UNIVERSITY OF HAWAI'I
QUARTERLY BULLETIN

VOLUME II. NUMBER 3

CATALOGUE
AND
ANNOUNCEMENT
OF COURSES
1923-1924

APRIL, 1923

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UNIVERSITY OF HAWAI'I
Honolulu

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EXAMINATION AND REGISTRATION DAYS

1923

Wednesday, September 5— Entrance Examinations.

9 A.M. English.
2 P.M. Elementary Algebra.

Thursday—

9 A.M. Plane Geometry.
2 P.M. Trigonometry and Solid Geometry.

Friday—

9 A.M. Advanced Algebra.

Saturday—

9 A.M. Psychological Examination.

Monday, September 10— Registration of previously enrolled students, 8—12 A.M.

Tuesday, September 11— Registration of new students, 8—12 A.M. To avoid confusion on registration days it is requested that students whose names begin with A to L present themselves between 8 and 10; those from M to Z between 10 and 12.

Wednesday, September 12— 8 A.M. Regular class work begins.
11:30 A.M. Address to new students by the President of the University.
<table>
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<tr>
<th>Date</th>
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<tr>
<td>May 18</td>
<td>First Annual Contest for Berndt Prize in Oratory</td>
<td>Friday</td>
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<tr>
<td>June 4</td>
<td>Twelfth Annual Commencement</td>
<td>Monday</td>
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<tr>
<td>September 1</td>
<td>Last day for receiving applications for admission</td>
<td>Saturday</td>
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<tr>
<td>September 5-8</td>
<td>Entrance Examinations</td>
<td>Wednesday</td>
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<tr>
<td>September 12</td>
<td>Instruction begins.</td>
<td>Wednesday</td>
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<tr>
<td>October 1</td>
<td>Last day for receiving applications from candidates for advanced degrees.</td>
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<tr>
<td>November 11</td>
<td>Armistice Day.</td>
<td>Sunday</td>
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<td>Nov. 29-Dec. 11</td>
<td>Thanksgiving Recess.</td>
<td>Celebrate Mon. Thurs.-Sat.</td>
</tr>
<tr>
<td>December 24</td>
<td>Christmas Recess begins.</td>
<td>Monday</td>
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**1924**

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<th>Date</th>
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<tr>
<td>January 7</td>
<td>Work resumed.</td>
<td>Monday</td>
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<tr>
<td>January 21-26</td>
<td>Mid-year Examinations.</td>
<td>Mon.-Sat.</td>
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<tr>
<td>January 28</td>
<td>Registration, Second Semester.</td>
<td>Monday</td>
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<tr>
<td>February 22</td>
<td>Washington's Birthday.</td>
<td>Friday</td>
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<tr>
<td>April 15</td>
<td>Last day for receiving requests for examinations for advanced degrees.</td>
<td>Monday</td>
</tr>
<tr>
<td>April 18-19</td>
<td>Good Friday Recess.</td>
<td>Fri.-Sat.</td>
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<tr>
<td>May 26-31</td>
<td>Final Examinations.</td>
<td>Mon.-Sat.</td>
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<tr>
<td>June 2</td>
<td>Thirteenth Annual Commencement.</td>
<td>Monday</td>
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<tr>
<td>September 2</td>
<td>Last day for receiving applications for admission.</td>
<td>Tuesday</td>
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<tr>
<td>September 3-6</td>
<td>Entrance Examinations.</td>
<td>Wed.-Sat.</td>
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<tr>
<td>September 8-9</td>
<td>Registration, Seventeenth Annual Session.</td>
<td>Mon.-Tues.</td>
</tr>
</tbody>
</table>
The Board of Regents

Date of Appointment and Present Term
Reappointment Expires.

Arthur G. Smith............. Aug. 16, 1918         Apr. 30, 1923
Mary Dillingham Frear ....Oct. 19, 1920           Apr. 30, 1924
Rev. Akaiko Akana .......... May 6, 1921            Apr. 30, 1925
C. R. Hemenway ............. Oct. 6, 1910          Apr. 30, 1926
                                      Apr. 30, 1921
Dr. Charles B. Cooper ........... Oct. 27, 1922     Apr. 30, 1927

Ex Officio
A. L. C. Atkinson, President of the Board of Agriculture and Forestry.
Arthur L. Dean, President of the University.

OFFICERS OF THE BOARD
Chairman: C. R. Hemenway
Secretary: A. L. Dean
THE FACULTY

ARTHUR L. DEAN, A.B., (Harvard '00), Ph.D. (Yale '02).
President of the University.
2225 Hyde Street. 69306

ARTHUR R. KELLER, C.E. (Cornell '03), LL.B.
Dean of the College of Applied Science, and Professor of Civil Engineering.
2456 Oahu Avenue. 69352

*ARTHUR L. ANDREWS, B.L. (Cornell '93), M.L. (Cornell '95), Ph.D. (Cornell '02).
Dean of the College of Arts and Sciences, and Professor of English.
2346 Liloa Rise. 5625

JOHN S. DONAGHHO, A.B. (Marietta '89), A.M. (Marietta '97).
Professor of Mathematics and Astronomy.
961 Alewa Drive. 89119

JOHN M. YOUNG, B.S. (Univ. Florida '98), M.E. (Cornell '02), M.M.E. (Cornell '04).
Professor of Engineering.
945 Alewa Drive. 8792

FRANK T. DILLINGHAM, B.S. (Worcester Polytechnic Institute '01), M.A. (Yale '16).
Professor of Chemistry.
2562 Jones St.

*Minnie E. Chipman (Woman's Art School, N.Y.)
Professor of Ceramics and Design.
2347 Vancouver Highway. 69257

ARNOLD ROMBERG, A.B. (Univ. of Texas, '10); Ph.D. (Harvard, '15).
Professor of Physics.
2136 Kamehameha Ave. 69242

The Faculty

*LOUIS A. HENKE, B.S. (Univ. of Wisconsin '12).
  Professor of Agriculture.
  The Granville.

DAVID L. CRAWFORD, B.A. (Pomona '11), M.A.
  (Stanford '12), (Cornell '13).
  Director of Extension Service and Professor
  of Entomology.
  2524 Manoa Road.

RICHARD WRENSHALL, Ph.B. (Yale '11), Ph.D.
  (Yale '15).
  Professor of Chemistry.
  313 Saratoga Rd.

IRVING O. PECKER, A.B. (Boston Univ. '12), Al-
  liance Francaise, Sorbonne, Paris.
  Professor of Romance Languages.
  Moana Hotel.

**HERBERT F. BERGMAN, B.S. (Kansas Agric. Col.
  '05), M.S. (Univ. of Minn. '15), Ph.D.
  (Univ. of Minn. '18).
  Professor of Botany.

ROMANZO ADAMS, A.B. (Univ. of Mich. '97),
  A.M. (Univ. of Mich. '98), Ph.D. (Univ.
  of Chicago, '04).
  Professor of Economics and Sociology.
  2315 Liloa Rise.

CHARLES H. EDMONDSON, Ph.B. (Univ. of
  Iowa '03), M.S. (Univ. of Iowa '04),
  Ph.D. (Univ. of Iowa '06).
  Professor of Zoology and Director of the Marine
  Biological Laboratory.
  2019 Vancouver Highway.

CARL B. ANDREWS, B.S. (Rose Polytechnic Inst.
  '08), M.S. (Rose Polytechnic Inst. '09),
  C.E. (Rose Polytechnic Inst. '17).
  Professor of Engineering.
  743 Wyllie St.

TASUKU HARADA, B.D. (Yale '91), D.D. (Am-
  herst '10), LL.D. (Edinburgh '10).
  Professor of Japanese Language and History.
  1030 13th Ave.

* On leave of absence, Second Semester, '22-'23.
** Exchanging with James B. Pollock (Sc.D., Univ. of Michigan, '97)
The Faculty

KARL C. LEEBRICK, B.S. (Univ. of California '11), M.S. (Univ. of California '13), Ph.D. (Univ. of California '17).
Professor of History and Political Science.
1520 Wilder Ave.

FREDERICK G. KRAUSS,
Professor of Agronomy.
2447 Parker St.

LIEUT. COL. ADNA G. CLARKE, Retired.
LLB., A.B. (Kansas Univ. '00); Graduate Artillery School, '06; Distinguished Graduate School of the Line '13; Graduate Army Staff College '14.
Professor of Military Science and Tactics.
2125 Armstrong St.

S. D. PORTEUS (Lecturer Experimental Education, Univ. of Melbourne, '16; Research Scholar Anatomy Department, Univ. of Melbourne, '18; Director, Research Laboratory, Vineland, N. J., '20-'22).
Director Psychological Clinic and Professor of Clinical Psychology.
2380 Beckwith St.

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Professor of Chinese Language and History.
1128 Pawaa Lane.

PERCIVAL M. SYMONDS, A.B. (Harvard, '15); A.M. (Columbia University, '20); Ph.D. (Columbia University, '23).
Professor of Education and Psychology.
1815 College St.

ANNA von BALZER DAHL (formerly head of Vienna School of Costume Designing, San Francisco).
Assistant Professor of Textiles and Design.
1804 College St.

HAROLD S. PALMER, B.A. (Yale, '12).
Assistant Professor of Geology.
Makiki Court.
The Faculty

CHARLES H. NEIL, A.B. (Univ. of So. Carolina, '03).
Assistant Professor of English.
Men’s Dormitory. 69268

CAPT. E. A. RUDELIUS,
Assistant Professor of Military Science and Tactics. (7559)
Honolulu Military Academy. (7333)

CAREY D. MILLER, A.B. (Univ. of California, 1917); M.S. (Columbia University, '22).
Assistant Professor of Household Science.
26 Haleleina Park. 5475

INSTRUCTORS AND ASSISTANTS

G. H. W. BARNHART, B.S. (Univ. of Hawaii, '14).
Special Instructor in Sugar Mill Engineering.
2629 Doris Place. 6606

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1112 E. Fifteenth Avenue. 7158

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Librarian.
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2361 Liloa Rise. 68219

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2425 Manoa Ave. 2906
The Faculty

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251 Saratoga Road. 79286

OTTO KLUM,
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2122 Hunnewell St. 69294

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Pierpoint Hotel. 5708

RALPH S. KUYKENDALL, A.B. (College of the Pacific, '10), M.A. (Univ. of California, '18).
Instructor in History.
2400 Liliha St. 69501

W. R. McALLEP,
Lecturer, Sugar Manufacturing.
H. S. P. A. Experiment Station. 1287

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2189 Kalia Road. 79926

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Halekulani Hotel. 6184

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7 Haulani Court, Waikiki. 79960

Instructor in Commerce.
1536 Dominis St. 3042

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Instructor in Chemistry.
7 Haulani Court, Waikiki. 79960

MILDRED M. YODER, Ph.B. (Oberlin, '94).
Instructor in History.
2396 Liloa Rise. 6548
STANDING COMMITTEES OF THE FACULTY.
1923-1924.

ENTRANCE AND ADVANCED STANDING:
Professors Keller, Dean and Symonds.

GRADUATE WORK:
Professors Adams, Edmondson and Dillingham.

PHYSICAL EDUCATION AND MILITARY DRILL:
Colonel Clarke and Professors Keller and Wrenshall.

PUBLICITY AND PUBLICATIONS:
Professors Crawford, Donaghho and Leebrick.

RESEARCH:
Professors Edmondson, Krauss and Romberg.

---

THE PSYCHOLOGICAL CLINIC

S. D. PORTEUS, Director.
Professor of Clinical Psychology.

MARGARET L. CATTON (New York School of Social Work, 1919).
Assistant Psychologist.
2236 Vancouver Highway.

---

THE WAIAKEA EXPERIMENT STATION

ROBERT PAHAU, B.S. (Univ. of Hawaii, '18).
Superintendent.
P.O. Box 641, Hilo, T. H.
OTHER OFFICERS OF ADMINISTRATION

MARVILLEE K. BUCHANAN,
Office Assistant.
1312 Artesian St. 5170

ALLAN B. BUSH,
Superintendent of Grounds.
Metcalf St. 2662

FLORENCE DENISON, A.B. (Smith College, '22).
Assistant in Library.
1502 Wilder Ave. 2662

EVELYN MAUD DRUMMOND,
Matron, Girls' Dormitory.

ELSIE A. GAY,
Bookkeeper.
1611 Keeaumoku St. 3037

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Superintendent of Dining Hall.
3134 Hobron Ave. 7809

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Foreman of Poultry and Agronomy Department.
2447 Parker St. 2648

HELEN BOSSON MACNEIL, A.B. (Boston Univ., '12).
Secretary to the President.
1058-A Lunalilo St. 68150

FREDERICK A. POTTER,
Superintendent, Aquarium.
2627 Kalakaua Ave. 7016

NOAH PEKELO,
Superintendent, University Farm.
University Farm, Manoa Valley. 6182

ETTA RADKE, A.B. (University of Wisconsin, '16).
Office Assistant.
6 Hustace Court. 4821

RENA SOUZA,
Clerk in Book Store.
1371 Lusitania St. 2175
THE UNIVERSITY OF HAWAII

HISTORY.

By act of its 1907 Legislature the Territory of Hawaii created an institution of higher education under the name of The College of Agriculture and Mechanic Arts of the Territory of Hawaii. This name was changed by a subsequent Legislature to The College of Hawaii. As its original name indicated, this College was a Land Grant College benefiting financially by the Second Morrill Act of 1890 and the Nelson Amendment of 1907. Being a Territory, Hawaii had no grant of lands under the original Morrill Act of 1862. The College received from the Federal Government fifty thousand dollars annually, applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction.

In its first years the College was housed in temporary buildings on the grounds of the McKinley High School, where the first classes were organized in the spring of 1908. Beginning with the fall of 1912 the College occupied the new permanent building in Manoa Valley, where some ninety acres had been set aside by the Territory for use of the College.

The first baccalaureate degrees were awarded in 1912, the first advanced degree, Master of Science, in 1914, and the first honorary degrees in 1919.

The programs of study were largely scientific and adapted to fit young men and women for practical work in applied science. With this College firmly established it was deemed wise to lay the foundations for a wider range of collegiate work in Hawaii by establishing a University whose charter should be sufficiently inclusive to provide for all future needs. The 1919 Legislature of the Territory of Hawaii therefore granted the following charter:

ACT 203.

AN ACT TO ESTABLISH A UNIVERSITY OF HAWAII.

Be it Enacted by the Legislature of the Territory of Hawaii:

SECTION 1. There is hereby established a university of Hawaii which shall consist of the college of agriculture or mechanic arts heretofore known and designated as the College of Hawaii,
hereafter to be designated as the college of applied science, a
college of arts and sciences and such other departments as may
from time to time be established.

SECTION 2. The affairs of the University of Hawaii shall be
under the general management and control of a board of regents
consisting of seven members of which the president of the univer-
sity, who shall act as secretary of the board, and the president
of the board of agriculture and forestry shall be members ex-
officio, and the other five members shall be appointed by the gov-
ernor of the Territory of Hawaii as by law provided. The regents
shall be residents of the Territory of Hawaii, and the appointed
members shall be appointed for terms of five years or the unex-
pired periods thereof in such manner that the term of one re-
gent shall expire at the close of the 30th day of April each year.
Such terms shall begin on the first day of May in each year,
and the terms of the regents of the College of Hawaii as of June
30, 1919, in the order of their appointments, shall continue as
terms of appointments as regents of the University of Hawaii,
to expire immediately preceding the first day of May in each
of the five years beginning with 1921.

SECTION 3. The board of regents shall have general manage-
ment and control of the affairs of the university. It shall have
the power to appoint a treasurer and such other officers as it
deems necessary, and to require them to give bonds in such
amounts as it may prescribe and in the form prescribed by law
for bonds of public officers. It shall have power to purchase or
otherwise acquire lands, buildings, appliances and other property
for the purposes of the university and expend such sums of money
as may be from time to time placed at the disposal of the univer-
sity from whatever source. All lands, buildings, appliances and
other property so purchased or acquired shall be and remain the
property of the Territory of Hawaii to be used in perpetuity for
the benefit of the university.

The official name of the board of regents shall be board of
regents, University of Hawaii, and the board shall adopt and use
a common seal by which all official acts shall be authenticated.

SECTION 4. The grants of moneys and the purposes of said
grants authorized by the Act of Congress approved August 30,
1890, known as the Second Morrill Act, providing for the endow-
ment and maintenance of colleges for the benefit of agriculture
and mechanic arts, and by the Acts of Congress approved March
2, 1887, and March 16, 1906, providing for agricultural experi-
ment stations in connection with colleges of agriculture and me-
chanic arts, and by any other Act or Acts of Congress for simi-
lar purposes, heretofore assented to in behalf of the College of Hawaii, are hereby reassented to in behalf of the college of applied science as an integral part of the University of Hawaii.

Section 5. The purposes of the university are to give thorough instruction and conduct researches in, and disseminate knowledge of, agriculture, mechanic arts, mathematical, physical, natural, economic, political and social sciences, languages, literature, history, philosophy and, such other branches of advanced learning as the board of regents may from time to time prescribe, and to give such military instruction as the board of regents may prescribe and the federal government require. The standard of instruction shall be equal to that given and required in similar universities on the mainland of the United States, and upon the successful completion of the prescribed courses the board of regents is authorized to confer a corresponding degree upon all students who shall become entitled thereto.

Section 6. No person shall, because of sex, color or nationality, be deprived of the privileges of this institution.

Section 7. The faculties of the university shall be under the direction of a president who shall be appointed by the board of regents of which he becomes ex-officio a member. The board of regents shall appoint such deans, directors, other members of the faculties, and employees as may be required to carry out the purposes of the institution, prescribe their salaries and terms of service, where such salaries and terms of service are not specifically fixed by legislative enactment, make and enforce rules governing sabbatical leaves, with or without pay, consistent with the practice of similar institutions on the mainland, and notwithstanding the laws of the Territory of Hawaii relating to vacations of the officers and employees of the territory.

Section 8. The board of regents shall have the authority to sue in its official name and shall be subject to be sued only in the manner provided for suits against the Territory of Hawaii.

Section 9. Moneys appropriated by the legislature for the University of Hawaii shall be payable by the territorial treasurer, upon warrants issued by the territorial auditor, upon vouchers approved by the board of regents. All moneys received by or in behalf of the board of regents of the university, other than those received from the United States government or other governments, shall be paid into the territorial treasury, and all such moneys are hereby appropriated for the use of the university. The board of regents shall cause to be kept suitable books of accounts, and shall annually submit to the governor, to be by him
submitted to the legislature, a statement showing its receipts from all sources, and expenditures for all purposes.

Section 10. All obligations, rights, privileges, and property whatsoever belonging or appertaining to the board of regents of the College of Hawaii or the College of Hawaii are hereby transferred to the board of regents of the University of Hawaii and the University of Hawaii.

Section 11. Chapter 28, sections 330 to 336, inclusive, of the Revised Laws of Hawaii, 1915, are hereby repealed.

Section 12. This act shall take effect on July 1, 1920.

Approved this 30th day of April, A. D. 1919.

C. J. McCarthy,
Governor of the Territory of Hawaii.

Organization.

Pursuant to this act of the Legislature The University of Hawaii was organized on July 1, 1920, with two colleges. With some changes the programs of study of the College of Hawaii were continued in the College of Applied Science, and a College of Arts and Sciences was organized with programs of study leading to the Bachelor of Arts degree. The control passed to the Board of Regents of the University of Hawaii consisting of the Board of Regents of the College as of June 30, 1920, with the addition of two ex officio members, the President of the Board of Agriculture and Forestry and the President of the University.

Location, Grounds and Buildings.

The University, advantageously situated in Manoa Valley, one of the most attractive of Honolulu's residential districts, is about two and one-half miles from the business center, and but a short walk from the Manoa Valley car-line.

Of the ninety acres which comprise the University grounds, about thirty acres are used for campus purposes and sixty for the farm. Of the latter some twenty-two are planted to crops and several large fields are used for pasturage. At the rear of the grounds flows the Manoa Stream, which furnishes adequate water for irrigation and experimental studies in irrigation, and may be made to provide for work in hydraulics.

The J. P. Cooke athletic field provides facilities for football, baseball, and track athletics. An asphalt tennis court has also been provided. Through the enterprise of the students in the
Purposes and Standards

Fall of 1920 a fund was raised for the construction of a swimming pool. A 25-yard pool, and locker buildings for men and women are available for students of the University.

Hawaii Hall, the first of the University buildings, is of reinforced concrete, three stories in height, and contains some sixty lecture rooms, class rooms, offices and laboratories. In this building are the administrative offices, the library, and the class rooms and laboratories of some of the departments. Gartley Hall, the new fireproof building for chemistry, physics, and sugar technology, contains the laboratories, classrooms, and offices for those departments. A smaller concrete building houses the laboratory for experimental engineering. A dormitory for men with rooms for twenty-six students and a proctor, a cottage for girls, and a dining hall have been recently erected.

The Legislature of 1919 placed the Honolulu Aquarium under the care of the College of Hawaii. The Charles M. Cooke Estate provided funds for the erection of a laboratory for marine zoology in connection with the Aquarium. Laboratory classes in zoology are held in this seaside building, which is also equipped for research in marine biology.

In addition to the buildings mentioned, there are several small structures on the campus, an insectary, a lath house and a building for experimental plant studies. On the farm are three buildings for dairy purposes, a piggery, poultry houses, horse stable, tool shed, and four laborers' cottages. At Kaimuki there is an astronomical observatory. A more detailed account of the equipment of the buildings and laboratories is given under the head of Courses of Instruction.

