>697</td>
<td>ENTOMOLOGY SEMINAR (1) I, II</td>
<td>Current entomological literature. Reviews and reports. Required of graduate students in entomology.</td>
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<tr>
<td>699</td>
<td>DIRECTED READING OR RESEARCH (Ar.) I, II</td>
<td>Directed research and reading in various fields of zoology.</td>
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## SUMMARY OF ENROLLMENT FOR 1959-60

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<th>Graduate School</th>
<th>1ST SEMESTER</th>
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<td>Advanced degree candidates</td>
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<td>Five-year diploma candidates</td>
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### College of Arts and Sciences

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<td>Juniors</td>
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<td>Sophomores</td>
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### College of Engineering

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<td>Juniors</td>
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<td>Sophomores</td>
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### College of Education

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<td>Juniors</td>
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### College of Agriculture

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<td>Seniors</td>
<td>39</td>
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<td>Juniors</td>
<td>33</td>
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<td>Sophomores</td>
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<td>Freshmen</td>
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### College of Business Administration

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<td>Juniors</td>
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<tr>
<td>Sophomores</td>
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<td>Freshmen</td>
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<td><strong>Total</strong></td>
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### College of Nursing

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<td>Juniors</td>
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<td>Sophomores</td>
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<td>Freshmen</td>
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### College of General Studies

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<td>Undergraduates in day credit courses</td>
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<tr>
<td>Auditors in day credit courses</td>
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<tr>
<td>Students in evening credit courses</td>
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### HILO CAMPUS

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<tr>
<td>Duplications</td>
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### Final Examination Schedule

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<td>11:10</td>
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<td>12:10</td>
<td>5</td>
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<td>1:10</td>
<td>6</td>
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<tr>
<td>2:10</td>
<td>7</td>
</tr>
<tr>
<td>3:10</td>
<td>8</td>
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<tr>
<td>4:10—Special arrangements</td>
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<td>TThS, or any day in this sequence</td>
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<th>SAT.</th>
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<tr>
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<td>2</td>
<td>(Examinations for some multiple-section courses as announced by instructor.)</td>
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<td>10:15</td>
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