By arrangement between the University and the Bishop Museum it is provided that there shall be reciprocity in the use of libraries, laboratories, collections and other facilities of research. Graduate students registered in the University of Hawaii will be allowed to carry on investigations under the guidance of members of the museum staff, and work done in this way may be credited toward advanced degrees by the University. Advanced students will be allowed the use of the museum facilities when working under proper direction, subject to such regulations as may be deemed expedient by the Director of the Museum.

PURPOSES AND STANDARDS.

As required by Section 5 of the act of establishment the University is devoted both to instruction and research in the various fields of knowledge and is committed to the maintenance of the recognized standards of American universities.
That these standards may be maintained the requirements for admission of regular students to the University are set as high as those of similar institutions on the mainland. Special students must meet the same requirements except that those of mature age who have not the required preparatory school education may be accepted for limited work upon presenting satisfactory evidence of such previous training as manifestly fits them to pursue the desired courses.

No student with entrance conditions can be registered as a Sophomore, none with Freshman conditions as a Junior, and none with Sophomore conditions as a Senior.

A student desiring to take only a part of his course in the University of Hawaii may expect to receive credit at the institution to which he transfers for satisfactory work done here.

**Library.**

The Library now contains about 33,000 volumes. In addition there are on the shelves about 62,000 pamphlets, many of them Bulletins of Agricultural Experiment Stations and of the various departments of the Federal Government. The Library is by law constituted a depository for all Government publications.

Reading rooms are maintained, wherein may be found local and mainland daily papers, the leading literary magazines and reviews, and a great number of technical and scientific periodicals.

Both the Library and the Reading Rooms are open to the public; and persons complying with the Library regulations may draw out books for home use.

**The Psychological and Psychopathic Clinic.**

Act 140 of the Legislative Session of 1921 provided for the establishment of a psychological and psychopathic clinic under the management and control of the board of regents of the University. The purposes of the clinic are to make examinations of persons at the request of the courts, industrial schools, board of health, department of public instruction and other public institutions and organizations, and, under proper regulation, at the request of private institutions and organizations, parents or guardians. In addition the clinic conducts investigations and gives lectures and other forms of instruction pertaining to mental disease and defect.
THE WAIKEA EXPERIMENT STATION.

Under the provisions of Act 191 of the 1921 session of the legislature, an experiment station has been established at Waiakea, Hawaii. A tract of over 90 acres was reserved for the purposes of an experiment station in the laying out of the home-steads at Waiakea. The greater part of the area is now in cane experiments. Diversified crops and farm animals will also form an important part of the work of the station.

SEMESTERS AND CREDITS.

The year's work is divided into two semesters of eighteen weeks each. Recognition of work done is given in terms of credits, a credit generally being the equivalent of three hours per week spent in the preparation and recitation of a lesson, or in the field or laboratory. The exact division of this time, however, is generally left to the professor in charge.

GRADE POINTS.

Beginning with the class entering in September, 1922, a record is kept of grade points, as well as of grades and semester hours.

Grade points will be determined as follows: For each semester hour 3 grade points will be granted when the grade is 90 or above; 2 grade points when the grade is 80-89; 1 grade point when the grade is 70-79. Grades of 60-69 will carry credit for semester hours, but not for grade points. By passing 3 semester hours with a grade of 90 or above, a student will gain 9 grade points; with a grade of 80-89, 6 grade points; with a grade of 70-79, 3 grade points.

Grade points will be computed in all courses in which grades are reported, including Military Training and Physical Education.

A student shall not be entitled to grade points for grades received upon re-examination after being conditioned in any subject.

Students entering as undergraduates with advanced standing will not be given grade points upon work done elsewhere; but on work done here must gain grade points in the same proportion to credit hours required for graduation as is demanded of other students.

To graduate from the University of Hawaii, the student must have gained a minimum of 136 grade points, of which at least 69 must be gained in the last half of the course.
Tuition and Fees

Tuition and Fees.

Tuition in the University is free to residents of the Territory. The term “resident” is defined as follows:

1. Any person who has resided continuously in the Territory of Hawaii for at least one year prior to the registration day of any semester, except that persons, other than those described in paragraphs 2 and 3 below, who come to Hawaii for the purpose of attending the University, may not acquire residence while they are in attendance at the University, unless they become voting citizens of the Territory of Hawaii.

2. Any person, one or both of whose parents is a citizen of the Territory of Hawaii.

3. Any person who is in the military or naval service of the United States, or whose father is in such service.

To others than residents of the Territory the tuition is $25.00 per semester for regular students, or $2.00 per credit per semester for part-time students. A registration fee of $5.00 per semester is charged for all regular students and special students registering for 10 or more credits; others are charged at the rate of 50 cents per credit. The use of the swimming tank is free to all students, and those registering for ten or more credits may have locker space assigned to them without charge. Persons registering as candidates for advanced degrees are charged a matriculation fee of $5.00. A charge of $5.00 per semester to cover cost of materials is required of those taking Courses 1, 2, 3, and 4 in Household Science, and Art and Design 8, 9, 10 and 12; laboratory fees of $2.00 per semester per credit of laboratory work are charged in the courses in inorganic chemistry and sugar analysis, $3.00 in organic chemistry, and $1.00 in physics, engineering, laboratory, the biological sciences, and soils. Apparatus lost or destroyed is charged at market prices.

A Late Registration Fee of $1.00 is required of all students who register later than the announced registration days, and a Reinstatement Fee of $5.00 will be charged on registration of any student who shall have withdrawn without securing either an honorable dismissal or a leave of absence.

Classification of Students.

The University of Hawaii recognizes four classes of students:

1. Regular undergraduate students in either of the Colleges.
2. Special students in either of the Colleges.
3. Graduate students.
4. Extension students.

Regular students are those who having met the requirements for admission are pursuing a course of study leading to a bache-
lor's degree in conformity with the regulations of either of the Colleges.

Special students are those who are working for credits, but not following one of the programs of work leading to a degree.

Graduate students are those who have received a degree from one of the Colleges of this University or some other institution of equal standing and are taking courses for which graduate credit is allowed.

Extension students are those who are enrolled in extension classes.

**Requirements for Admission**

The requirements for admission in the two Colleges are uniform.

**Admission of Regular Students.**

1. Time of application for admission:

   Applications for admission must be filed not later than September 1. Later applications will not be considered unless it can be shown to the satisfaction of the Entrance Committee that delay was unavoidable.

2. Applicants will be given matriculation permits:

   (a) On the presentation of a school record showing that the candidate has completed 15 units of high school work in approved subjects with an average grade of 80% or better. These 15 units must include 3 units in English in which the average grade is at least 80%, and to be admitted to an engineering course the candidate must present 3 1-2 units of mathematics with an average grade of 80% or over.

   (b) On the presentation of a school record showing that the candidate has passed in 15 units of high school work in approved subjects, and the passing of a comprehensive examination designed to test the candidate's intelligence.

   A statement issued by the College Entrance Examination Board, or by an officer of the University of Hawaii certifying that a candidate has passed an examination in any subject will be accepted as an equivalent to an 80% grade given by a preparatory school in the same subject.

   A unit signifies the satisfactory completion of a course of study pursued for a full school year, with five recitations of not less than 45 minutes a week, or the equivalent laboratory or shop exercises.

3. Students may be admitted without examination by transfer from another college or university. Students thus transferring must present an official statement of the studies offered for admission, of the studies pursued in college and the grade received in each, and also a certificate of honorable dismissal.
Persons of some maturity who have had experience that mani­festly prepares them for college work may be given credit for such work. Just what forms of work will be given credit and just how many credits will be granted cannot be stated in ad­vance; but each case will be passed upon individually.

The University of Hawaii desires to make its requirements for admission as flexible as possible without lowering its stand­ards. It does not wish to debar properly qualified students by setting up arbitrary requirements, nor does it wish to dictate to the secondary schools what shall be the precise nature of their courses. The only end which is kept in view is that the enter­ing students shall be prepared to take up their more advanced courses successfully. Schools that certify pupils unqualified to do college work will not be regarded as accredited schools, and their certifications will not be accepted.

In general, the University does not stipulate what studies shall be offered in satisfying entrance requirements. To this gen­eral principle there are, however, two important exceptions.

**No candidate will be admitted to regular standing in any course who does not offer the following:** 3 units in English; 2 units in Mathematics.

Candidates desiring to study mathematics in the University must offer at least $2\frac{1}{2}$ units in mathematics, and those desiring to enter the course in Engineering must offer $3\frac{1}{2}$ units in mathematics.

In this connection, attention is called to the rule that no per­son will be admitted as a special student who is under the age of 21 years, unless that person shall fully satisfy the entrance re­quirements for regular standing. It will be seen that no person under the age of 21 will be admitted either as a regular or as a special student who does not offer at least 3 units in English and 2 units in mathematics.

Candidates expecting to study engineering are strongly urged to begin the study of both physics and mechanical drawing while in preparatory school. Candidates offering mechanical drawing as an entrance unit will be required to submit the plates drawn by them in the preparatory school. They will be placed in a special section in the class in mechanical drawing, and permitted to begin at once on the more advanced work.

Candidates offering freehand drawing and perspective must submit drawings made in the preparatory school.

Students wishing to enter an advanced course in one of the modern languages must offer at least 2 units in that language. Students offering 2 or more units in a modern language will not be permitted to register in the elementary course in that language.

Students entering the College of Arts and Sciences should
Admission of Special Students

note the regulation (p. 43) stating that at the end of the Sophomore year each student in that College must give satisfactory evidence of possessing an adequate knowledge of at least one foreign language. Students who fail to meet this requirement will not be allowed credit toward graduation for a language course taken during the Junior or Senior years to make up this deficiency.

The maximum number of entrance units in commercial subjects that will be accepted is 5. Of these not more than 2 may be in bookkeeping, and not more than 1 in either stenography or typewriting.

Not more than 2 credits in music may be accepted, under conditions similar to those governing credits in music leading to degrees. See page 52.

For the guidance of those who wish to enter by presenting 15 units, a list of the subjects regularly accepted is given:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Physiology</td>
</tr>
<tr>
<td>Latin</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>Greek</td>
<td>United States History</td>
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<td>French</td>
<td>English History</td>
</tr>
<tr>
<td>German</td>
<td>Ancient History</td>
</tr>
<tr>
<td>Spanish</td>
<td>General History</td>
</tr>
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<td>Oriental Languages and Literature</td>
<td>Civil Government</td>
</tr>
<tr>
<td>Algebra</td>
<td>Commercial Law</td>
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<td>Plane Geometry</td>
<td>Bookkeeping</td>
</tr>
<tr>
<td>Solid Geometry</td>
<td>Stenography</td>
</tr>
<tr>
<td>Plane Trigonometry</td>
<td>Drawing and Perspective</td>
</tr>
<tr>
<td>Physics</td>
<td>Mechanical Drawing</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Household Science</td>
</tr>
<tr>
<td>Botany</td>
<td>Manual Training</td>
</tr>
<tr>
<td>Zoology</td>
<td>Music</td>
</tr>
</tbody>
</table>

In all courses the work of the Freshman year has been planned so as to permit of an easy transition from school to college. The only prescribed studies that demand prerequisites are mathematics and English.

Admission of Special Students.

Candidates will be admitted as special students either (a) by fully satisfying the requirements for admission as a regular student, or (b) by filing with the Committee on Entrance satisfactory evidence of having attained the age of 21 years and of having sufficient training to carry on the work desired.

No person, however, shall be admitted as a special student before his class in a secondary school has been graduated, except by special permission of the University Faculty.
ADMISSION OF GRADUATE STUDENTS.

The requirements for admission as a graduate student are stated in conjunction with the requirements for receiving an advanced degree (see page 24).

PHYSICAL EDUCATION AND MILITARY DRILL.

All regular students and all special students who are registered for eight or more hours of work are required to take a certain amount of physical education, unless excused from this requirement because of physical disability or other valid reason. Such students may be given special forms of exercise.

For the men the physical education may be in the form of military drill and tactics or various athletic games, or both. For the women it is in the form of outdoor games (basketball, volleyball, etc.) and exercises directed by a coach or supervisor.

A handsome silver cup has been donated by the Faculty Women's Club as a trophy for women's sports.

Special attention is given to intramural athletics, and competitions between class teams in various sports form a distinctive feature of student activities. The Faculty has provided a silver cup as a trophy for the men's intramural sports.

SENIOR R. O. T. C.

A Senior Reserve Officers' Training Corps unit has been organized in the University of Hawaii by the War Department. All male freshmen and sophomores of American citizenship in regular standing in the University and physically able are required to enroll.

DORMITORIES.

The dormitory for men accommodates twenty-six students and a proctor. There are four suites consisting of two bedrooms and a study, each accommodating four men, ten single rooms, a general living room, and lanais. Bookshelves and dressers are built in, and beds are provided. Other furniture will be supplied by the occupants. Each student must bring a pillow, four single bed sheets, two pillow cases, blankets, and counterpane marked with his name and room number. The bed linen will be deposited with the caretaker. The room rent includes the laundry of the bed linen and the care of the room. A rental of $36.00 per semester is charged.

The dormitory for women accommodates twelve girls and a matron. There are eight single and two double rooms, all connected with bathrooms provided with hot and cold water. The arrangements as to furniture, bedding and rates are the same as
in the men's dormitory, but the women are required to take part care of their rooms.

**Dining Hall and Cafeteria.**

A dining and cafeteria service is conducted by the University. All meals at noon are on the cafeteria plan; the service at breakfast and dinner is table d'hote. The monthly rate for breakfast and dinner varies somewhat from year to year but approximates $25.00.

**The University Y. M. C. A.**

The University Y. M. C. A. is an association of Christian students and faculty men who have organized in order to develop Christian character among the students and afford opportunity for expression of the spirit of brotherhood through the various student activities.

Fitting in naturally with the academic, social and athletic phases of the University, the Association definitely promotes the moral and spiritual aspect of student life, on and off the campus. Through the University of Hawaii Y.M.C.A. the students are affiliated with the North American Student Movement and the World Christian Student Federation with a membership of over 200,000.

**Berndt Prize in Oratory.**

A prize of $100.00 annually is offered by Mr. Emil A. Berndt, of Honolulu, for a contest in Oratory. This contest is open to all undergraduates, and in certain cases to special students who are registered for twelve or more semester hours.

**Degrees**

**Baccalaureate Degrees.**

On satisfactory completion of a regular course in the College of Applied Science a student is granted the degree of Bachelor of Science (B.S.), the diploma designating the course which has been pursued. The degree of Bachelor of Arts (B.A.) is granted upon the satisfactory completion of a regular course in the College of Arts and Sciences.

**Advanced Degrees.**

Special attention is directed to the unusual advantages of Hawaii for research in botany, entomology, marine zoology, and certain phases of geology. The great variations of elevation, rainfall, and temperature to be found within short distances provide remarkable conditions for ecological studies. The presence of active and extinct volcanoes, lava flows of all ages, and unique conditions of erosion provide numerous interesting geological
problems. The character of the population and the geographical situation of the Hawaiian Islands make this a field of exceptional interest for work in the social and economic sciences.

Advanced students from other institutions and investigators desiring to study special problems, are invited to make use of the facilities of the University of Hawaii for study and research.

The advanced degree of Master of Science (M.S.) and Master of Arts (M.A.) will be granted to Bachelors on the satisfactory completion of advanced work for which their previous education has laid the necessary foundation. They must work under the direction of a special committee for at least a year at the University, or for at least two years not in residence. In addition the student must present an acceptable thesis and pass the required examinations.

The degree of Civil Engineer (C.E.) will be granted to Bachelors of Science who shall have completed the corresponding undergraduate course at this institution, upon the completion of two years of practical experience in their chosen profession, the presentation of a satisfactory paper upon some topic of interest connected with their work, the completion of assigned problems, and the passing of the required examinations.

To be accepted as a candidate for an advanced degree, the applicant must be a graduate of the University of Hawaii or of some other institution of equal standing. The application should be made in writing to the Committee on Graduate work not later than October 1st and should be accompanied by satisfactory evidence of the completion of undergraduate work and of fitness to pursue the studies the applicant purposes to follow. In case the amount of undergraduate work is deemed insufficient, the applicant, if accepted, may be required to take other undergraduate courses, which will not be credited toward the advanced degree.

A matriculation fee of five dollars is required of all candidates for advanced degrees.

The advanced work may be restricted to one subject only, or to a major and a minor, or to a major and two minors; but at least one-half of the work must be in the major, and the minors must be so correlated with the major as to satisfy the Committee on Graduate Work that the candidate is working with a definite purpose. It is expected that the work done for the master's degree will require at least 1620 actual working hours.

Certain undergraduate courses may be taken by graduate students for credit towards an advanced degree. Some count full credit, while others only half credit. Courses not in the following two lists count no credit for advanced degrees:
### Full Credit

- Agriculture 10.
- Art and Design 4, 7.
- Engineering, C.E. 2, 3, 6, 7, 12, 16.
- Household Science 3, 4, 8.
- English 30.
- French 5, 6, 7, 8, 9, 10.
- Spanish 5, 6, 7, 8.
- Hawaiian 3.
- Chinese 5, 6, 7, 8.
- Botany 8, 17.
- Chemistry 15, 16, 18.
- Entomology 16.
- Physics 4.
- Mathematics 9, 10.
- Zoology 10.
- Sugar Technology 2, 3, 4, 5.
- History 8, 9, 20.
- Education 4, 6.
- Psychology 4, 5, 8, 9, 10, 11.

### Half Credit

- English 4, 7, 9, 20.
- Japanese 4, 5.
- Chinese 1, 2, 3, 4.
- Economics 7, 8, 9, 12.
- Sociology 1, 2.
- Political Science 2, 11.
- History 3, 10, 15, 19, 21.
- Engineering—C.E., 1.
- Chemistry 5, 6, 9, 9a, 10, 11, 12, 13, 14.
- Entomology 4, 5, 6, 7.
- Mathematics 5, 6, 7, 8.
- Physics 3.
- Geology 4, 5.
- Commerce 5, 6, 9, 10.
- Agriculture 15.
- Sugar Technology 1, 1a.
- Education 4, 6.
- Psychology 3.
- Household Science 2, 5.

The general subject of the thesis, together with the written approval of the chairman of the committee in charge, must be furnished to the Committee on Graduate Work not later than December 1st of the collegiate year in which the degree is to be taken.

The completed thesis must be presented to the Committee on Graduate Work at least one week before the date set for the candidate's examination, and must win the Committee's approval as demonstrating the candidate's ability both to do original work and also to present the results of that work in creditable form. The thesis, accompanied by the written approval of the chairman of the Committee on Graduate Work, will be returned: for use in the examination or for binding. Before the candidate is granted a diploma, a typewritten copy of the thesis, on pages 8x10½ inches in size, bearing the written approval of the professor in charge, must be deposited in the Library as the permanent property of the University, together with a fee sufficient to pay for binding.

The examination for the degree will be conducted by the committee in charge of the candidate's work, and may be either written or oral, or both written and oral. It shall be open to all members of the faculty. Requests for examinations should be made in writing to the Committee on Graduate Work not later than April 15th, and the Committee will announce the time and place of examination not later than May 1st.
SCHOLARSHIPS

Honolulu Chamber of Commerce Freshman Scholarship.—A scholarship of $100, awarded to the needy graduate of a Honolulu preparatory school presenting the best entrance record.

Honolulu Chamber of Commerce Agricultural Scholarship.—An annual scholarship of $100, awarded to an upper classman taking the course in Agriculture or the agricultural division of the course in Sugar Technology.

Hilo Board of Trade Scholarships.—Annual scholarships of $100, awarded by a committee of the Hilo Board of Trade to residents of East Hawaii who desire to take a full regular course at the University of Hawaii.

Maui Women's Club Scholarship.—An annual scholarship of $100 is awarded by the Maui Women's Club to a graduate of the Maui High School.

University Club Sophomore Scholarship.—This scholarship of $100 is awarded for the Sophomore year to that needy student who makes the best record in the work of the Freshman year.

Honolulu Rotary Club Scholarships.—The Rotary Club of Honolulu offers two annual scholarships of $250.00, the award to be made by the Rotary Club on a basis of character, scholarship, and need.

Prince Fushima Memorial Educational Fund.—The sum of $300 is available annually for the assistance of American citizens of Japanese ancestry of high scholastic and good moral standing who are unable to pay their educational expenses.

Pacific Guano and Fertilizer Co. Scholarship.—The Pacific Guano and Fertilizer Co. offers a scholarship of $250 for the study of soil fertility under the direction of Professor F. G. Krauss.

Hawaiian Pineapple Packers' Association Fellowship.—A Fellowship of $1200, established by the Hawaiian Pineapple Packers' Association for pineapple research work at the University of Hawaii.

Applications for scholarships other than those of the Hilo Board of Trade, the Maui Woman's Club and the Honolulu Rotary Club should be addressed to the President of the University not later than May 1.
COLLEGE OF APPLIED SCIENCE

PROGRAMS OF STUDY

The College of Applied Science offers the following courses of study leading to the degree of Bachelor of Science, the diploma to designate the course which has been pursued:

1. A course in AGRICULTURE.
2. A course in ENGINEERING.
3. Courses in SUGAR TECHNOLOGY.
   (a) Agricultural Division, with emphasis on field operations.
   (b) Chemistry Division, with emphasis on mill practice.
   (c) Sugar-house Engineering Division, with emphasis on construction and operation of sugar mills.
4. A course in HOME ECONOMICS.
5. A course in GENERAL SCIENCE, including:
   (a) Physical Sciences,—mathematics, physics, chemistry, and geology.
   (b) Biological Sciences,—botany, entomology, zoology, and nutrition.

AGRICULTURE

The Course in Agriculture is designed to give the student an intimate knowledge of the fundamental principles which underlie agriculture as a science and a profession, and thus equip him for effective service either in practical farming, agricultural education, or research work. Agricultural science comprehends a wide range of subjects, and includes something from nearly every department of human learning. The natural sciences of geology, chemistry, physics, botany, zoology, bacteriology, and physiology are directly and intimately related to it. Not in the sciences alone should the agricultural student be broadly educated, but also in mathematics, languages, history, and economics.

In outlining this course the object sought is first to teach the general laws governing the relationship of growing crops and living animals to soil, climate, and surroundings. The method is by lectures, supplemented by laboratory investigations and field experiments. This study of the fundamentals will be required of all students who intend to specialize in any advanced line of agricultural work.

Following this fundamental work the special applications and modifications appertaining to particular crops and problems are studied.
### OUTLINE OF COURSE IN AGRICULTURE.

The course in Farm Practice, Agriculture 1, must be completed before the beginning of the Junior year. It may be taken in the vacation following either the Freshman or the Sophomore year.

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>English 1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Math. 1 and 2</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Botany</td>
<td>Bot. 1</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5 or 6</td>
</tr>
<tr>
<td>Military or Physical Education</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

All electives throughout the course are to be chosen with the advice and consent of adviser.

*Suggested Electives:* Language (French or Spanish), History, American Institutions, Drawing (Freehand or Mechanical).

#### SECOND YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>English 2 or 3</td>
<td>2 or 3</td>
</tr>
<tr>
<td>Qualitative Analysis</td>
<td>Chem. 4</td>
<td>3</td>
</tr>
<tr>
<td>Zoology</td>
<td>Zoology 1</td>
<td>3</td>
</tr>
<tr>
<td>Plant Physiology</td>
<td>Bot. 1</td>
<td>3</td>
</tr>
<tr>
<td>Plant Pathology or Bacteriology</td>
<td>Bot. 5 or 4</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2a</td>
<td>3</td>
</tr>
<tr>
<td>Genetics</td>
<td>Agr. 5</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>2 or 3</td>
</tr>
<tr>
<td>Military or Physical Education</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

*Suggested Electives:* History, Surveying, Language, Physiology (second semester).

#### THIRD YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entomology</td>
<td>Ent. 1 and 2 or 7</td>
<td>3</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>Chem. 9</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Chemistry</td>
<td>Chem. 9a</td>
<td>3</td>
</tr>
<tr>
<td>Quantitative Analysis</td>
<td>Chem. 10</td>
<td>3</td>
</tr>
<tr>
<td>Geology</td>
<td>Geo. 2</td>
<td>3</td>
</tr>
<tr>
<td>Soils</td>
<td>Agr. 3</td>
<td>5</td>
</tr>
<tr>
<td>Crops</td>
<td>Agr. 3</td>
<td>5</td>
</tr>
<tr>
<td>Bacteriology or Plant Pathology</td>
<td>Bot. 4 or 5</td>
<td>3</td>
</tr>
<tr>
<td>Horticulture or Forestry</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
ENGINEERING

The Course in Engineering is designed to give thorough training in the fundamental principles upon which professional engineering practice is based, and to illustrate the application of these principles by the solution of numerous practical problems. Persons entering this course are expected to be well prepared in the physical sciences and in mathematics up to and including solid geometry and plane trigonometry. (See Entrance Requirements (page 21). It is desired to emphasize the necessity of thorough preparation in order that the more serious work of mastering technical subjects may not be hampered by lack of proper groundwork.

The general plan provides a broad foundation in English, mathematics, chemistry, physics, and drawing during the first two years. The work of the last two years is more technical and professional in its nature, embracing the study of the principles involved in power development by means of the various prime movers, including steam engines, water-wheels, gas and gasoline engines, and steam turbines; and also a study of the design of such machines, and of the materials entering into their construction, as well as practical tests to determine their working efficiency and economy of operation. It is aimed to fit graduates to assume gradually, as practical experience is acquired, those administrative responsibilities which are more and more devolving upon men of technical training, and to become ultimately skillful practical engineers. So far as possible, the importance of each subject covered is illustrated by the application to some work which is met with in actual practice. It is also intended that the course shall be valuable from an educational viewpoint; therefore, while the student is learning each subject both theoretically and practically, the training of his mind is kept in view as well as the needs of the profession.

* Accounting may be continued as an elective.
### OUTLINE OF COURSE IN CIVIL ENGINEERING.

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2nd Sem.</th>
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</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>General Chemistry</td>
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</tr>
<tr>
<td>Mechanical Drawing</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Analytic Geometry and Trig.</td>
<td>5</td>
<td></td>
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<tr>
<td>Algebra and Calculus</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Plane Surveying</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Elective</td>
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</tr>
<tr>
<td>Military or Physical Education</td>
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#### SECOND YEAR

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<th>Name of Course</th>
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<th>Credits 2nd Sem.</th>
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<tbody>
<tr>
<td>Calculus</td>
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<td>3</td>
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<tr>
<td>Descriptive Geometry</td>
<td>2</td>
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</tr>
<tr>
<td>English</td>
<td>2 or 3</td>
<td>2 or 3</td>
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<tr>
<td>Roads and Pavements</td>
<td>2</td>
<td>2</td>
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<tr>
<td>General Physics</td>
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<tr>
<td>Office and Shop Methods</td>
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<td>2</td>
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<td>Elective</td>
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<td>Military or Physical Education</td>
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#### THIRD YEAR

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<th>Name of Course</th>
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<th>Credits 1924-25</th>
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<tbody>
<tr>
<td>Analytical Mechanics</td>
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<tr>
<td>Astronomy</td>
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</tr>
<tr>
<td>Bacteriology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Chem. for Engineers</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Elec. Measurements</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Hydraulics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Construction</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Materials Laboratory</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Municipal Engr.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Railroad Surveying</td>
<td>3</td>
<td></td>
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<tr>
<td>Steam Machinery</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Structural Mechanics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Topographical Surv. and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drawing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Electrical Machinery</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
SUGAR TECHNOLOGY

The Courses in Sugar Technology are designed primarily for the student who, on leaving college intends to enter into active service in some branch of the sugar industry. Although these courses, since they prepare for one particular industry, might be termed highly specialized, the importance of a sound training in general science has not been overlooked, the first two years being devoted largely to English, mathematics, physics, and chemistry. In the third and fourth years, enough special instruction in subjects pertaining directly to the sugar industry is given so that the man who completes this course should have sufficient technical understanding to prove of some immediate value in a subordinate position on a plantation, and yet not have his future progress hampered by an inadequate theoretical training.

*The Hawaiian Sugar Planters' Association* offers many very valuable opportunities for making more practical the instructional
Sugar Technology

work of the University. Advanced students serve as apprentices in their mills and plantations, and take part in their Experiment Station projects and activities.

The cane sugar industry, as carried on in the tropics, comprises in itself two quite distinct branches: the growing of cane, and its manufacture into sugar. Inasmuch as it would be extremely difficult, if not impossible, to acquire thorough knowledge in both these branches in four years, the courses in Sugar Technology are offered in three divisions.

Agricultural Division. The first two years are almost parallel with the Course in Agriculture. In the third year it is advisable to elect certain courses in chemistry in addition to strictly agricultural topics, for the reason that sugar production is probably more dependent on chemistry than is any other branch of agriculture. Sugar analysis is also required, as familiarity with this work is often required of a field chemist. The lectures on cane sugar manufacture are required in the fourth year, as it is desirable that the agriculturist have some knowledge of what happens to the cane after he has grown it.

Sugar Chemistry Division. The work of the first two years follows closely that of the Agricultural Division, but in the third and fourth years the course differs in offering more work in chemistry, with the purpose of giving such training in chemistry as shall prepare a student not only to become an efficient sugar chemist, but also to conduct investigations leading to better methods of control in the manufacture of sugar.

Sugar House Engineering Division. The first year is identical with the Course in Engineering, while the second year differs only in the substitution of qualitative analysis for advanced mechanical drawing. Chemistry is continued in the third year, together with the most essential of the engineering subjects. Students in this division take sugar analysis and sugar manufacture together with those of the Sugar Agricultural Division.

During the summer vacation between the third and fourth years a minimum of eight weeks' work on one of the plantations, or in connection with the work of the Experiment Station of the Hawaiian Sugar Planters' Association, is required of students in all divisions. To obtain credit for this, the student must submit a written report of the work performed.

The second semester of the fourth year is devoted almost entirely to practical work. Arrangements are made whereby students in the Sugar Agriculture Division serve as Student Assistants in the Experiment Station of the Hawaiian Sugar Planters' Association, and those in the Sugar-house Engineering
Planters’ Association, and those in the Sugar-house Engineering Division serve as special apprentices in the factory of one of the plantations, where they actually perform the manual labor required at the various stations of the mill and boilinghouse. Careful notes must be kept of this work and a report submitted at the end of the semester.

This also applies to students in the Sugar Chemistry Division, who may elect either field or factory practice.

**OUTLINE OF COURSES IN SUGAR TECHNOLOGY.**

**AGRICULTURAL DIVISION.**

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2d Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Math. 1 and 2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Botany</td>
<td>Bot. 1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Drawing</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Military or Physical Education</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

_Suggested Electives:_ History, American Institutions, Modern Language (French or Spanish).

Summer Farm Practice. Agriculture 1. Summer vacation. (This may be taken at end of either freshman or sophomore year.)

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2d Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2 or 3</td>
<td>2 or 3</td>
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<tr>
<td>Qualitative Analysis</td>
<td>Chem. 4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2a</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Surveying</td>
<td>C. E. 1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Genetics</td>
<td>Agr. 5</td>
<td>.</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Military or Physical Education</td>
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<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

_Suggested Electives:_ Plant Physiology (Bot. 6), Zoology 1, Geology 2, Bacteriology or Plant Pathology, Modern Language (French or Spanish).
## Sugar Technology

### THIRD YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar Analysis</td>
<td>S. T. 1</td>
<td>3</td>
</tr>
<tr>
<td>Soils</td>
<td>Agr. 2</td>
<td>5</td>
</tr>
<tr>
<td>Crops</td>
<td>Agr. 3</td>
<td>5</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>*Field Practice</td>
<td>S. T. 3</td>
<td></td>
</tr>
</tbody>
</table>

*Suggested Electives:
- Agricultural Chemistry (Chem. 9a).
- Biological Chemistry (Chem. 9).
- Quantitative Analysis (Chem. 10).
- Bacteriology (Bot. 4).
- Plant Pathology (Bot. 5).
- Entomology 1 and 7.
- Forestry (Agr. 12).
- Horticulture (Agr. 13).

### FOURTH YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar-house Calculations</td>
<td>S. T. 1a</td>
<td>1</td>
</tr>
<tr>
<td>Sugar Manufacture</td>
<td>S. T. 2</td>
<td>3</td>
</tr>
<tr>
<td>Sugar Cane Production</td>
<td>Agr. 4</td>
<td>4</td>
</tr>
<tr>
<td>Economics</td>
<td>Econ. 5</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>5 or 6</td>
</tr>
<tr>
<td>Field Practice</td>
<td>S. T. 4</td>
<td></td>
</tr>
</tbody>
</table>

*Suggested Electives:
- Animal Husbandry (Agr. 6).
- Forestry (Agr. 12).
- Irrigation Engineering (Agr. 14).
- Farm Management (Agr. 15).
- Horticulture (Agr. 13).

## SUGAR CHEMISTRY DIVISION

### FIRST YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Math. 1 &amp; 2</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Botany</td>
<td>Bot. 1</td>
<td>3</td>
</tr>
<tr>
<td>Drawing</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Military Drill</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

*Suggested Elective: French.

*Taken in the summer vacation following the Junior year.
SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Name of Course</th>
<th>1st Sem. Credits</th>
<th>2d Sem. Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2 or 3</td>
<td>2 or 3</td>
</tr>
<tr>
<td>Qualitative Analysis</td>
<td>Chem. 4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2a</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Military Drill</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Suggested Electives

- Modern Language (French).
- Geology 2.
- Bacteriology (Bot. 4).
- Plant Pathology (Bot. 5).
- Surveying (C. E. 1).
- Zoology 1.

THIRD YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Name of Course</th>
<th>1st Sem. Credits</th>
<th>2d Sem. Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils</td>
<td>Agr. 2</td>
<td>5</td>
<td>9-12</td>
</tr>
<tr>
<td>Crops</td>
<td>Agr. 3</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Sugar Analysis</td>
<td>S. T. 1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>9-12</td>
<td>9-12</td>
</tr>
<tr>
<td>*Field or Mill Practice</td>
<td>Summer S. T. 3</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Suggested Electives:

- Organic Chemistry (Chem. 5 or 6).
- Quantitative Chemistry (Chem. 10).
- Agricultural Chemistry (Chem. 9a).
- Biological Chemistry (Chem. 9).
- Bacteriology or Plant Pathology.
- Physical Chemistry (Chem. 11).
- Physical Chemistry Laboratory (Chem. 12).
- Thermodynamic Chemistry (Chem. 13).
- Thermodynamic Chemistry Laboratory (Chem. 14).

*A required course taken in the summer vacation following the Junior year.
**FOURTH YEAR**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem</th>
<th>Credits 2nd Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar Cane Production</td>
<td>Agr. 4</td>
<td>4</td>
</tr>
<tr>
<td>Sugar Manufacture</td>
<td>S. T. 2</td>
<td>3</td>
</tr>
<tr>
<td>Sugar-house Calculations</td>
<td>S. T. 1a</td>
<td>1</td>
</tr>
<tr>
<td>Economics</td>
<td>Econ. 5</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Field or Factory Practice</td>
<td>S. T. 4 or 5</td>
<td>16</td>
</tr>
</tbody>
</table>

*Suggested Electives:*
- Accounting.
- Quantitative Analysis (Chem. 16).
- Steam Tables (M. E. 3).
- Physical Chemistry (Chem. 11).
- Physical Chemistry Laboratory (Chem. 12).

**SUGAR-HOUSE ENGINEERING DIVISION.**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem</th>
<th>Credits 2nd Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic Geometry</td>
<td>Math. 3</td>
<td>5</td>
</tr>
<tr>
<td>Algebra and Calculus</td>
<td>Math. 4</td>
<td>5</td>
</tr>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Drawing</td>
<td>M. D. 1</td>
<td>2</td>
</tr>
<tr>
<td>Plane Surveying</td>
<td>C. E. 1</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Military Drill</td>
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</table>

*Suggested Elective: French or Spanish.

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem</th>
<th>Credits 2nd Sem</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2 or 3</td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2</td>
<td>4</td>
</tr>
<tr>
<td>Qualitative Analysis</td>
<td>Chem. 4</td>
<td>3</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td>M. D. 3</td>
<td>2</td>
</tr>
<tr>
<td>Calculus</td>
<td>Math. 5 and 6</td>
<td>3</td>
</tr>
<tr>
<td>Shop and Office Methods</td>
<td>M. E. 9</td>
<td>2</td>
</tr>
<tr>
<td>Military or Phys. Education</td>
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<td>2</td>
</tr>
</tbody>
</table>
Home Economics

THIRD YEAR

Name of Course | Credits 1st Sem. | Credits 2nd Sem.
--- | --- | ---
Organic Chemistry | Chem. 5 and 6 | 4 | 4
Quantitative Analysis | Chem. 10 | 3 | 3
Sugar Analysis | S. T. 1 | 3 | 3
Mechanics | C. E. 2 and 3 | 4 | 4
Steam Mach. or Hydraulics | M. E. 1 or C.E. 7 | 3 | -
Electrical Machinery | E. E. 1 | 3 | -
Electrical Measurements | Phys. 3 | 2 | -
Engineering Laboratory | X. E. 4 | 2 | -
*Field Practice | S. T. 3 | - | 6

FOURTH YEAR

Name of Course | Credits 1st Sem. | Credits 2nd Sem.
--- | --- | ---
Sugar-house Calculations | S. T. 1a | 1 | -
Sugar Manufacture | S. T. 2 | 3 | -
Hydraulics or Steam Mach. | C.E. 7 or M.E. 1 | 3 | -
Engineering of Sugar Plants | M. E. 6 | 4 | -
Economics | Econ. 5 | 3 | -
Elective | | 5 | -
Factory Practice | S. T. 5 | - | 16

HOME ECONOMICS

The Course in Home Economics is designed to meet the needs of women students who wish to specialize either in the applications of art or science, or both, to the household. The work of the first two years is prescribed, that of the last two elective within the range of subjects belonging either to Household Science or Art, or closely related thereto. In selecting the elective subjects of Junior and Senior years the student will be assisted by her Faculty Adviser to arrange a program adapted to her special needs and capabilities.

*Taken in the summer vacation following the Junior year.
OUTLINE OF HOME ECONOMICS COURSE

FIRST YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2d Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Drawing</td>
<td>A. &amp; D. 1</td>
<td>2</td>
</tr>
<tr>
<td>Textiles and Elementary Garment Making</td>
<td>A. &amp; D. 8</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Physical Education</td>
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</tr>
</tbody>
</table>

*Suggested Elective* for students planning to major in home economics: Mathematics 1 and 2.

SECOND YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2d Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2 or 3</td>
</tr>
<tr>
<td>Color and Design</td>
<td>A. &amp; D. 3</td>
<td>3</td>
</tr>
<tr>
<td>Dressmaking and Designing</td>
<td>A. &amp; D. 9</td>
<td>3</td>
</tr>
<tr>
<td>Food Economics</td>
<td>H. S. 2</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Physical Education</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*Suggested Elective* for students majoring in home economics: Physics 2a.

THIRD AND FOURTH YEARS

*Prescribed.* The following subjects must be taken in Junior and Senior Years:

- Art and Design 4
- Household Science 3
- Physiology 1
- Economics 5 and 6
- Psychology 1
- Physical Education

*Electives.* Courses to complete the minimum requirements of 132 credits for graduation must be selected from the following:

- Art and Design 5, 6, 7, 10, 12
- Household Science 4, 5, 8
- Botany 1, 4
- Zoology 1, 2
- Entomology 1, 10
- Chemistry 4, 9
- Sociology 1, 2
- Accounting (Com. 1, 2)
- History (not over 12 credits)
- Advanced English courses
- American Literature
- Education
- Foreign Language (not over 18 credits)
The General Science Course is designed for those students who do not wish to enter upon the strictly limited programs of study of the more professional courses of Engineering, Agriculture, Home Economics and Sugar Technology. It is intended that each student shall have a knowledge of the elements of a considerable range of subjects, and at the same time specialize in some field sufficiently to become acquainted with its more advanced phases and proficient in its methods of work. In order to accomplish this result the student is allowed considerable latitude in the selection of studies, and yet required to carry the major part of his elective work in some one group of sciences.

In order to graduate in the General Science Course the student must have passed the prescribed studies of the first and second years and have satisfactorily completed not less than a total of 136 credits. One of the two groups—Physical Sciences or Biological Sciences—must be selected, and not less than 60 per cent of the elective work of the course taken in this major group.

In the group of studies designated as Physical Sciences, the student has the opportunity of electing work in Chemistry, Physics, and Mathematics, thus becoming trained to take up work as a chemist or as an instructor in the physical sciences.

If the student prefers work in the group known as Biological Science he has the privilege of choosing such subjects as Botany, Zoology, Entomology and Household Science.

Students who plan to specialize in Chemistry, Zoology or Botany should have a working knowledge of French, since it is essential for advanced work in these subjects. Such students, therefore, should elect French in the Freshman year. In every case, the student should consult for advice the head of that department in which he plans to take the major course.

**OUTLINE OF GENERAL SCIENCE COURSE**

**Prescribed Work**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Course</td>
<td>1st Sem.</td>
<td>2d Sem.</td>
</tr>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>9-11</td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td></td>
<td>2 or 1</td>
</tr>
</tbody>
</table>

† Four credits for men; one credit for women.
<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2 or 3</td>
</tr>
<tr>
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<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td>2 or 1</td>
<td>2 or 1</td>
</tr>
</tbody>
</table>

**ELECTIVE WORK**

**GROUP A.**

**PHYSICAL SCIENCES**

<table>
<thead>
<tr>
<th>1st Year.</th>
<th>2nd Year.</th>
<th>3rd and 4th Years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 1, 2, 3, 4</td>
<td>Math. 5, 6</td>
<td>Math. 7, 8, 9, 10</td>
</tr>
<tr>
<td>Geol. 1</td>
<td>Phys. 2, 2a, 2</td>
<td>Chem. 5, 6, 9, 9a, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23</td>
</tr>
<tr>
<td>Drawing</td>
<td>Chem. 4</td>
<td>18, 23</td>
</tr>
<tr>
<td>Econ. 4</td>
<td>Geol. 2</td>
<td></td>
</tr>
<tr>
<td>Language or History</td>
<td>C. E. 1</td>
<td>Sugar Tech. 1, 2, 1a.</td>
</tr>
<tr>
<td></td>
<td>M. D. 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language or History</td>
<td></td>
</tr>
<tr>
<td></td>
<td>History</td>
<td></td>
</tr>
</tbody>
</table>

**GROUP B.**

**BIOLOGICAL SCIENCES.**

<table>
<thead>
<tr>
<th>1st Year.</th>
<th>2nd Year.</th>
<th>3rd and 4th Years.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bot. 1</td>
<td>Bot. 2, 6</td>
<td>Bot. 3, 4, 5, 8, 9, 17</td>
</tr>
<tr>
<td>Zool. 1, 2</td>
<td>Zool. 3</td>
<td>Chem. 5, 6, 9, 9a</td>
</tr>
<tr>
<td>Geol. 1</td>
<td>Ent. 1, 2</td>
<td>Zool. 4, 7, 10</td>
</tr>
<tr>
<td>H. S. 1</td>
<td>Geol. 2, 3</td>
<td>Ent. 4, 5, 6, 7, 10, 16</td>
</tr>
<tr>
<td>Drawing</td>
<td>H. S. 2</td>
<td>Agr. 2, 3, 5, 6, 12, 13</td>
</tr>
<tr>
<td>Econ. 4</td>
<td>Physics 2, 2a, 2b</td>
<td>Geol. 4, 5, 6</td>
</tr>
<tr>
<td>Language or History</td>
<td>Physiol. 1</td>
<td>H. S. 3, 4, 8</td>
</tr>
<tr>
<td></td>
<td>Psychology 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>History</td>
<td></td>
</tr>
</tbody>
</table>

**HUMANITIES:** Elective in all groups, but not counting as major electives except as noted above.

*First year electives are open to Sophomores.
†First year electives taken by Juniors and Seniors count half credit only. Second year electives are open to Juniors and Seniors.
‡Two credits for men; 1 credit for women.
COLLEGE OF ARTS AND SCIENCES

Organization.

The College of Arts and Sciences was created by the Act of the 1919 Legislature of the Territory of Hawaii which established the University of Hawaii. Officially it came into being on July 1, 1920.

The College of Arts and Sciences has a twofold purpose. Its first aim is to make possible a comprehensive and thorough acquaintance with those fields of thought and achievement, both in the humanities and the sciences, upon which our present civilization has been reared. It seeks also, through the operation of a system of group electives, commencing with the Sophomore year, to prepare the student for those activities which are professional rather than technical in their nature, such as law, medicine, teaching, journalism, commerce and public and social service.

In the main, therefore, the courses of study offered in this College are those generally recognized as forming the basis of a liberal education. In one important particular there has been a deviation, and that because of Hawaii's unique geographical position. Standing midway between continental America and the Orient, Hawaii must understand the Orient as well as the Occident. More than usual attention is therefore given to the languages, literature, philosophy, and history of the lands bordering upon the Pacific. Especial emphasis will also be given to the study of still other aspects of the Orient in their bearing upon the development of commerce between East and West.

Graduates from the College of Arts and Sciences will be granted the degree of Bachelor of Arts.

Requirements for graduation—affecting candidates registered before September, 1922. To be entitled to the degree of Bachelor of Arts, the candidate must have passed in all the prescribed studies, and have received credit for a minimum of 136 semester hours.

Requirements for graduation—affecting candidates registering in September, 1922, and thereafter. To be entitled to the degree of Bachelor of Arts, the candidate must

(a) have passed all the prescribed studies (see p. 43).
(b) have received credit for a minimum of 128 semester hours, and
(c) have gained a minimum of 136 grade points*, of which at least 69 must have been gained during the last half of the course.

*For an explanation of the grade point see p.
Choice of Requirements for Graduation. Students who were registered as candidates for the degree of Bachelor of Arts before September, 1922, may elect whether they will meet the old or the new requirements.

Number of semester hours a semester. Except as provided below, no student in the College of Arts and Sciences shall be permitted to register for more than 16 semester hours in any semester, in addition to the prescribed courses in Military Drill and Physical Education. Students who have, however, during the preceding semester, gained a minimum of 30 grade points may register for 18 credit hours, in addition to Military Drill and Physical Education; as may freshmen during their first semester, provided their grades in the subjects offered for entrance average 85% or more.

Although the greater part of the work is elective, the student is expected to select his studies in conformance with a well defined program. To this end he registers in one of the four groups of allied subjects indicated below, and is given a Faculty Adviser who will assist him in his choice of studies. No credit will be given for any course not regularly entered, with the adviser's approval, upon the registration card.

Group I. History, Economics, and Social Science.
Group II. Languages, Literature, and Art.
Group III. Natural and Physical Sciences.
Group IV. Education.

At the end of the Sophomore year each student must give satisfactory evidence of adequate knowledge of at least one foreign language. Students who fail to meet this requirement will not be allowed credit towards graduation for language courses taken later to make up this deficiency.

Requirements for the Bachelor of Arts Degree

128 semester hours to graduate; 42 prescribed, 86 elective.

Prescribed Studies.

Freshman Year.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits 1st Sem.</th>
<th>Credits 2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 3</td>
<td>3</td>
</tr>
<tr>
<td>A Science</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>American Institutions</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>*Elective</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>†Military or Physical Education</td>
<td></td>
<td>2 or 1</td>
</tr>
</tbody>
</table>

*See above.
†One credit for women; 2 credits for men.
## Arts and Sciences

### Sophomore Year.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Literature</td>
<td>Eng. 3</td>
<td>3</td>
</tr>
<tr>
<td>Logic</td>
<td>.</td>
<td>3</td>
</tr>
<tr>
<td>Psychology</td>
<td>Psych. 1</td>
<td>3</td>
</tr>
<tr>
<td>*Electives</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>†Military or Physical Education</td>
<td></td>
<td>2 or 1</td>
</tr>
</tbody>
</table>

### Junior Year.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argumentation</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>‡Physical Education</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>*Electives</td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

### Senior Year.

All elective, except Physical Education for women.

#### Freshman Electives.

- History 1
- Art and Design 1
- French
- Spanish
- Japanese
- Chinese
- Mathematics 1, 2, 3, 4
- Freehand and Mech. Drawing

#### Sophomore, Junior and Senior Electives.

The number and character of the group electives is as follows:

### Group I.—History, Economics, and Social Science.

Of the 86 elective semester hours, at least 42 are to be chosen from courses in History, Government, Social Sciences and Economics in accordance with a program approved by the student's adviser. Students preparing for the study of law or for public or social service or for business will select this group.

### Group II.—Languages, Literature and Art.

In addition to the courses required of all students in the College of Arts and Sciences, students electing this group must take Art and Design 5 and 6. A minimum of 36 semester hours

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*See page 43.
†One credit for women; 2 credits for men.
‡Physical education is required of women during the four years.
must be chosen from the courses in English, French, Spanish, 
Chinese, Japanese and Art and Design 1-4 and 7. Students 
preparing for journalism will select either this group or Group I.

**GROUP III.—Natural and Physical Sciences.**

Of the 86 elective semester hours at least 48 must be chosen 
from some group of related sciences in accordance with a pro-
gram approved by the student's adviser. Students preparing for 
the study of medicine or dentistry will select this group.

**GROUP IV.—Education.**

The number of semester hours to be chosen within this 
group will vary with the subject or subjects the student is pre-
paring to teach. In addition to an adequate number of courses 
dealing with the subjects to be taught, the student will select 
courses in Psychology and Education aggregating at least 21 
semester hours.

**PREPARATION FOR COMMERCE AND THE**

**PROFESSIONS**

**Suggested Curriculums**

**COMMERCE.**

Students desiring training for a career in international com-
merce, especially that so rapidly developing between the countries 
of the Orient and the American republics, as well as between the 
latter and Australia and New Zealand, will be expected to re-

gister in Group I. For their greater convenience the following 
outline of courses has been prepared:

**OUTLINE OF COURSE IN COMMERCE**

**FIRST YEAR.**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>American Institutions</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
| Modern Language (French, 
Spanish, Japanese or Chinese) | | 3 | 3 |
| Physiography | Geol. 1 | 3 | |
| Economic Geography | Econ. 4 | | 3 |
| ♠Elective | | 3 | 3 |
| ♠Military or Phys. Education | | 2 or 1 | 2 or 1 |

*See page 43.
†Two credits for men; one credit for women.
SECOND YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>English Literature</th>
<th>Modern Language (French, Spanish, Japanese or Chinese)</th>
<th>Elements of Economics</th>
<th>Accounting</th>
<th>Logic</th>
<th>Psychology</th>
<th>Military or Phys. Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits 1st Sem.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2 or 1</td>
</tr>
<tr>
<td>Credits 2nd Sem.</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2 or 1</td>
</tr>
</tbody>
</table>

THIRD YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Argumentation</th>
<th>Business Law</th>
<th>Money and Banking</th>
<th>Group electives in Economics and Commerce</th>
<th>Elective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits 1st Sem.</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Credits 2nd Sem.</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

FOURTH YEAR

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Group electives in Economics and Commerce</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits 1st Sem.</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Credits 2nd Sem.</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

The course offers instruction not only in the commerce and resources of the countries bordering the Pacific, but also in the fundamental principles of economics and the business of trade, in accountancy, law, and many other subjects of vital importance in commerce.

Honolulu by its very location affords unsurpassed advantages to young men wishing to equip themselves for the business of commerce. There is constant and close touch here with the commerce of all Pacific countries, and some or many of their nationals are in residence here. This is not an "outpost," but a center of trade.

Obviously the study of one or more modern languages, other than English, is a prime requisite in this training. The student must attain to a certain standard of proficiency in the language chosen. Two years' study of one language is the minimum requirement, but further work may be deemed necessary, the amount depending on the relative difficulty of the language elected and on previous language study. Full credit will be given for all courses successfully completed.

†See page 43.
†One credit for women; 2 credits for men.
In his choice of electives, the student will be guided in part by his special purpose and interest. Ordinarily he will find it advantageous to choose most of his elective courses from the following: Commerce, Economics, Sociology, History and Government, Modern Languages, English, Physics and Chemistry.

PREPARATION FOR PROFESSIONAL SCHOOLS

COLLEGES OF MEDICINE

The American Medical Association has announced that “beginning January 1, 1918, the minimum requirement for admission to acceptable medical schools, in addition to the high school work, will be sixty semester hours of collegiate work, extending through two years of thirty-two weeks each, exclusive of holidays, in a college approved by the Council on Medical Education.” The Medical Association, further, outlines an acceptable pre-medical course of two years to which the program presented below conforms.

The prospective medical student may follow here either of two lines of procedure. He may take a two years’ course which will admit him to a medical school where he may obtain the M.D. degree; or he may obtain both the baccalaureate and M.D. degrees by first taking the pre-medical course as outlined by the University of Hawaii.

The pre-medical course is designed for three years in this institution and the fourth year in an approved medical school, in accordance with the following ruling:

"The University of Hawaii will henceforth permit the substitution of the first year in an approved professional school for the fourth year of the University course; and will, upon the satisfactory completion of three years of a University course and one year in an approved professional school, grant the degree of B.S. or B.A. (according to the course pursued)."

It is possible, therefore, to obtain both the B.A. or B.S. and M.D. degrees in seven years.

Students planning to enter a medical school later should register either in the College of Arts and Sciences or the College of Applied Science, depending upon the degree they wish or the work they desire.
<table>
<thead>
<tr>
<th>Subjects</th>
<th>Units</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group I. English.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature and Composition</td>
<td>3-4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Group II. Foreign Languages.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Greek</td>
<td>1-3</td>
<td>2</td>
</tr>
<tr>
<td>French or German</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Other foreign language</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td><strong>Group III. Mathematics.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary Algebra</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Algebra</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Plane Geometry</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Solid Geometry</td>
<td>½</td>
<td></td>
</tr>
<tr>
<td>Trigonometry</td>
<td>½</td>
<td></td>
</tr>
<tr>
<td><strong>Group IV. History.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ancient history</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Medieval and modern history</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>English history</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>American history</td>
<td>½-1</td>
<td>1</td>
</tr>
<tr>
<td>Civil government</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td><strong>Group V. Science.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botany</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Zoology</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Physiography</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Physiology</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Astronomy</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td><strong>Group VI. Miscellaneous.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>Bookkeeping</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Business Law</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Commercial Geography</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Domestic Science</td>
<td>½-2</td>
<td></td>
</tr>
<tr>
<td>Drawing, freehand or mechanical</td>
<td>½-2</td>
<td></td>
</tr>
<tr>
<td>Economics and economic history</td>
<td>½-1</td>
<td></td>
</tr>
<tr>
<td>Manual Training</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>Music, appreciation and harmony</td>
<td>1-2</td>
<td></td>
</tr>
</tbody>
</table>
A total of fifteen units of high school work is required. Eight units are required as noted in above schedule; the balance may be made from any of the other subjects in the list.

Both of the required units of foreign language must be of the same language, but the two units may be presented in any of the languages.

For entrance to the standard medical college the candidate must have spent at least two years in a college and have completed the following work. A degree from the University of Hawaii will not be granted for less than three years' work here and a fourth in an approved medical college.

**Schedule of Subjects of the Two-Year Pre-Medical Course.**

Sixty semester hours required.

<table>
<thead>
<tr>
<th>University of Hawaii</th>
<th>Equivalent</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Chemistry</em> ..........</td>
<td>Chem. 1 or 2, 4, 5 and 6 ..</td>
<td>20</td>
</tr>
<tr>
<td>Physics ..............</td>
<td>Physics, 2b ..</td>
<td>8</td>
</tr>
<tr>
<td>Biology ..............</td>
<td>Botany 1, 2, Zoology 1 ..</td>
<td>8</td>
</tr>
<tr>
<td>English Composition ..</td>
<td>English 1 ..........</td>
<td>6</td>
</tr>
<tr>
<td>Other non-science subjects: history, language, economics</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

Subjects strongly urged:

- A modern foreign language .. 6-12
- Advanced botany or advanced zoology .. 3-6
- Psychology ...................... 3-6
- Advanced mathematics, including trigonometry .. 3-6

Other suggested electives:

- English (additional), economics, history, sociology, political science, logic, mathematics, drawing, Latin, Greek.

To meet the above requirements and also those of the University of Hawaii, a student may register either in the College of Arts and Sciences or the College of Applied Science. The following programs of study are suggested:

**Outline of Pre-Medical Course.**

Students desiring to receive the B.A. degree from the University of Hawaii should take the following studies, complying in general with the requirements in the College of Arts and Sciences. Special attention is directed to the requirement of Physics 2b in the second year and its prerequisite of Mathematics 1 and 2 or the equivalent. Students, therefore, who cannot meet this

*Since January 1, 1922, organic chemistry is required by medical schools for admission.
Pre-Medical

requirement should arrange to take Mathematics 1 and 2 in the freshman year, postponing if necessary the study of one of the sciences until the sophomore year.

**FIRST YEAR.**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>1st Sem.</th>
<th>Credits</th>
<th>2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Zoology or Botany</td>
<td>Zool. 1 and 2, or Bot. 1</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>American Institutions</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**SECOND YEAR.**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>1st Sem.</th>
<th>Credits</th>
<th>2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chem. 3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2b</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>Eng. 3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Logic</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**THIRD YEAR.**

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>1st Sem.</th>
<th>Credits</th>
<th>2nd Sem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Chemistry</td>
<td>Chem. 5 &amp; 6</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>Chem. 9</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacteriology</td>
<td>Bot. 4</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>Soc. 1 &amp; 2</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Argumentation</td>
<td></td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Students desiring the B.S. degree from the University of Hawaii and planning to enter medical school would select the General Science course in the College of Applied Science and be governed by the requirements of that course, also electing work that would meet the medical school requirements. Entering students who have had the equivalent of Mathematics 1 and 2 are not required to repeat this work in the freshman year, but may substitute other elective work.

A typical outline would be as follows:
### Pre-Medical

#### FIRST YEAR.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>Eng. 1</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chem. 1 or 2</td>
<td>3</td>
</tr>
<tr>
<td>Botany</td>
<td>Bot. 1</td>
<td>3</td>
</tr>
<tr>
<td>Zoology</td>
<td>Zool. 1 &amp; 2</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Math. 1 &amp; 2</td>
<td>3</td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Electives to be chosen from history, language (see entrance requirements), drawing, American Institutions.

#### SECOND YEAR.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chem. 4</td>
<td>3</td>
</tr>
<tr>
<td>Physics</td>
<td>Phys. 2b</td>
<td>4</td>
</tr>
<tr>
<td>Physiology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Entomology</td>
<td>Ent. 1 &amp; 10</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>Eng. 2 or 3</td>
<td>2</td>
</tr>
<tr>
<td>Economics</td>
<td>Econ. 5 &amp; 6</td>
<td>3</td>
</tr>
<tr>
<td>Military or Phys. Education</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Electives to be chosen from history, language (see entrance requirements), sociology, psychology, logic.

#### THIRD YEAR.

<table>
<thead>
<tr>
<th>Name of Course</th>
<th>Credits</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Chemistry</td>
<td>Chem. 5 &amp; 6</td>
<td>4</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>Chem. 9</td>
<td>3</td>
</tr>
</tbody>
</table>
| Bacteriology                        | Bot. 4  | ...
| Geology                             | Geol. 2 | 3       |
| Quantitative Analysis               | Chem. 10 | 3 |
| Electives                           |         | 5       |

Electives to be chosen from botany 5 & 6, sociology 1 & 2, history, entomology.

This course is not rigid, and deviations are permissible, the only requirement being that the student secure the requisite credits for entrance to medical school and also satisfy the University of Hawaii requirements for a degree.
COLLEGES OF LAW.

Requirements for admission to the College of Law have been steadily advancing, until now at least two years of college training is demanded by the better institutions. Many demand three years of collegiate training, and in some instances the College of Law admits only those who have received a bachelor's degree.

Although these colleges do not ordinarily specify the exact nature of the courses to be taken in preparation for admission, they recommend especially courses in English Composition, Public Speaking, Foreign Languages, Physics, Chemistry, and Physiology, and the more fundamental courses in Government, Economics and English and American History.

The College of Arts and Sciences will undertake to give adequate preparation for admission to the various Colleges of Law, and faculty advisers will assist in outlining such two, three, and four-year courses as will satisfy their entrance requirements.

MUSIC.

Courses in music taken in the Punahou School of Music may be credited towards graduation from the University of Hawaii, provided that the courses taken are of a nature to justify the granting of credits. The courses that may be credited and the number of credits each will carry will be left to the judgment of the University of Hawaii.

Students desiring credit for work done in the Punahou School of Music should register for such work on their University Registration Card, and at the same time make a written request for credit, stating fully the nature of the course and the amount of time the course will demand.*

TEACHING.

Students preparing for the profession of teaching will elect to take their work in accordance with the terms governing Group IV. (p. 43). In addition to meeting the general requirements for the degree of B.A. (p. 42) they will elect an adequate number of courses dealing with the subject or subjects they desire to teach, as well as at least 21 credit hours in courses in Psychology and Education (p. 63).

*For information concerning the Punahou School of Music, consult the Annual Catalogue of that School, which may be obtained upon request addressed to the Director of the School.
SOCIAL SERVICE.

While the University does not offer a special course for the professional training of social welfare workers, a student in the College of Arts and Sciences may by an appropriate use of his electives, secure a considerable amount of work of value in this connection. Students interested in such work should communicate with their advisers not later than the beginning of the Sophomore year.

The following courses are recommended:

- American Institutions
- English Literature
- American Literature
- Psychology 1, 3, 4, 5
- Education 1
- Economics 5, 6, 12
- Sociology 1, 2
- Botany 4
- Physiology 1
- Chemistry 5, 9
- Household Science 1, 2, 3, 4, 5, 8
- Entomology 10
DETAILED STATEMENT OF
SUBJECTS OF INSTRUCTION

LANGUAGES AND LITERATURE

ENGLISH.

1. COMPOSITION. The principles of exposition, description, and narration; analysis of illustrative specimens; frequent written exercises, and personal conferences with instructor; occasional exercises in oral composition; collateral reading. Designed to lead not only to correctness of expression, but also to a knowledge of constructive principles. Required of all Freshmen. Prerequisite: the successful completion of at least three years of high school English or the equivalent. First and second semesters, 3 credits each. Professor A. L. Andrews, Ass't Professor Neil and Miss Reutiman.

2. TECHNICAL AND BUSINESS ENGLISH. A study of the methods of collecting, collating and interpreting scientific and technical data, and of preparing the material for either oral or written presentation to those not technically trained. Attention will be paid also to the writing of reports, and to the forms of business correspondence. Text: Watt's “The Composition of Technical Papers.” May be taken in place of English 3 by sophomores in the College of Applied Science. First and second semesters, 2 credits each. Mr. Hunt.

3. ENGLISH LITERATURE. A survey of the development of English literature, from Beowulf to Stevenson. Texts: Neilson and Thorndike's “History of English Literature,” the “Century Readings in English Literature,” Marvin's “History of European Philosophy,” and selected novels and plays. Required of all sophomores in the College of Arts and Sciences and may be elected by all other sophomores in place of English 2. First and second semesters, 3 credits each. Professor A. L. Andrews and Mr. Hunt.


6. Argumentation. The theory of argumentation; the analysis of representative arguments; practice in the writing of briefs and forensics. Required of all Juniors in Arts and Sciences. First and second semesters, 2 credits each. Mr. Hunt.

7. The Novel. The history of the novel in England. Particular attention will be given to social and literary tendencies as reflected in representative novels from De Foe to Meredith. Prerequisite English 3. First and second semesters, 3 credits each. Assistant Professor Neil.


9. Shakespeare. A careful study of some of Shakespeare's representative plays. Reading and interpretation of the plays in class; supplementary lectures; outside reading with reports on assigned topics. Prerequisite, English 3. First and second semesters, 3 credits each. Assistant Professor Neil.

20. English Poetry of the Romantic Period. A study of the poets of the century 1780-1880 as interpreters of the ideals of the age both social and aesthetic. Wide reading, lectures, topics assigned for interpretation and literary criticism. Prerequisite: English 3. First and second semesters, 3 credits each. Assistant Professor Neil.

30. Recent Literature. Designed primarily for Juniors and Seniors in Arts and Sciences. The point of departure will be F. S. Marvin's "Recent Development in European Thought. Translations of Russian, French, Belgian, and Norwegian literature will be read, as well as some of the more significant books of England and America. (Not offered in 1923-24). First and second semesters, 3 credits each. Professor A. L. Andrews.

FRENCH.


3. **Nineteenth Century French Novel.** Reading of selected masterpieces of Hugo, Daudet, Balzac, Sand and others. Conversation, essays, and lectures. Comfort's "Exercises in French Composition." Prerequisite: one year of French in college or two years in preparatory school. First semester, 3 credits. *Professor Pecker.*


5. **Contemporary French Literature.** (This course and all to follow are conducted entirely in French.) Critical study of the most modern movement in French prose, with especial attention to war literature. Texts for use in class are imported directly from Paris. Essays, lectures, and discussion on contemporary topics. Prerequisite: Two years of College French or equivalent. First semester, 3 credits. *Professor Pecker.*


7. **Classic Drama.** Masterpieces of Corneille, Racine and Molière. Lectures in French upon the literary history of the period. Additional outside reading and research will be assigned. Prerequisite: three years of college French or equivalent. First semester, 2 credits. (Not offered in 1923-1924). *Professor Pecker.*

8. **Romantic School.** Readings from Lamartine, de Musset, Hugo, etc. Lectures in French upon the significance and influence of the Romantic movement. Individual research and reports on assigned topics. Prerequisite: French 7. Second semester, 2 credits. (Not offered in 1923-1924). *Professor Pecker.*

9. **Modern French Drama.** This course alternates with French 7. Selected plays of Brieux, Hervieu, Rostand, Maeterlinck, Bernard, Becque, Bernstein, and others. Rapid reading with essays, lectures, and discussions. Individual research and reports. Prerequisite: Same as for French 7. First semester, 2 credits. *Professor Pecker.*

10. **Advanced French Seminar.** This course alternates with French 8. Continuation of study as outlined for French 9, or similar work on any phase or period of French literature in which students may be interested. Prerequisite: French 9. Second semester, 2 credits. *Professor Pecker.*
Spanish

SPANISH.


4. CONTEMPORARY SPANISH LITERATURE. Presupposes and continues Spanish 3. Attention is given the literary development in Spanish America, with reading of Isaac's "María." Conversation and composition continued, with further study of epistolary usages. Prerequisite: Spanish 3. Second semester, 3 credits. Professor Peeker.


6. ADVANCED SPANISH SEMINAR. Rapid reading of modern Spanish novels, plays, and current periodicals. Lectures and discussions. Individual research and reports on assigned topics. Prerequisite: Spanish 5. Second semester, 2 credits. Professor Peeker.

7. MODERN SPANISH NOVEL. Rapid reading course with advanced work in composition and conversation. Review of grammar. This course alternates with Spanish 5. Prerequisite: Two years of college Spanish. First semester, 2 credits. (Not offered in 1923-1924). Professor Peeker.

8. MODERN SPANISH DRAMA. Rapid reading of modern Spanish plays, with continued work in composition, dictation and conversation. This course alternates with Spanish 6. Prerequisite: Spanish 7. Second semester, 2 credits. (Not offered in 1923-1924). Professor Peeker.
HAWAIIAN.

1. A course for beginners in the Hawaiian language—pronunciation, grammar, vocabulary, dictation, and reading of easy prose, composition, translation of short legends. First and second semesters, 3 credits each. 

2. Reading of legends, meles, and more difficult prose, including legal documents and land tenure, first steps of the figurative language, current events and native editorials, conversation, declamation. First and second semesters, 3 credits each.

3. Reading and translating of the more ancient legends and meles, comparison of Hawaiian meles with those of other Polynesian groups, study of ancient traditions, arts and crafts of old Hawaii. First and second semesters.

JAPANESE.


2. Intermediate Course. "How to Read and Write Japanese Correctly." Reading, conversation, and writing. First and second semesters, 3 credits each.

3. Advanced Course. Reading and translation of modern Japanese literature. First and second semesters, 2 credits.

4. Japanese Literature. Aston's "History of Japanese Literature" with supplementary lectures. Lectures on the development of contemporary literature, with selected readings. First and second semesters, 2 credits each. (Not offered 1923-1924.)


CHINESE.


2. Continuation of Chinese 1. Conversation, easy translation and composition. Reading of simple poems and short essays. Text to be compiled by the instructor. Second semester, 3 credits.

   Professor Lee.

4. Continuation of Chinese 3. Reading of selected masterpieces of contemporary literature. Translation and composition. Text to be selected. Second semester, 3 credits. 

   Professor Lee.


   Professor Lee.


   Professor Lee.


   Professor Lee.


   Professor Lee.

HISTORY AND SOCIAL SCIENCES

1. Mediaeval History. The problems of the Middle Ages, between the years 378-1250. Texts: Emerton’s “Introduction to the Middle Ages,” and Emerton’s “Mediaeval Europe.” First and second semesters, 3 credits each. Prerequisite: History 2.

   Miss Yoder.
2. **GENERAL EUROPEAN HISTORY.** A general history of European civilization. A study of the development and expansion of European civilization from the earliest times to the beginning of the World War. Texts: Wells' "Outline of History" and Hayes' "Political and Social History of Modern Europe," and collateral reading; first and second semesters, 3 credits each. (Not offered 1923-1924).

   *Professor Leebrick.*

3. **ECONOMIC HISTORY.** The history of mediaeval guilds, and industrial problems through the establishment of the factory system will be treated in the first semester. The history of invention, of socialism, of labor unions, of capital and of the question of state control with especial emphasis on these events in the United States, in the second semester. Prerequisite: History 2. First and second semesters, 3 credits each.

   *Miss Yoder.*

5. **AMERICAN HISTORY.** A general course in American history. The first semester deals with the discovery and settlement of all nations in North America, with the growth of the Colonies and with the achieving of independence. The second semester deals with the development of the United States and its growth since 1790, considerable attention being devoted to the period since the Civil War. First and second semesters, 3 credits each.

   *Professor Leebrick.*

6. **HISTORY OF EUROPE SINCE 1800.** The history of diplomacy and international developments in Europe in the Nineteenth and Twentieth Centuries. Attention is called to the influence of international movements in their world aspects. No one text is used, but the student is advised to buy one of several recommended texts. First and second semesters, 2 credits each. Prerequisite, History 2.

   *Professor Leebrick.*

7. **UNITED STATES HISTORY.** A study of the early history of the United States. The first semester covers the separation from Great Britain and the period of the American Revolution. The second semester deals with the organizations of the States into the United States under the "Constitution" and subsequent developments to about the year 1800. Text to be selected; assigned reference readings. First and second semesters, 3 credits each. (Not offered 1923-24.)

   *Miss Yoder.*

8. **ENGLISH HISTORY.** A general course in English History with emphasis on the development of English political institutions. Conducted as a reading course with one regular recitation a week and frequent consultations. First and second semesters, 3 credits each. Given in 1922-23.

   *Professor Leebrick.*
History and Social Sciences

9. **European Expansion in the Pacific Area.** A study of the expansion of European peoples and civilization in the lands in and bordering the Pacific Ocean. A course for advanced students conducted as a reading seminar course. Admission only by the consent of the instructor. First and second semesters, 2 credits each. *Professor Leebrie.*

10. **History of the Pacific Coast of North America.** Spanish exploration and colonization by sea and land; approaches of the French, English, Russians, and Americans; official and trading expeditions; the contest for control of the Northwest Coast. A reading and discussion course designed to develop points of contact with the Hawaiian Islands. Each member of the class will be required to write a paper, which may, with the approval of the department, be expanded into a thesis, with additional credit. Admission only by consent of the instructor. Not open to Freshmen and Sophomores. First and second semesters, 2 credits each. (Not offered 1923-1924.) *Mr. Kuyckendall.*

15. **History of Japan.** Brinkley's "History of the Japanese People," with supplementary lectures. Special attention is given to the development of Feudalism, and of Modern Japan; the development of political, social, intellectual, and religious movements, from the time of the arrival of Commodore Perry, in 1852, to the present time. First and second semesters, 2 credits each. *Professor Harada.*


18. **The World War.** With special reference to the participation by the United States. First semester, 1 credit. *Professor Clarke.*

19. **History of the Chinese People.** A study of their origin; the development of their political, social, educational and religious institutions; their commercial and industrial life; their characteristics; the development of their nation's diplomatic relations with foreign countries; their awakening, and their present-day problems. Texts: Parker's "China"; Bashford's "China: An Interpretation." Assigned reference readings and supplementary lectures. This course is conducted entirely in English. First and second semesters, 2 credits each. *Professor Lee.*
20. Hawaiian History. A seminar course, open only to Seniors, graduate students and special students, by permission of the instructor. Each member of the class will be assigned a special subject for investigation throughout the year, and will be required to present a paper embodying the results of the investigation. No credit will be given for the first semester's work unless the course is also taken during the second semester. First and second semesters, 2 credits each. Mr. Kuykendall.

21. History of the Hawaiian Islands. A general course, covering the entire history of the group from the earliest times to the present day. Lectures, assigned readings, and quizzes, both oral and written. Second semester, 3 credits. Professor Leebrick and Mr. Kuykendall, assisted by special lecturers from among local authorities on various phases of Hawaiian history.

POLITICAL SCIENCE

1. American Institutions. The aim is to teach citizenship by familiarizing students with the various institutions of American government and to gain a clear insight with new working principles. Training is given in reading newspapers, magazines and books; discussions of current events, local, national and international, are frequent. The discussion-recitation method is followed. Text: Munro's "The Government of the United States." The library has several copies of supplementary texts. First and second semesters, 3 credits each. Professor Leebrick.

2. Comparative Government. A comparison of the government of the United States with other governments, especially that of Great Britain, France, Switzerland, Imperial Germany. Attention will be given to the principles of Political Science, and the end of the second semester will be devoted to a brief examination of current political ideas. Text: Bryce, "Modern Democracies." First and second semesters, 3 credits each. Professor Leebrick.


11. The study of teaching of American Institutions, and examination of text-books now before the public. Given in afternoons for teachers. First and second semesters, 2 credits each. Professor Leebrick.
In view of the complex social situation, the peculiar vocational, economic, and political conditions, and the comparative isolation of this Territory, the importance of public education can hardly be over-estimated. The purpose of the courses in education and psychology is to furnish a background of theory and practice which shall prepare the student for effective service in the educational, social, or economic field as teacher, welfare worker, or employment manager. Specifically it is intended to provide professional training for departmental teachers for intermediate and high schools, and administrators for elementary and secondary schools.

In addition to meeting the special academic requirements of the subject to be taught, each prospective teacher will be expected to earn at least six units of credit in psychology and eleven in education, including the principles and practice of teaching and the principles of secondary education.

The University is desirous of correlating its work with that of the public and private schools as far as possible and will endeavor to arrange a suitable meeting time for some of the more advanced courses when there is sufficient demand from properly qualified teachers-in-service.

**EDUCATION.**

1. **INTRODUCTION TO EDUCATION.** A treatment of the aims, means, methods and results of education, of the conditions set by the laws of human nature, and of the part that school education plays in the American life. The work is principally readings selected from the University Library. A series of visits to typical educational institutions in Honolulu, illustrating various aspects of the educative process and written reports of these visits are required. Not open to first year students. Second semester, 3 credits. *Professor Symonds.*

4. **PRINCIPLES OF SECONDARY EDUCATION.** This course deals with the sociological and psychological factors which are the basis of the organization, administration and selection of subject matter of the secondary school. The nature of the adolescent, a history of the development of secondary education, secondary education in other countries, the values in secondary school subjects and the organization of curricula are topics considered. That the secondary school must reorganize to meet the physical, social, vocational and intellectual needs of the pupil and the civic and
economic demands of society is the point of view in the course. Reading and individual reports on recent literature. Prerequisite: Education 1 and Educational Psychology. Second semester, 3 credits. Professor Symonds.

5. PRINCIPLES OF TEACHING IN SECONDARY SCHOOLS. This course is an application of the principles laid down by psychology to the conduct of the classroom. The course will open with a review of the principles of learning. This is followed by a discussion of such topics as—diagnosis of the pupils, the aims of instruction, the assignment, supervised study and teaching how to study, the recitation, questioning, reflective thinking, the lesson in appreciation, drill, review, testing, the socialized recitation, the problem of conduct. Readings and reports. Systematic visits to secondary schools will be a part of the course and before the end of the course the student will concentrate his visiting on the class which he intends to take for practice teaching in the second semester. A course for seniors and graduate students who have earned twelve approved units of credit in education and psychology. First semester, 2 credits. Professor Symonds.

6. PRACTICE TEACHING IN SECONDARY SCHOOLS. Practice in teaching in secondary schools in Honolulu. An arrangement exists between the Department of Education and the Department of Public Instruction whereby qualified students may have opportunity to undertake practice teaching in the McKinley High School. Certain private secondary schools in Honolulu also make opportunity for practice teaching. Usually practice teaching involves the responsibility of a class or group for the remainder of the year. Daily lesson plans are required. Conferences will be held frequently at the opening of the semester, but the student is also required to take Psychology 11 parallel with this work in practice teaching. Credit for this course is not granted if the student has previously held a responsible teaching position for pay, nor is credit for practice teaching granted in transfer from other institutions. Open only to those who have had Education 5 in the first semester of the same year. Second semester, 3 credits. Professor Symonds.

7. SCHOOL ADMINISTRATION. A discussion of the following topics will comprise this course: Public school publicity, course of study, school organization, flexibility of grading and promotion, supervision, methods of determining the work of children, training of teachers in service, preparation, selection, tenure and promotion of teachers. Salaries and retirement funds, school census, compulsory attendance, classification and progress of children, school health, special classes, supplementary and extra
school education, text books, supplies and instructional equipment, 
school records, the school plant, educational and school building 
program. Each member of the course will select some topic for 
personal investigation and a typewritten report will be required. 
A course intended for graduate students and specially qualified 
principals and supervisors. Credits and hours will be arranged. 
Second semester.  

Professor Symonds

LOGIC

LOGIC, DEDUCTIVE AND INDUCTIVE. Required of all sopho-
mores in the College of Arts and Sciences. Second semester, 3 
credits.  

Mr. Hunt.

PSYCHOLOGY.

1. INTRODUCTION TO PSYCHOLOGY. A general course in psy-
chology offering a survey of the various aspects of the mental 
life. Readings, discussions, and class experiments. An outline of 
the textbook used will be required. Not open to first year stu-
dents. Required of Sophomores in Arts and Sciences. First se-

Professor Symonds.

3. EDUCATIONAL PSYCHOLOGY. Human psychology with 
special emphasis on the learning process which will take up half 
of the course. Other topics for consideration will be the original 
nature of man and individual differences. Prerequisite: Psychol-
ogy 1 or its equivalent. First semester, 3 credits.  

Professor Symonds.

4. NORMAL AND EXCEPTIONAL INTELLIGENCE. A course of 
lectures and discussions on the development and distribution of 
human intelligence, the relationship of physical and mental 
growth, the methods and aims of psychological examinations, in-
cluding personality studies and mental tests. The general aim and 
direction of the course will be towards the study of individual 
differences in school children and the methods of discovering and 
classifying the abnormal, sub-normal, and supernormal. There 
will be a survey of literature dealing with mental testing, to-
gether with assigned readings. Open only to advanced students 
and experienced teachers after consultation. Prerequisite: Edu-
cational Psychology. First semester, credit to be arranged.  

Professor Symonds.

5. MEASUREMENT OF INTELLIGENCE. This is a continuation 
of Psychology 4 and is a practical course in the method of giving 
standardized individual and group tests. Each student will be 
expected to make a study involving the use of tests with the tabu-
lation and interpretation of results. A knowledge of elementary 
statistical methods will be necessary and will be included as part 
of the semester assignment. In this and the above course a series
of case demonstrations will be given at the laboratory of the Psychological and Psychopathic Clinic. Students will be required to attend these demonstrations and to present case histories and test records based on the demonstrations. Second semester, credit to be arranged.

8. DIRECTED READING IN PSYCHOLOGY. Open only to those qualified to do independent work and show results. Either semester, credit to be arranged.

9. RESEARCH IN PSYCHOLOGY. An opportunity is offered for graduate students, and others properly qualified, to carry on special investigations. A thesis will be required. Either semester, credit to be arranged.

10. PSYCHOLOGY OF THE ELEMENTARY SCHOOL SUBJECTS. A consideration of the psychological aspects of reading, arithmetic, handwriting, spelling, drawing and the social subjects. Such topics as the psychological analysis of the subjects, drill, measurement, arrangement, thinking, motivation and individual differences will be considered. The recent work of Gray and Gates in reading, Thorndike in arithmetic, Freeman in handwriting, Hollingworth and Gates in spelling will be reviewed. Prerequisite: Psychology 3 or its equivalent. First semester, 2 credits. Professor Symonds.

11. PSYCHOLOGY OF THE SECONDARY SCHOOL SUBJECTS. A consideration of the psychological aspects of algebra, the classics, English, modern languages and the social studies. Applications from psychology to the problems of curriculum construction, drill, measurement, thinking, motivation and individual differences. Use will be made of Thorndike and others—"The Psychology of Algebra," the work of Henmon, Brown, and the Classical League of America in the classics, and the 22nd yearbook of the National Society for the Study of Education in Composition. Required of all who are taking Education 6. Prerequisite: Psychology 3 or its equivalent. Second semester, 2 credits. Professor Symonds.

PSYCHOLOGICAL AND PSYCHOPATHIC CLINIC.

A Psychological Clinic is now established in connection with the University. Its activities may be comprised under three heads—mental examinations, research, and training in certain fields of applied psychology.

Mental examinations will be conducted of cases referred to the Clinic by juvenile courts, industrial schools and other social welfare agencies. If requested mental surveys of schools and institutions will also be carried out.
Research activities will be concerned mainly with the development and adaptation of mental tests for use in the Territory. Data on various problems in racial psychology will at the same time be gathered and analyzed.

The Psychological Clinic will also provide facilities for properly qualified students to obtain practical training in methods of mental testing and psychological research. This training will be particularly applicable to students wishing to qualify themselves for work in the fields of psychology, sociology and special education. Ordinarily credit will be given for this work under Psychology 9.

SOCIOLOGY.

1. INTRODUCTION TO SOCIOLOGY. The social nature of man; the nature of society; social institutions; social evolution. Prerequisite: Two years of college work. First semester, 3 credits. Professor Adams.

2. SOCIAL PROBLEMS. Problems of today viewed in relation to each other and to recent progress. Prerequisite: Sociology 1. Second semester, 3 credits. Professor Adams.

3-4. A reading course in the literature of some field of social service to accompany Sociology 5-6. Consultations and reports monthly. Semester papers based on reading and practical work. Open only to students believed to be able to do successful work with but little direction. Credit not to exceed 3 units for each semester, to be given according to work accomplished. Professor Adams.

5-6. A practical course in social service offered by the University in cooperation with some approved social service agency in Honolulu. The student will devote such time as may be determined upon to actual work under the direction of the head worker of the selected social service agency, and shall be responsible to such head worker. Course to be accompanied by Sociology 3-4. Open only to regular students who have made appropriate arrangements for service. Credit will be based on success in the work and the number of units shall be according to the amount of work done, but in no case shall it exceed five for any one semester. Professor Adams.
ECONOMICS.

4. ECONOMIC GEOGRAPHY. A study of the productions of the principal regions and of commerce. Special attention is given to the countries bordering the Pacific Ocean. Prerequisite: Geology 1. Second semester, 3 credits. 

Assistant Professor Palmer.

5-6. ELEMENTS OF ECONOMICS. An introductory course. Organization of production price, distribution. Economic problems. First and second semesters, 3 credits each. 

Professor Adams.

7. MONEY AND BANKING. A study of the problems centering around the use of money and credit. Prerequisite: Economics 5, 6. First semester, 3 credits. (Not given 1923-1924.) 

Professor Adams.

8. INTERNATIONAL TRADE. Nature of the gain from international trade. How trade is financed. Commercial policies of leading countries; tariffs. Attention is given to the trade of South America and the Orient. Prerequisites: Economics 5, 6. Second semester, 3 credits. (Not given 1923-1924.) 

Professor Adams.

9. TRANSPORTATION. Railroad and inland water transportation. Ocean transportation. Prerequisites: Economics 5, 6. First semester, 3 credits. 

Professor Adams.

10. LABOR. A study of legal and social aspects. Prerequisites: Economics 5, 6. Second semester, 3 credits. 

Professor Adams.

13-14. PRACTICAL BANKING. A course in actual work in the Bank of Hawaii and under the direction of the officers of the bank. Students will be given an opportunity to learn the varied sorts of banking procedure, receiving promotion to new kinds of work as their practical efficiency and other conditions may warrant. Students will work two afternoons of each week from one o’clock till the books are balanced. Open only to students who have credit in or are registered in Economics 7 and who are recommended by the professor of economics and accepted by the bank. Reports of progress will be required monthly. Two credits each semester. 

Professor Adams and Mr. Richards.

COMMERCE.

1-2. ELEMENTARY ACCOUNTING. The proprietorship equation. Principles of debit and credit and application to the balance sheet and the profit and loss statement. Accounting for sole proprietorship and partnership. Three credits each semester. 

Mr. Van Winkle.
3-4. IntermediatE Accounting. Accounting for corporations. Voucher systems, valuation of fixed and intangible assets, merchandise, stock-in-trade, mercantile credits, depreciation, fixed liabilities, surplus, reserves, dividends, liquidation, branch house accounting, consolidated balance sheet, accounts and reports of receivers and trustees. Prerequisites: Commerce 1, 2. Three credits each semester.

5-6. Advanced Accounting Seminar. The fundamental principles of accounting applied to specific lines of business such as that of a factory, a wholesale store, a plantation, or a public utility. Each student will study some one type of business, devise a suitable system of accounts for its use, and incorporate the results of the investigation in the form of a thesis to be presented orally before the class and a copy to be retained by the department. Prerequisites: Commerce 1, 2, 3, 4. Two credits each semester.


9-10. Business Organization and Administration. The various forms of organization, structure, legal aspects, financing, factory location, administration, labor, scientific management, finance, statistical control, the use of the budget, forecasting. Prerequisites: Commerce 1, 2. Three credits each semester.


Marketing. The specific courses to be given in marketing cannot be presented at this time since faculty appointments in Commerce are not completed. Several courses in the general field of marketing and including such work as wholesale and retail merchandising, advertising, the marketing of farm products, and producers' marketing organizations, are contemplated, and the courses will be advertised later.

A thesis treating of the commerce or some aspect of the commerce of some country bordering the Pacific will be required of each Senior. The credit for such thesis will be according to the merit of the thesis and the amount of work.

Mathematical and Physical Sciences

Chemistry.

The chemical laboratories are well equipped with apparatus and supplies for work in general chemistry, qualitative analysis, elementary and advanced quantitative analysis, organic chemistry, sugar technology, and for chemical research. To specify somewhat in detail, the laboratories are supplied with platinum ware, volumetric apparatus, chemical balances, apparatus for gas and
oil testing and for food analysis, a bomb calorimeter, polarimeters, spectrosopes, refractometers, and apparatus for work in physical chemistry. Gas, water, and electricity are all at hand, and the equipment of desks and hoods is well adapted to present needs.

1. **General Chemistry.** An elementary course in general chemistry, designed to serve either as a foundation for the advanced courses in chemistry or as a general survey of the science for those who do not intend to take further work in chemistry. Two hours class room and 1 period laboratory a week. First and second semesters, 3 credits each. *Professor Wrenshall.*

2. **Advanced General Chemistry.** To be substituted for Chemistry 1 by properly qualified students who have had chemistry in a preparatory school. Lectures and recitations in which the general principles of chemistry are considered from a quantitative standpoint. Laboratory work includes elementary physico-chemical measurements, quantitative determinations and inorganic preparations. Two hours class room and 1 period laboratory a week. First and second semesters, 3 credits each. *Professor Wrenshall and Mr. Kirschman.*

4. **Qualitative Analysis.** A course covering the characteristic reactions of the more common metals and acids, and group separations of the same. It includes also methods for analyses of solids and methods for obtaining solutions of solids. Each student analyzes a series of from thirty to forty "unknowns," covering a wide range of inorganic substances. In a lecture or recitation period methods are given and the reactions studied. Text: "Qualitative Chemical Analysis," Noyes. Prerequisite: Chemistry 1 or 2. Two periods laboratory and one hour classroom a week. First and second semesters, 3 credits each. *Professor Dillingham and Mr. Kirschman.*

5. **Organic Chemistry.** The Aliphatic and Aromatic Series. Lectures, collateral reading, discussions, and frequent quizzes. For those who specialize in chemistry and sugar technology this is accompanied by the laboratory course. Text: Perkin and Kipping’s "Organic Chemistry." Prerequisite: Chemistry 1 or 2. Three hours classroom a week. First and second semesters, 3 credits each. *Professor Wrenshall.*

6. **Organic Chemistry Laboratory.** To be taken in conjunction with Chemistry 5. A study of the preparation, separation and analysis of a number of organic compounds. One period laboratory a week. Text: West's "Experimental Organic Chemistry." First and second semesters, 1 credit each. *Professor Wrenshall.*
9. BIOLOGICAL CHEMISTRY. A course consisting of lectures, recitations, supplementary reading, and laboratory periods dealing with the chemistry of air, food constituents, plant and animal life, and nutrition. Text: "Chamberlain's Organic Agricultural Chemistry." Prerequisite: Chemistry 1 or 2. Two hours classroom and one period laboratory a week. First semester, 3 credits.  
Professor Dillingham.

9a. AGRICULTURAL CHEMISTRY. A course consisting of recitations, supplementary reading and laboratory periods dealing with the chemistry of soils, fertilizers, and insecticides. Text: Fraps' "Principles of Agricultural Chemistry." Prerequisites: Chemistry 1 or 2 and 9. Two hours classroom and 1 period laboratory a week. Second semester, 3 credits.  
Professor Dillingham.

10. QUANTITATIVE ANALYSIS. The principles of gravimetric and volumetric analysis, including the determination of the constants of the balance, analyses of a carefully selected series of pure compounds, calibration of glassware, acidimetry, alkalimetry, and other volumetric methods. Text: "Foulk's Quantitative Chemical Analysis." Prerequisites: Chemistry 1 or 2 and 4. One hour classroom and 2 periods laboratory a week. First and second semesters, 3 credits each.  
Professor Wrenshall and Mr. Kirschman.

11. PHYSICAL CHEMISTRY. Lectures, recitations and collateral reading covering the general principles of physical chemistry, including a study of pressure-volume relations of gases; colligative properties of solutions, electrical transference and conduction, phase equilibria and thermo-chemistry. Text: Noyes and Sherill's "Principles of Chemistry." Prerequisites: Chemistry 1 or 2, and 4. Two hours a week. First semester, 2 credits. (Alternate years; not offered 1923-1924.)  
Mr. Kirschman.

12. PHYSICAL CHEMISTRY LABORATORY. A series of carefully selected physico-chemical measurements to be taken in connection with Chemistry 11. One period laboratory a week. First semester, 1 credit. Alternate years; not offered 1923-1924.)  
Mr. Kirschman.

13. THERMODYNAMIC CHEMISTRY. A continuation of chemistry 11. The first and second laws; energy, entropy, free energy, and fugacity; behavior of pure substances, solutions, and heterogeneous systems from an energy standpoint; electro chemistry. Prerequisite: Chemistry 11. Second semester, 2 credits. (Alternate years, not offered 1923-1924.)  
Mr. Kirschman.

14. THERMODYNAMIC CHEMISTRY LABORATORY. A laboratory course to be taken in conjunction with Chemistry 13. One
period laboratory a week. Second semester, 1 credit. (Alternate years, not offered 1923-1924.) Mr. Kirschman.

15. CHEMICAL LITERATURE. A library course in which articles appearing in current chemical periodicals are studied. Prerequisites: Chemistry 1 or 2, 4, and 10. To be taken in conjunction with Chemistry 16. One hour classroom a week. First and second semesters, 1 credit each.

Professors Dillingham and Wrenshall.

16. ADVANCED QUANTITATIVE ANALYSIS. Analysis of special substances, such as foodstuffs, soils, fertilizers, ores, iron, steel, water, etc. Prerequisites: Chemistry 1 or 2, 4, and 10. Three periods laboratory a week. First and second semesters, 3 credits each.

Professors Dillingham and Wrenshall.

18. CHEMISTRY RESEARCH. The preparation of a thesis on some subject in pure or applied chemistry. Elective course, particularly for graduate students. Hours and credits to be arranged.

Professors Dean, Dillingham and Wrenshall.

23. CHEMISTRY FOR ENGINEERS. A course of lectures and recitations covering the chemistry of fuels, water, lubricants, and materials used in engineering. Text: Benson’s “Industrial Chemistry for Engineering Students.” Required of Juniors or Seniors in Engineering. Prerequisite: Chemistry 1 or 2. Two exercises a week. First and second semesters, 2 credits each. (Alternate years, offered 1923-1924.) Professors Dean and Wrenshall.

GEOLoGY.

1. PHYSICAL GEOGRAPHY. The processes which shape the surface of the earth, the forms resulting from these processes, and the suitability of the earth for the abode of man. Attention is also given to man’s dependence on climate and his plant and animal associates. This course is a prerequisite for Economics 4. First semester, 3 credits. Assistant Professor Palmer.

2. PHYSICAL GEOLOGY. The work of the atmosphere, streams, ground water, lakes and oceans, snow and ice, earthquakes and volcanoes. The nature of the processes and the results they accomplish. Two recitations and one laboratory period a week. First semester, 3 credits. Assistant Professor Palmer.

3. HISTORICAL GEOLOGY. The history of the earth, its continents and ocean basins, and of its plant and animal inhabitants. Prerequisite: Geology 2. Second semester, 3 credits. Assistant Professor Palmer.

4. GEOLOGY OF GROUND WATER. The origin, distribution, amount, circulation, and recovery of ground water, with especial
Mathematics

reference to the Hawaiian problem. Prerequisite: Geology 2. Two recitations and one laboratory period a week. Second semester, 2 credits.

Assistant Professor Palmer.

5. MINERALOGY. A study of the crystal systems and of the physical, chemical, and morphological criteria for the determination of minerals, leading up to the sight identification of the more common rock-forming and economic minerals. Prerequisites: Chemistry 1 or 2 and 4. One lecture and two laboratory periods a week. First semester, 3 credits.

Assistant Professor Palmer.

6. METEOROLOGY, CLIMATOLOGY, AND OCEANOGRAPHY. A study of the causes and effects of atmospheric conditions, such as changes of temperature, pressure, winds, humidity, clouds, precipitation, and storm. Also a study of analogous phenomena in the ocean. Second semester, 3 credits.

Assistant Professor Palmer.

MATHEMATICS.

1. PLANE TRIGONOMETRY. Prerequisites: Algebra and Plane Geometry. First semester, 3 credits. Professor Donaghho.

2. ALGEBRA AND ANALYTIC GEOMETRY. Prerequisite: Same as for Course 1. Second semester, 3 credits. Professor Donaghho.

3. ANALYTIC GEOMETRY AND TRIGONOMETRY. (a) Analytic geometry, plane and solid. (b) Spherical trigonometry. Required of Freshmen in Engineering. Prerequisites: Elementary Algebra, Plane and Solid Geometry, Plane Trigonometry. First semester, 5 credits Professor Donaghho.

4. ALGEBRA AND INTRODUCTORY CALCULUS. (a) A short course in Advanced Algebra, including symmetric functions, partial fractions, irrational functions, simultaneous quadratic equations, binomial theorem, theory of equations, infinite series, logarithms. (b) A short course in differentiation. Required of Freshmen in Engineering. Prerequisite: Course 3. Second semester, 5 credits. Professor Donaghho.

5. CALCULUS. Differential and integral calculus. Required of Sophomores in Engineering. Prerequisite: Course 4. First semester, 3 credits. Professor Donaghho.

6. CALCULUS. Continuation of Course 5. Required of Sophomores in Engineering. Second semester, 3 credits. Professor Donaghho.

7. ASTRONOMY. A brief course in practical astronomy, adapted to the needs of engineering students. Required of students in Engineering. Prerequisites: Courses 3, 4. First semester, 3 credits. (Alternates with M.E. 1; not offered in 1922-23.) Professor Donaghho.
8. ASTRONOMY. A lecture course in descriptive astronomy. Second semester, 1 or 2 credits. (Not offered in 1922-23.) 
Professor Donaghho.

9. CALCULUS. (a) A list of comparatively simple problems giving a rapid review of many applications of the calculus. (b) Drill problems, of increasing difficulty. Prerequisites: Courses 5 and 6. First semester, 1 or 2 credits. Professor Donaghho.

10. CALCULUS. Continuation of Course 9. Second semester, 1 or 2 credits. Professor Donaghho.

PHYSICS.

The physical laboratory is equipped in mechanics and heat with substantially the material used in Millikan's College Course in those subjects. In light and electricity the following may be mentioned as giving an idea of the grade of apparatus: a Browning spectrometer, gratings, a Brace spectrophotometer, a Lummer-Brodhun photometer, a Kelvin balance, a Carey Foster bridge and standard resistances, a Leeds and Northrup potentiometer, a variable standard of self and mutual inductance, a Roentgen ray outfit, and a wireless receiving set with antenna. The laboratory includes a dark room, seismograph room, and a shop with engine lathe and other tools for the construction and repair of apparatus, in addition to the ordinary laboratories.

2. GENERAL PHYSICS. Physics for Engineering students. Prerequisites: Mathematics 3 and 4. Parallel Courses: Mathematics 5 and 6. Two lectures and two laboratory periods weekly. First and second semesters, 4 credits each. Professor Romberg.

2a. GENERAL PHYSICS. Mechanics, sound, light, heat, and electricity. Prerequisites: Mathematics 1 and 2. Two lectures and one laboratory period weekly. First and second semesters, 3 credits each. Professor Romberg.

2b. GENERAL PHYSICS. Same as course 2a but an additional laboratory period each week and an additional credit each semester. Designed especially for students taking the pre-medical course. Professor Romberg.

3. ELECTRICAL MEASUREMENTS. A laboratory course. Includes measurements of current, voltage, resistance, inductance, capacity, magnetic properties of iron, etc. Prerequisite: Physics 2. Two laboratory periods weekly. First semester, 2 credits. Professor Romberg.

4. ADVANCED PHYSICS. Upon request more advanced courses in light, heat, or electricity may be given. Professor Romberg.
BIOLOGICAL SCIENCES

BOTANY.

The University of Hawaii offers remarkable advantages for the study of botany in all its branches. There is no dormant season, so that specimens may be collected and experimental work in the field may be performed at any time. This enables the student to observe and study plants under natural conditions, thus increasing the interest in and adding to the value of the work.

The laboratories are fully equipped with microscopes and accessories, apparatus, chemicals, stains and other supplies necessary to botanical work. Water, gas and electricity are all at hand.

Attention is especially directed to the opportunities presented for work along special lines and for research. The accessibility of the coral reefs facilitates the collection of marine algae for systematic work and presents a great opportunity for the study of marine ecology.

The continuity of the growing season permits work to be carried on throughout the year. Conditions peculiar to the Islands introduce a number of special problems in tropical agriculture and horticulture, in addition to general problems, thus making plant physiology a particularly attractive field for study. The physiological equipment includes apparatus for the study of respiration, oxidase and catalase activity, hydrogen-ion concentration by electrometric or colorimetric methods, electrical conductivity and cryoscopic determinations, so that physiological investigations may be carried on by the most exact methods.

The great diversity of environmental conditions within a range of a few miles offers excellent advantages for the study of ecology or for ecological research, particularly in plant succession.

The unusually high percentage of endemic plants in the Hawaiian flora makes the study of systematic botany very attractive. The University offers an exceptional opportunity in this line of work, because of its excellent herbarium and the extensive collection of systematic works in the library.

The Herbarium of the University of Hawaii, in the custody of the Bishop Museum, contains the most nearly complete collection of Hawaiian plants in existence, including specimens of species which have already become extinct. The portions of the types and the co-types of plants described by Dr. W. Hillebrand, together with the types of new species, form the most valuable part of the herbarium. The former are part of an assortment of about a thousand sheets of Hawaiian plants secured by Professor
Rock from the Berlin Botanical Museum, where the Hillebrand collection is deposited. In addition, portions of the types of Hawaiian plants described by Dr. Asa Gray were also secured from the Harvard Herbarium, and photographs of other Hawaiian specimens in the Harvard, Berlin, Vienna, and Paris museums were taken. Recently the herbarium has obtained duplicates of the plants collected in Hawaii by the Galatea Expedition in 1842; also of Hawaiian plants collected by A. A. Heller in 1895. Besides the Hawaiian collection the herbarium possesses a set of plants collected on the Galapagos Islands by the California Academy of Science Expedition; also specimens from Australia, the Philippines, Java, Ceylon, Cuba, Mauritius, South and Central America, and New Zealand.

The library of systematic botany contains nearly all the atlases and texts of early voyages, and is practically complete as far as the original descriptions of Hawaiian plants are concerned. This, with the completeness of the herbarium, makes possible the preparation of monographs on various groups of Hawaiian plants. The library further includes such works as Martius' Natural History of Palms, the Flora Brasiliensis, many works on continental as well as insular floras, Das Pflanzenreich and several periodicals.

1. General Botany. A study of the organization of the plant body of seed-bearing plants. The structure of the members of the plant body, the relation of form to function and adjustment to external conditions are given special attention during the first semester. This is followed in the second semester by a brief survey of the principal groups from algae to seed-bearing plants with a study of the life history of representative forms. The evolution of the vegetative and reproductive organs of the plant as related to the habitat is given special attention. Two periods laboratory and one hour lecture or recitation a week. First and second semesters, 3 credits each. Professor Bergman.

2. Elementary Systematic Botany. A study of native and introduced plants, especially with reference to characters which are useful in determining their identity. Practice in the use of keys for identification and in the recognition of the more common forms and families on sight is emphasized. Two periods laboratory or field and one hour lecture or recitation a week. Prerequisite: Botany 1. First and second semesters, 3 credits each. Professor Bergman.

3. Plant Ecology. A study of plants in relation to the environment. The use of exact methods in the measurement of factors of the environment and of the effect of these factors on
the plant. Studies in migration, invasion, competition and dominance in relation to plant succession, and the use of exact methods of determining the composition of the plant community. Prerequisites: Botany 1, 2, 4 and 9. Two periods field or laboratory with one hour lecture or recitation a week and assigned reading. First and second semesters, 3 credits each. (Offered in alternate years. To be given 1923-1924.)

Professor Bergman.

4. General Bacteriology. An introductory course on the morphology and physiology of bacteria and the relation of these organisms to household and industrial processes and to sanitation. The preparation of culture media, methods of isolation and the study of cultural characteristics. Texts: Buchanan, "Household Bacteriology." One hour recitation or lecture and two laboratory periods a week. Second semester, 3 credits. Professor Bergman.

5. Elementary Plant Pathology. A systematic study of plant diseases. The morphologic characters, life history and methods of control. Text: Duggar's "Diseases of Plants." Prerequisite: Botany 1. Two periods laboratory and one hour lecture or recitation a week. Second semester, 3 credits. (Offered in alternate years. To be given in 1923-24.) Professor Bergman.

6. Plant Physiology. A study of the physiological activities of the plant, such as absorption, translocation, synthesis of food materials, respiration, growth, and reproduction. Text: Duggar's "Plant Physiology." Two periods laboratory and one hour lecture or recitation a week. First and second semesters, 3 credits each. Professor Bergman.

8. Advanced Plant Physiology. An experimental study of the processes of nutrition and growth of plants, with collateral reading and conference. Text: Palladin, "Physiology of Plants." Prerequisites: Botany 1 and 6 and organic chemistry. Two or three laboratory periods per week. First and second semesters, 2 or 3 credits each. Professor Bergman.


17. Botanical Research. Open to students who show sufficient preparation and ability to carry on studies of an investigational nature. Hours and credits to be arranged. Professor Bergman.
ENTOMOLOGY.

The entomological collection, systematically arranged in standard cabinets, is particularly rich in economic material, and although the greater part represents Hawaiian forms, it is also well supplied with specimens from the South Seas and North America.

The laboratories are well equipped with Zeiss compound and binocular microscopes, dissecting lenses, and other necessary apparatus. A photographic room, used in common with other departments, is thoroughly equipped with cameras and other needed accessories.

Not only is the modern equipment of the University at the service of students engaged in research work, but also the several entomological collections and libraries in Honolulu are available for the use of advanced students, and add to the attractions of this location for research in entomology.

1. General Entomology. A study of the general morphology, physiology, and classification of insects. Introductory lectures on the relatives of insects, followed by a consideration of the characteristics of the orders, suborders, and principal families, with life histories and habits of typical species. Laboratory work includes a study of the structures of insects and practice in their classification. The making of a collection by each student offers practical experience in field work. One hour class room, two periods laboratory. First semester, 3 credits.

Professor Crawford.

2. Economic Entomology. Deals primarily with insects of economic importance. Lectures on the more important insect pests and methods of controlling them. Laboratory work includes a study of the several stages in the life history of our common insects, and the making of a collection showing these. Field observation is emphasized. Required in Biological Science and Agriculture. Prerequisite: Entomology 1. One hour class room and two periods laboratory. Second semester, 3 credits.

Professor Crawford.


Professor Crawford.

5. Toxonomy of Insects. A laboratory course in the identification of insects, applying the study of wing venation. Special groups may be studied and original work done by the students. At least one semester required of students for ad-
advanced work in entomology. Prerequisites: Entomology 1 and 4. Two periods laboratory. First and second semester, 2 credits each.

7. Economic Entomology of Sugar Cane. A general study of the chief insects affecting sugar cane, with laboratory work upon the life-histories of the more common local species. Special attention will be given to the very important work accomplished by insect parasites in Hawaii. Required in Sugar Technology, Agriculture Division. Prerequisite: Entomology 1. One lecture and two periods laboratory. Second semester, 3 credits. Professor Crawford.

10. Medical Entomology. Insects affecting man's person, with suggestions for their control. Lectures and assigned readings on disease-transmitting insects. Laboratory work on life-histories of available species. Two periods laboratory. Second semester, 2 credits. Professor Crawford.

16. Research in Economic Entomology. Primarily a post-graduate course. Opportunities for research work in this field are especially attractive, since the problem can be developed throughout the year without interruption. Open only to students who have shown marked ability in the study of entomology. Prerequisites: Entomology 1, 2, 4, and 5. Throughout the year, 3 or more credits a semester. Professor Crawford.

ZOOLOGY

The courses in zoology are intended to meet the demands both of elementary and advanced students, and are arranged to take advantage of the wealth of illustrative and research material available in the Island fauna throughout the year.

The establishment of a biological laboratory for research at Waikiki, adjacent to the aquarium, offers an excellent opportunity for the investigation of marine biological problems. An extensive tropical fauna in the waters about the Hawaiian Islands makes possible an unlimited field for research in zoology. Coral reefs are easily accessible, provision will be made for plankton work, and dredging may be done in moderate depths outside the reefs.

In addition to the general laboratory the building provides private research rooms, aquaria tables with running salt and fresh water, gas, electricity, a photographic room, and other conveniences. Advanced students and special investigators will be given every possible accommodation for the pursuance of research.

2. General Zoology. An introductory course covering in a general way the field of animal life. Biological principles are presented and a study of the structure, development, relationship,
distribution, and economic importance of animals is made. Text: Galloway's "Text Book of Zoology." Required of pre-medical students and Sophomores in Agriculture. Two lectures and one laboratory period a week. First semester, 3 credits.

Professor Edmondson.

2. Comparative Anatomy of Vertebrates. A continuation of Course 1, including a comparative study of the systems of organs of typical vertebrates. Structural relationships of the various groups are emphasized and the progressive development from the lower to higher forms pointed out. Text: Kingsley's "Comparative Anatomy of Vertebrates," and other reference works. Prerequisite: Zoology 1. Required of pre-medical students. Two lectures and one laboratory period a week. Second semester, 3 credits.

Professor Edmondson.

3. Elementary Marine Problems. A course in ecological studies of marine organisms. Observations of animals in their natural surroundings will be made in so far as possible. Collections on shore and reef and laboratory studies of our common marine animals are included in the course. Each student will follow an independent line of investigation under the direction of the instructor. Prerequisites: Zoology 1 and 2. Two laboratory periods a week. Either semester, 2 credits.

Professor Edmondson.

4. Histological Technique. A laboratory course involving methods of fixing, staining and mounting animal tissues. Studies will be made of the tissues prepared. Prerequisite: Zoology 1. Two laboratory periods a week. First semester, 2 credits.

Professor Edmondson.

7. Mammalian Anatomy. A laboratory course primarily for pre-medical students involving the careful dissection of a typical mammal. Prerequisites: Zoology 1 and 2. Two laboratory periods a week. First semester, 2 credits. (Not given in 1923-'24.)

Professor Edmondson.

10. Research. Students with sufficient preparation are encouraged to undertake the investigation of special zoological problems with reference to land, fresh water, or marine animals. Hours and credits to be arranged. Professor Edmondson.

PHYSIOLOGY

1. Physiology. A course in physiology for the general student as well as those preparing for medicine. The functions characteristic of the various systems of organs of the human body are considered in detail. Not open to freshmen. Three lectures a week. Second semester, 3 credits.

Professor Edmondson.
AGRICULTURE

The University of Hawaii is advantageously situated for agricultural experiments and demonstrations. The climate permits of plant growth throughout the year. The alternation of wet and dry seasons affords opportunities for work under conditions both of rainfall and irrigation. To the facilities of the University are added those of the Territorial Board of Agriculture and Forestry, the Federal Experiment Station, and the Experiment Station of the Hawaiian Sugar Planters' Association, through the generous cooperation of those institutions.

Lands.—The University farm comprises some sixty acres lying between the University buildings and the Manoa Stream. Any portion of it can be reached by a five minutes' walk from the class rooms. About twenty acres, laid off in a permanent and definite system of one-acre fields, are under cultivation. The remainder is in pasture and unimproved fields. Though some of the latter are too rocky to plow, they may be utilized for experiments in forestry. The pasture lands are well fenced.

Roads.—A permanent graded road constitutes the axis of the farm, and branches from this give access to all cultivated fields.

Irrigation.—A twelve-inch irrigation line from the Manoa Stream, with five-inch laterals, provides water for the cultivated fields.

Laboratory.—The agricultural laboratory is well equipped for carrying on experiments in connection either with class work or research work. It also contains a collection of typical Hawaiian soils, seeds, dried and preserved plant specimens, feed stuffs, fertilizers and animal models.

Buildings—The buildings consist of a piggery, poultry houses, milking shed, dairy, horse barn, feeding shed for cattle, sheds for farm machinery and implements, tool shed, and four cottages for laborers.

Library.—An extensive collection of books dealing with agricultural subjects is found in the University Library. There is also a rather complete file of U. S. Department of Agriculture publications and bulletins, as well as those of the various state experiment stations. The leading agricultural magazines are received regularly.

Livestock.—The University possesses a herd of fine dairy animals of both the Holstein and Guernsey breeds, Berkshire swine, and the necessary horses to do farm work.

Poultry.—A well equipped poultry plant covering an acre of ground and stocked with several hundred laying fowls afford students an opportunity to gain a good practical experience. The
breed that predominates and is used for the various breeding, feeding, and general management experiments is the S. C. White Leghorn. Some interesting crossbred fowl are also included in this department.

COURSES IN AGRICULTURE

1. SUMMER FARM PRACTICE. A period of at least eight weeks must be spent in practical farm work, either on the University farm or some other approved farm where diversified agriculture is practiced. The purpose in this course is to gain familiarity with the fundamental agricultural operations, the care of farm animals, and the care and use of implements. Required of all students in Agriculture and Agricultural division of Sugar Technology before the beginning of the Junior year. Those who can present satisfactory evidence of sufficient practical experience may be excused from this requirement.

   Professors Henke and Krauss

2. SOILS. Origin, composition, tilth, and fertility of soils with special reference to the Hawaiian Islands. Required of Juniors in Agriculture and Sugar Technology, Agriculture and Chemistry divisions. Three lectures or recitations and two laboratory periods each week. First semester, 5 credits.

   Professor Henke.

3. CROPS. A study of the history, botany and culture of the leading tropical and temperate zone crops with special emphasis on the former. Required of Juniors in Agriculture and Sugar Technology, Agriculture and Chemistry divisions. Prerequisite, Agriculture 2. Three lectures or recitations, two laboratory periods each week. Second semester, 5 credits.

   Professor Krauss.

4. SUGAR CANE PRODUCTION. A study of the varieties of cane, their planting, irrigation, fertilization, and harvesting. Includes visits to various experimental fields and plantations. Students are required to keep Wednesdays as free from other work as possible for field trips. Required of Seniors in Agriculture and Sugar Technology, Agriculture and Chemistry Divisions. Prerequisite: Agriculture 2 and 3. Lectures, recitations, and laboratory periods. First semester, 4 credits.

   Professor Krauss.

5. GENETICS. A study of the underlying principles and their practical application in the improvement of plants and animals. Opportunity is offered to qualified students to undertake original investigations in the breeding of sugar cane, pineapples and other crops. The development of a new breed of poultry is now under way. Required of Sophomores in Agriculture and
Sugar Technology, Agriculture division. Lectures, recitations and laboratory work. Second semester, 3 credits.

6. **ANIMAL HUSBANDRY.** A general study of the important breeds of horses, cattle, sheep and swine, their feeding, care and management. Required of Seniors in Agriculture. Lectures, recitations and laboratory work. First semester, 3 credits.

   **Professor Krauss.**

7. **AGRICULTURAL THESIS.** Advanced individual work in field and laboratory, with accompanying library work. Required of Seniors in Agriculture. Second semester, 6 to 10 credits.

   **Professors Henke and Krauss.**

8. **DAIRYING.** A study of dairy cows, the production, handling, and marketing of milk and milk products, milk testing and separation, butter-making, etc. Required of Seniors in Agriculture. Two lectures or recitations, and one laboratory period a week. Second semester, 3 credits.

   **Professor Henke.**

9. **POULTRY HUSBANDRY.** A study of poultry types and breeds; their feeding, housing, marketing, and general care; the operation and care of incubators and brooders. Required of Seniors in Agriculture. Two lectures or recitations and one laboratory period a week. Second semester, 3 credits.

   **Professor Krauss.**

10. **RESEARCH WORK.** Situated in a climate where outdoor experimental work can be carried on the year round, Hawaii affords ideal opportunities for research in tropical agriculture. First and second semesters. Credit by arrangement.

    **Professors Henke and Krauss.**

11. **FEEDS AND FEEDING.** A detailed study of the feeding of all kinds of farm and plantation animals. Required of Seniors in Agriculture. Lectures and recitations. Second semester, 3 credits.

    **Professor Henke.**

12. **FORESTRY.** A study of general forestry problems, with special reference to those of the Hawaiian Islands. The course is given every other year, alternating with Horticulture. Required of Juniors or Seniors in Agriculture. (Not given in 1923-1924.) First semester, 3 credits.

    **Mr. Judd and Mr. Kraebel.**

13. **HORTICULTURE.** A general study of horticulture with special reference to the fruits of the Hawaiian Islands. The course is given every other year, alternating with Forestry. Required of Juniors and Seniors in Agriculture and Sugar Technology, Agriculture division. First semester, 3 credits. (Given in 1923-1924.)

    **Professor Krauss.**
14. Irrigation Measurements. An introduction to the principles governing the occurrence, development, distribution, and measurement of water supplies for irrigation. The course will include class room discussion of the construction and operation of recording devices, the laws of flow in open channels and pipes, and discharge through orifices and over weirs, and some practice in measurement of water. First semester, 2 credits.

Assistant Professor Palmer.

15. Farm Management. Studies in the organization and operation of the farm enterprise. First semester, 3 credits.

Professor Krauss.

16. Pineapple Field Practice. Properly qualified students will be recommended for 8 weeks of summer practice work as student assistants at the Experiment Station of the Hawaiian Pineapple Packers’ Association at Wahiawa. The student assistants will be under the direction of the Director of the Station and will be detailed to various activities of the Station with a view to becoming acquainted with as many aspects as possible of the pineapple culture. A stipend of $45.00 per month will be allowed to cover living expenses. 6 credits.

ENGINEERING

Drawing. The drafting-room equipment includes a number of first-class adjustable tables and desks, fitted with all accessories, complete for work; also an extensive outfit for blue printing, and many special instruments, such as parallel attachments for tables, railroad curves, splines, protractors, planimeters, special scales, drafting machines, and computing instruments.

Testing Laboratory.—The University maintains a laboratory for testing materials of construction, including wood, iron, steel, and cement, and also provides facilities for fuel testing. The equipment of the testing laboratory includes a 150,000 lb. capacity Riehle universal testing machine, with automatic and autographic attachments, for tension, compression, and transverse tests of large specimens; a small 10,000 lb. capacity Riehle machine for testing specimens in transverse strain; an Olsen torsion machine for torsion tests up to 50,000 in.-lbs.; a special Olsen machine of 40,000 lbs. capacity for compression tests of cement and concrete cubes; and a standard Riehle 2,000 lb. machine for briquettes. These machines are provided with a complete assortment of the necessary special instruments, such as extensometers, compressometers, deflectometers, and gages, thus making possible the accurate measurement of deformation over a
wide range of tests. In addition to the above, the testing laboratory also includes an extensive equipment of molds, sieves, Vicat needles, moist closets, drying ovens, and other minor accessories necessary to carry out practical tests of cements and concrete in any of the usual forms.

A section of the laboratory is fitted with the essential apparatus for the physical testing of road materials. This equipment includes a Page impact machine, Dorry hardness machine, Deval abrasion machine, Page briquette-forming machine, together with core drills, sieves and miscellaneous asphalt-testing apparatus.

Library.—Students in engineering are encouraged and required to make frequent use of the library in connection with the regular courses of instruction. The library contains a large and well selected collection of standard technical books, besides many periodicals pertaining especially to engineering. The collection includes sets of Transactions and Proceedings of the four National Engineering Societies, together with bound volumes of the Engineering News back to and including the year 1876, which, taken together, constitute an excellent working library of current practice in each of the main branches of engineering.

**DRAWING AND MACHINE DESIGN (M.D.)**

**M.D. 1. MECHANICAL AND FREEHAND DRAWING.** Elementary drafting, which includes freehand sketching, freehand lettering, use of instruments, conventional sections, drawing from copies and models (using parts of machines from the mechanical laboratory as models), the making of shop drawings, shading, tracing and blue-printing; in which particular attention is given to lettering, general neatness, and accuracy. Text: French's "Engineering Drawing." The cost of materials and instruments required is about $50.00. First and second semesters, 2 credits each. **Professor C. Andrews.**

**M.D. 3. DESCRIPTIVE GEOMETRY.** Descriptive geometry, with special reference to its application to practical work in the drafting office, embracing lectures and drafting-room practice in which a large number of problems of a practical nature are worked out. Text: Wm. G. Smith's "Practical Descriptive Geometry." Prerequisites: M.D. 1, and Mathematics 3 and 4. Sophomores in Engineering and Sugar Technology, Sugar-house Engineering division. First and second semesters, 2 credits each. **Professor Keller.**
M. E. 1. STEAM MACHINERY. The fundamental laws governing the transformation of heat into work, embracing the properties of gases, laws of expansion, heat measurement, the mechanical equivalent of heat, properties of steam, construction and study of steam tables, and heat analysis as applied to steam and internal combustion engines. The solution of a large number of problems of a practical nature is required. Lectures and recitations. Prerequisites: Mathematics 5 and 6, M.D. 3. Senior Civil Engineers and Juniors in Sugar Technology, Sugar-house Engineering division. First semester, 3 credits. (Alternates with C. E. 7; not given in 1923-1924.) Professor Young.

M. E. 2. MATERIALS OF ENGINEERING. Lectures and recitations on the properties and requirements for materials used in engineering construction, including wood, iron, steel and concrete. Methods of manufacture as affecting quality of material, standard tests employed to secure the proper grade of material, and standard specifications. Prerequisites; Mathematics 5 and 6, M. D. 3. Juniors in Civil Engineering. First and second semesters, 2 credits each. (Alternates with Chemistry 23; not given in 1923-1924.) Professor Keller.


M. E. 6. ENGINEERING OF SUGAR PLANTS. Lectures and drafting-room exercises involving the application of the fundamental principles of engineering practice to modern sugar works, including grinding and evaporating machinery, boiler and engine plant, conveying machinery, industrial railways, arrangement of buildings, layout of plant, and other general and special engineering considerations affecting the making and refining of sugar. Prerequisite: M. E. 1. Seniors in Sugar Technology, Sugar-house Engineering division. First semester, 4 credits. Mr. G. W. H. Barnhart.

M. E. 8. CONTRACTS AND SPECIFICATIONS. Lectures on contracts, touching upon points likely to be of value to engineers, together with such principles of law as should be understood by the engineer who is entrusted with the drawing of contracts, followed by a detailed study of typical contracts and specifications for engineering work of various kinds. Text: Tucker's "Contracts in Engineering." Prerequisite: M. E. 1, or C. E. 9. Seniors in Civil Engineering. Second semester, 2 credits. Professor Keller.
M. E. 9. Office and Shop Methods. Lectures, drafting and shop inspections. Lectures familiarizing the students with the type and use of machines and tools used in pattern, wood-working, forge and machine shops. The laboratory work consists of inspections of typical local shops and practice in estimating. The elements of Graphical Statics are taken up in the second semester. Prerequisite: M. D. 1. Sophomores in Civil Engineering and Sugar Technology, Sugar-house Engineering division. First and second semesters, 2 credits each.

Professor C. Andrews

ENGINEERING LABORATORY (X. E.)

X. E. 4. Materials Laboratory. Laboratory practice in testing the materials of construction, involving complete tests of specimens of wood, iron, steel, and concrete in their various forms. Special attention is given to the preparation and testing of specimens of concrete, both plain and reinforced, in the form of cubes, columns, beams, and girders. The facilities available for such work are ample, and the instruction given covers a large number of practical tests, thus affording the student valuable means of familiarizing himself with the behavior of such materials under stress. Prerequisite: C. E. 2. Juniors in Civil Engineering and Sugar Technology, Sugar-house Engineering division. Second semester, 3 credits for students in Civil Engineering and 2 credits for students in Sugar-house Engineering division of Sugar Technology.

Professor Keller

CIVIL ENGINEERING

C. E. 1. Surveying. Plane surveying, supplemented by lectures and drafting-room exercises. The use of the chain, tape, transit and level, and practice in the manipulation of these instruments in the field. The drafting-room work includes practice in the computations that the surveyor is called upon to make, and plotting from original notes. Text: Breed and Hosmer's "Principles and Practice of Surveying," Vol. 1. Prerequisites: M. D. 1, Mathematics 1 and 2, or 3 and 4. Required of Freshmen in Civil Engineering and Sugar Technology, Sugar-house Engineering division; Sophomores in Sugar Technology, Agricultural division. Elective by Sophomores in Agriculture, General Science and Sugar Technology, Chemistry division. First and second semesters, 2 credits each.

Professor C. Andrews
C. E. 2. ANALYTICAL AND APPLIED MECHANICS. The fundamental principles of the various branches of applied mechanics, and the use of higher mathematics in the solution of problems relating to engineering work. Includes the study of analytical statics, composition and resolution of forces, application to rigid bodies, centers of gravity, centers of mass, friction, work, flexible cords, funicular polygon, the catenary, and loaded cords, together with a large number of problems to illustrate special and general methods of solution. The analytical theory of kinetics is developed and special attention is given to the laws of motion, variable forces, constrained motion, central forces, impact, energy, dynamics of prime movers, moments of inertia, rotary motion, and the simple and compound pendulum. Text: Boyd's "Mechanics." Prerequisites: Mathematics 5 and 6. Juniors in Civil Engineering and Sugar Technology, Sugar-house Engineering division. First semester, 4 credits. Professor C. Andrews.


C. E. 4. SURVEYING AND DRAWING. Recitation and field and drafting work, covering the various methods of making and plotting topographical surveys, including the theory and use of the plane table, stadia, sextant, and solar attachment to the transit. Students are required to make and reduce observations illustrating the methods of base line measurement, triangulation, and precise leveling. Text: Breed and Hosmer's "Principles and Practice of Surveying," Vol. II. Prerequisites: Mathematics 5 and 6, and C. E. 1. Juniors in Civil Engineering. First and second semesters, 3 credits. (Alternates with C. E. 10; given in 1923-1924.) Professor C. Andrews.

C. E. 5. STRUCTURAL DESIGN. Lectures and drafting exercises, in which the student computes the stresses and designs the members of a plate girder bridge and a steel building truss. Includes the making of complete detail drawings and specifications, done under close supervision and carefully checked. The important general points are covered by lectures, minor points being taken up with individual students during the progress of the work. Text: Merriam and Jacoby's "Roofs and Bridges." Parts
C. E. 6. BRIDGE DESIGN. Lectures and drafting exercises following C. E. 5 and covering the complete design of a single track through bridge for a given conventional loading, and including all computation, the making of complete engineer's drawings, and the specifications. Text: Merriam and Jacoby's "Roofs and Bridges," Parts II and III. Seniors in Civil Engineering. Second semester, 3 credits.  
Professor Young.

C. E. 7. HYDRAULICS. Lectures and recitations covering the more important principles of hydraulics which govern and treat of fluids at rest, hydrostatic pressure, manometers, and Pitot tube, Venturi meter, strength of pipes, pressure of water against walls and dam, earth pressure, barometric leveling, flow of liquids through pipes and over weirs, fluid friction, loss of head, flow of water in open channels, Kutter's formula, impulse and resistance of fluids, the Pelton water wheel, overshot, breast and undershot wheels; turbines and reaction wheels, and the general practice of turbine testing. The laboratory practice includes the gauging and measurement of flow in channels and over weirs, tests of water motors of various types, tests of hydraulic rams, and pumping machinery of various kinds. Text: Daugherty's "Hydraulics." Prerequisites: C. E. 2 and 3. Seniors in Civil Engineering and Sugar Technology, Sugar-house Engineering division. First semester, 3 credits. (Alternates with C.E. 9; given in 1923-1924.) Professor Keller.

C. E. 8. HYDRAULIC CONSTRUCTION. Lectures, recitations and reports covering the more important hydraulic constructions. The work is divided into three parts, as follows: water storage, including reservoir capacity, available sources of supply, the design of spillways and flood channels; irrigation engineering, including methods of distribution, construction of flumes, tunnels, and ditches, and also touching upon the agricultural problems involved; harbor engineering, including a study of various types of wharves, methods of dredging, and harbor improvement. Prerequisites: C. E. 2, 3 and 7. Seniors in Civil Engineering. Second semester, 3 credits. (Alternates with C. E. 9; given in 1923-1924.) Professor Keller.

C. E. 9. MUNICIPAL ENGINEERING. Lectures and recitations, including the general principles and methods of construction and cost; city water supply; waterworks, and fire protection; the methods of sewage and garbage disposal; the hydraulics of sewers; the relation of rainfall to storm flow. Part of the course is devoted to municipal transportation problems now handled by

C. E. 10. SURVEYING. Railroad surveying, construction, and economics. Field work and recitations, covering the methods of establishing grade lines, laying out circular and transition curves, the reconnaissance, preliminary and location surveys for a railroad; earth work computation, maps, profiles; plans of structures and estimates. Texts: Willard's "Maintenance of Way and Structures"; Cain's "Earth Pressure, Walls and Bins"; Nagle's "Field Manual for Railroad Engineers." Prerequisites: C. E. 1, Mathematics 5 and 6. Seniors in Civil Engineering. First and second semesters, 3 credits each. (Alternates with C. E. 4; not given in 1923-1924.) Professor O. Andrews.

C. E. 12. CONCRETE AND MASONRY STRUCTURES. The properties of stone, brick, and concrete, and their uses in engineering structures, such as foundations, retaining walls, piers, abutments, and dams; including the design of arches and dams in stone, and the design of reinforced concrete structures, such as beams, girders, columns, floor slabs, and highway bridges. Lectures and drawing-room work, supplemented by library reference. Texts; Hool's "Concrete Construction," Vols. I, II, III. Prerequisites: C. E. 2, 3 and 4. Seniors in Civil Engineering. Second semester, 3 credits. Professor Young.

C. E. 15. ROADS AND PAVEMENTS. Lectures, laboratory, practice in testing materials of road construction, and inspection of local types of pavements. The lecture work covers the construction and maintenance of various types of roads and city pavements, special reference being made to local types. Prior to inspection trips, the specifications under which the road to be visited was built are studied. In the laboratory the student becomes familiar with the type machines used in testing road materials and the methods of performing such tests. Text: Blanchard and Drowne's "Textbook on Highway Engineering." Prerequisites: C. E. 1 and M. D. 1. Sophomores in Civil Engineering. First and second semesters, 2 credits each. Professor Keller.

C. E. 16. ARCHES. Design and investigation of the stability of masonry and reinforced concrete arches. Lectures and drafting exercises, covering the design of a typical masonry arch.
ELECTRICAL ENGINEERING (E. E.).

E. E. 1. ELECTRICAL MACHINERY. The fundamental principles governing the design and operation of dynamo-electrical machinery and the theory and construction of armatures, field magnets, and commutators of direct current generators, motors, motor-generators, boosters, and regulators, followed by a brief treatment of alternating-current machines, transformers, and transmission systems. Methods of calculation, graphical analysis, and the solution of practical problems are emphasized. Prerequisites: Mathematics 5 and 6, Physics 2 and 3, M. E. 1. Juniors in Engineering and Sugar Technology, Sugar-house Engineering division. Second semester, 3 credits. Professor Romberg.

SUGAR TECHNOLOGY

The sugar laboratory contains a recent model Schmidt and Haensch saccharimeter, a Landolt-Lippich polariscope, for monochromatic light, a Stammer colorimeter, an Abbe-Zeiss and an immersion refractometer, a standardized comparator for measuring tube lengths, a small hand mill, and practically all the miscellaneous apparatus needed in a sugar factory laboratory. A number of old model polariscopes of different types have been donated by plantations, and are of value in demonstrating the theory and construction of the modern instrument.

1. SUGAR ANALYSIS. Laboratory and lecture course intended to fit the student for the position of chemist in a sugar-house laboratory, or to give him a good working knowledge of chemistry as applied to the manufacture of raw and refined sugar. Among the topics taken up are the theory and construction of the polariscope and the refractometer, the calibration and testing of these and other laboratory apparatus, general laboratory routine, and the fitting out of a sugar laboratory, the methods of sampling and of analysis of the various products met with in a cane sugar factory. In addition, as time permits, instruction will be given in soil, water, and flue gas analysis.

In order to take this course the student must have a working knowledge of general chemistry and laboratory manipulations. Prerequisites or parallel, Chemistry 1 or 2 and 4. Required of Juniors in Sugar Technology. One lecture and two laboratory periods a week. First and second semesters, 3 credits each. Professor Dillingham.
Sugar Technology

1a. **Sugar-House Calculations.** A lecture and recitation period in which instruction is given in sugar-house calculations, in working out problems involving the yield and losses ordinarily encountered in actual factory work, and in making out typical laboratory reports such as are required by plantations in the Hawaiian Islands. Prerequisite: S.T. 1 and 3. Seniors in Sugar Technology. First semester, 1 credit.

**Professor Dillingham.**

2. **Sugar Manufacture.** A series of lectures and recitations on the manufacture of sugar, taking up in detail a discussion of the various types of machinery and apparatus employed in the best modern factories and the principles involved in their use, embodying such topics as multiple milling, the effect of various types of roller grooving, pressure and maceration on extraction, clarification of juices, multiple effect evaporation, the economical use of steam, sugar boiling, crystallization in motion, and the curing, drying, and preparation of sugars for the market. Though this is primarily a course for cane sugar men, a brief description of the methods employed in beet sugar manufacture and refinery practice is also given, together with a discussion of the various processes for making white sugar direct from the cane. Required of Seniors in Sugar Technology. Prerequisite: S.T. 1 and 3. Three hours a week class room. First semester, 3 credits.

**Mr. McAllep.**

3. **Summer Practice.** During the summer vacation between the Junior and senior years, students in Sugar Technology will be required to spend at least 8 weeks in practical field or mill work. Those taking field work become Student Assistants in the Experiment Station of the Hawaiian Sugar Planters' Association. Those taking factory work enter one of the mills, where they are under the direction of the manager and work at various stations under regular factory conditions. Academic credit for this will be granted on the presentation of a satisfactory report in duplicate. Prerequisite; S. T. 1. 6 credits.

4. **Field Practice.** During the second semester of the Senior year in the Agricultural Division the student does his work in the capacity of a Student Assistant in the Experiment Station of the Hawaiian Sugar Planters' Association. He may serve a part or all of the time at the Waipio Substation, or he may be sent out as an assistant to the field men in charge of experimental work on the various plantations. A written report in duplicate must be submitted at the end of the semester. 16 credits.
5. **Factory Practice.** Seniors in the Sugar-house Engineering division spend the second semester of Senior year as apprentices in the factory of one of the plantations. They are under the regular discipline of the factory and are given different stations in the mill, boiling-house and laboratory so that they may become familiar with the various pieces of equipment and their operation. A written report in duplicate covering the lay-out of the mill and its operation must be submitted at the close of the work. 16 credits.

N. B. Seniors in the chemistry division of Sugar Technology may elect either Sug. Tech. 4 or Sug. Tech. 5, after consultation with their adviser.

**HOME ECONOMICS**

The Division of Art and Design is provided with three well-lighted rooms in the main building, a small kiln-room equipped for firing purposes, offices, a sewing laboratory, and a store-room for supplies. The Ceramic and Drawing studios are equipped with casts, drawing models, color charts, Maxwell wheel and disks, pottery, Oriental brasses, illustrative designs, photographs and stereopticon slides on architectural and allied subjects. The sewing laboratory is equipped with cutting tables, machines, dress forms, fitting-room, lockers, electric iron, pressing table, charts and illustrative material sufficient for a class of twelve students at one time.

The Division of Household Science is provided with a cooking laboratory, a dining-room, and an office. The cooking laboratory is equipped with work tables sufficient to accommodate a class of sixteen students at a time, individual cooking outfits for practical work; gas, oil, and electric stoves; scientific apparatus, charts, and illustrative material; the dining-room is furnished with all necessaries for serving of meals.

**ART AND DESIGN.**

1. **Freehand Drawing.** Study of type models; freehand perspective; drawing in outline and in light and shade from ornamental forms, natural objects, and casts; memory sketching; charcoal composition. Open to regular and special students. Required of students in Home Economics. Students who have received entrance credits in freehand drawing and perspective, or have otherwise presented satisfactory evidence of preparation, are given more advanced work. Two periods laboratory. First and second semesters, 2 credits each.

*Professor Chipman and Miss Harbaugh.*
3. **COLOR AND DESIGN.** Theory of color, study of color values and harmonies, making of color scales and charts; instruction in the principles and practice of design as expressed in art line, dark and light, and color. Costume design based on the foregoing principles and including analysis of individual types. Brief survey of the history of costume. Lectures and laboratory work. Prerequisite: Course 1. First and second semesters, 3 credits each.

Professor Chipman and Miss Harbaugh.

4. **INTERIOR DECORATION.** Theory and practice in the application of principles of design and color to interior decoration in relation to architecture; technical rendering of problems in line and color; study of historic styles in furniture; designing of wall hangings and other decorative objects; interpretation of designs in suitable materials. Lectures and laboratory. Prerequisite: Course 3. First and second semesters, 3 credits each. (Alternates with course 7. Not offered in 1923-1924.)

Professor Chipman and Miss Harbaugh.

5. **HISTORY OF ARCHITECTURE.** Study of the development of architectural styles of the ancient Egyptians, Chaldeans, Greeks, and Romans, and of the Medieval (Byzantine, Romanesque, Gothic) and Renaissance periods. Consideration of conditions, materials, etc., in their effect upon architecture. First semester, 3 credits. (Not offered in 1923-1924.)

Professor Chipman.

6. **HISTORY OF SCULPTURE AND PAINTING.** Historical and appreciative study of ancient and medieval sculpture and of the great schools of painting. Discussion of principles of art structure and composition in relation to the masterpieces. Prerequisite: Course 5. Second semester, 2 credits. (Not offered in 1923-1924.)

Professor Chipman.

7. **CERAMIC DESIGN AND PORCELAIN DECORATION.** Study of the principles of proportion and subordination which govern line and area composition and their application to specific problems in original design; discussion of the methods of pottery and porcelain manufacture and of the composition of ceramic colors, glazes, lustres, and metals; study of historic ceramics; consideration of good shapes in porcelain; application of original design to suitable porcelain forms in mediums adapted to the ware used; practice in the firing of ceramic ware. Lectures and laboratory. Prerequisite: Course 3. First and second semesters, 3 credits each. (Alternates with course 4. Given in 1923-1924.)

Professor Chipman and Miss Harbaugh.

N. B.—All work of students in Courses 1, 3, 4, and 7 remains in the department during the college year. The University reserves the right to retain for a period of two years such work
as it may select, and to keep permanently one piece of each student's work. Credit will be given for extra work above that required in the outlined courses.

8. **Textiles and Elementary Garment-Making.** A study of fabrics, processes of manufacture, and economic value and uses; the use of commercial patterns, scientific fitting, and elementary garment-making. Lectures, discussions and laboratory work. Required of students in Home Economics. Open to regular and special students. First and second semesters, 3 credits each.

Assistant Professor Dahl.

9. **Dressmaking and Designing.** The principles of dressmaking; the taking of accurate measurements; drafting of patterns, the choice and economical cutting of material; crinoline modeling, the designing and making of gowns, decorative needlework, and trimmings. Lectures, discussions, and laboratory work. Prerequisites: A. & D. 1 and 8; prerequisite or parallel; A. & D. 3. Two semesters, 3 credits each.

Assistant Professor Dahl.

10. **Millinery.** The construction and trimming of hats, beginning with the use of foundation materials; making of wire and buckram frames from given dimensions; copying from models and pictures; original designs. Prerequisites: A. & D. 8 and 9. Two semesters, 3 credits each. (Given in alternate years; offered in 1923-1924.)

Assistant Professor Dahl.

12. **Advanced Dressmaking.** Making of gowns from original designs, drafting and making of suits, coats, and capes. Prerequisites: A. & D. 8 and 9. Two semesters, 2 credits each. (Given in alternate years; not offered in 1923-1924.)

Assistant Professor Dahl.

**HOUSEHOLD SCIENCE.**

1. Elementary Food Preparation and Nutrition. Study of the fundamental principles governing the selection and preparation of foods with regard to the nutritive value and place in the diet. Lectures and laboratory. Not open to students majoring in Home Economics. First and second semesters, 3 credits each.

Assistant Professor Miller.

2. Food Economics. Selection, preparation, and serving of food with regard to composition, cost, season, and occasion. The effects of economic conditions and production, transportation, and marketing upon the cost and availability of foods will be considered. Prerequisites; Chemistry 1, Economics 5, 6.

Assistant Professor Miller.

3. Nutrition. A study of the nutritive requirement of man; the function of food in the body; the nutritive value of
foods and their place in the diet. Prerequisite; Chemistry 1.
Prerequisite or parallel Chemistry 9 or 5. Lecture and labora-
tory. Hours to be arranged.  
Assistant Professor Miller.

4. Food Investigation. Special problems relating to cost,
preparation, and utilization of food. Studies may be of a
general nature or with reference to Hawaiian conditions. Labora-
tory and conferences. Prerequisite; H.S. 2. Second semester,
3 credits.

Assistant Professor Miller.

5. Household Management. Study of efficient management
of the home, including budgeting of the income and distribution
of time in the daily routine. Labor-saving devices; kitchen,
diningroom and laundry arrangements and equipment. Lectures,
outside readings, and reports. (Not given 1923-1924.) First
semester, 2 credits.

Assistant Professor Miller.

8. Research. Problems according to preparation. Investi-
gation of nutritional problems; animal and human feeding
experiments. For seniors and graduates. Hours and credits to
be arranged.

Assistant Professor Miller.

Methods and practice teaching of cookery can be arranged
in cooperation with educational courses. Those planning to teach
should consult the courses prerequisite for practice teaching in
the Education Department.

PHYSICAL EDUCATION

MEN.

During the first two years of the course, regular students
and special students who are registered for eight or more hours
of work are required to take a minimum of two hours per week
of physical education or military drill. Students having physical
disability may be given special forms of exercise.

WOMEN.

All women under twenty-five years of age and registered as
regular students or as special students taking ten or more credit
hours a semester are required to take a minimum of one credit
hour per week of physical education. Exemption from this re-
quirement may be obtained only by permission of the Faculty
Committee.

3. PHYSICAL EDUCATION. Women Students. Weekly re-
ports are required on forms furnished by the University showing
the amount and character of exercise taken. First and second
year students are required to take two periods per week of super-
vised exercise. This work takes the form of calisthenics, games,
swimming and group dancing. Juniors and Seniors whose weekly reports show that they are getting at least five hours per week of suitable exercise may, at the discretion of the instructor, be excused from the class periods. First and second semesters, 1 credit each.

MILITARY SCIENCE AND TACTICS.

All male students who are citizens of the United States and physically fit are required to enroll during their first two years in the Reserve Officers' Training Corps, and to devote three periods a week of not less than one hour each to military science and training. Two of the three periods are devoted to drill practice and one period to theoretical training, during the first year basic course; one period is devoted to drill and two periods are devoted to theoretical training during the second year basic course. Students who wish may attend a summer camp.

At the end of the basic course a student who so elects and who is selected by the President of the University and the Professor of Military Science and Tactics, and who signs a form of written agreement prescribed by the Secretary of War, may be enrolled for two more years of service in the Reserve Officers' Training Corps. Such students are required to devote five hours a week to an advanced course in military science and training throughout two years, and the completion of this work becomes for them a prerequisite for graduation. They are required also to attend one summer camp of six weeks' duration. While enrolled in the Advanced Course, except the time at camp, they receive commutation of rations, at the authorized rate; at camp, the ration itself is furnished and they are paid at the rate of one dollar per day.

THE COURSE OF INSTRUCTION.

THE BASIC COURSE, INFANTRY UNIT.

First Year

(Freshman Year)

Basis for calculation of time available for instruction:
1. Minimum hours of instruction per week required by law 3
2. Estimated number of weeks per academic year 36
3. Estimated total available academic hours 108
4. Probable number of classroom periods for recitation on prepared subjects 36
5. Probable number of periods for practical instruction 72
6. Credits for each semester 2
SUBJECTS AND SCOPE.

I. Infantry Drill Regulations.

1. Theoretical Instruction.
   (a) Principles and methods of instruction in close and extended order to include the schools of the soldier, squad, platoon and company.

2. Practical Instruction.
   (a) Close and extended order drills.
   (b) Participation in military ceremonies.

II. Rifle Marksmanship.

1. Theoretical Instruction.
   (a) Lectures and talks explanatory of the general scheme and principles of rifle marksmanship.

2. Practical Instruction.
   (a) The first, second, third, fourth, and fifth steps in rifle marksmanship.
   (b) Nomenclature and care of the rifle.
   (c) Effect of weather conditions—sight changes—score book.
   (d) Gallery practice.
   (e) Range practice.
   (f) Method of coaching.
   (g) General rules and definitions.

III. Scouting and Patrolling.

1. Theoretical Instruction.
   (a) Principles governing the composition, formation, and operations of reconnoitering patrols by day and at night. Differences in methods of operating in open warfare and warfare of position.

2. Practical Instruction.
   (a) Problems and exercises in scouting and patrolling on sand table and terrain.

IV. Physical Training.

1. Practical Instruction.
   (a) Recruit instruction in the setting-up exercises.
   (b) Talks on the need for and object of physical training.
   (c) Mass games and athletics.
   (d) College athletics.
V. Military Courtesy.

1. Theoretical Instruction.
   (a) Lectures on fundamental principles of military discipline.
   (b) Relation of courtesy to discipline and efficiency.
   (c) The military courtesies of the Army of the United States.
   (d) Demonstration of correct and incorrect manner of rendering courtesies.

THE BASIC COURSE, INFANTRY UNIT.

SECOND YEAR

(Sophomore Year)

Basis for calculation of time available for instruction:
1. Minimum hours of instruction per week required by law 3
2. Estimated number of weeks per academic year 36
3. Estimated total available academic hours 108
4. Probable number of classroom periods for recitation on prepared subjects 72
5. Probable number of periods for practical instruction 36
6. Credits for each semester 2

I. Map Reading and Military Sketching.

1. Theoretical Instruction.
   (a) The instruction necessary to enable students to read military maps with facility and to make road, outpost and position sketches.

2. Practical Instruction.
   (a) Problems in map reading. Visibility of points, areas, etc.
   (b) Practice in making road, outpost and position sketches.
   (c) Combined sketching.

II. Infantry Weapons.

1. Theoretical Instruction.
   (a) The Bayonet.—Lessons on the bayonet as an offensive weapon. The spirit of the bayonet. Teamwork.
   (b) The Automatic Rifle.—Lessons on the history, characteristics, marksmanship of the weapon and the organization and equipment of auto-riflemen.
   (c) Hand and Rifle Grenades.—Lessons on the construction and handling of the weapons, including explosives.
Practical Instruction.

(a) The Bayonet.—Bayonet training to include the assault course.
(b) Automatic Rifle.—Mechanics (stripping, assembling, functioning). Immediate action. Marksmanship to include instruction up to range practice.
(c) Hand and Rifle Grenades.—Individual instruction with dummy and improvised grenades.

III. Musketry.

1. Theoretical Instruction.

(a) Weapons of the infantry squad. Theory of fire.
(b) Range estimation, target designation, fire distribution.
(c) Fire discipline (use of cover, individual movement, transmission of firing data, signals, replacement of casualties, individual conduct, etc.).
(d) Fire control (application, observation and adjustment of fires).
(e) Control of movement (rushes and infiltration, squad and section).
(f) Conduct of fire in the attack. Duties of leaders to include the section.
(g) Conduct of fire in the defense. Duties of leaders to include the section.
(h) Combat practice (use of landscape targets, preparation and methods of conducting and criticizing practical exercises).

2. Practical Instruction.

(a) Exercises, demonstrations, and tests, using sand table, landscape, target and terrain.

IV. Command and Leadership.

1. Practical Instruction and Experience.

(a) In order to carry out the spirit of the General Instructions governing this course, it is essential that students in the second year of the Basic Course be given the greatest practical opportunity to exercise the functions of command appropriate to N. C.O.s and to acquire practical experience in leadership.

A provision of time is made for this purpose and professors of military science and tactics will arrange in the most practical manner to give the
individual student definite assignments to duties in connection with the instruction and training of students in the first year of the Basic Course which will, in the course of a year, demonstrate the aptitude of the individual student.

V. Military Hygiene, Sanitation, and First Aid.

1. *Theoretical Instruction.*

   (a) Personal Hygiene.

   (b) Foods, their preparation. Hygiene of the Kitchen, the Barracks and Camp.

   (c) Selection and protection of drinking water.

   (d) Hygiene of moving troops.

   (e) The causes of disease. The prevention and control of epidemics. The prevention of mental and nervous diseases.

   (f) Sanitation of localities, selection and drainage of camp sites.

   (g) Disposal of refuse.

   (h) First aid to the injured. Resuscitations.

   (i) As much as is necessary for an intelligent understanding of the fundamental importance of physical, mental and moral soundness in the soldier. Physical requirements for military service.

   (j) Comparative statistics of physical fitness of American citizens for military service in the World War.

2. *Practical Instruction.*

   (a) Sand table demonstrations and problems in camp sanitation.

   (b) Construction of miniature models of sanitary appliances, camp sites, expedients, etc.

   (c) Demonstrations and exercises in First Aid to the injured.
Military Science

THE ADVANCED COURSE, INFANTRY UNIT

First Year
(Junior Year)

Basis for calculation of time available:
1. Minimum hours of instruction per week required by law ........................................ 5
2. Estimated number of weeks per academic year ........................................ 36
3. Estimated total available academic hours ............................................... 180
4. Probable number of classroom periods for recitation on prepared subjects ........................................ 36
5. Probable number of periods for practical instruction .................................. 144
6. Credits for each semester ................................................................. 4

Subjects and Scope

I. Field Engineering.

1. Theoretical Instruction.
   (a) Elements of field engineering. Instruction to include the principles and methods of military field engineering in the various types of trenches, obstacles, shelters, machine-gun emplacements, observation posts, etc. Organization of working parties and tasks. Selection of location for works of defense. Concealment and camouflage.

2. Practical Instruction.
   (a) Solution of military engineering problems based on 1 (a) above. Demonstrations on sand table. Construction on sand table, miniature models of types of trenches, obstacles and other defensive works. Reconnaissance, location and laying out of works on the ground. (Where practicable, a trench system should be constructed. Each class, from year to year enlarging, improving and repairing the initial works.)

II. Accompanying Weapons.

1. Theoretical Instruction.
   (a) The Machine Gun.—Development of machine gun. The theory of fire. Targets and ranges. Direct, indirect and overhead fire, and night firing.
(b) The 37-mm. Gun (one Pounder),—History of the weapon. Direct, indirect and overhead fire. Observation and adjustment of fire.

(c) The Light Mortar.—History of the Weapon. Laying the mortar. Kinds of fire. Observation and adjustment of fire.

2. **Practical Instruction.**


(b) The 37-mm. Gun (one pounder).—Mechanics (stripping, assembling, functioning). Construction, care and operation of gun. Types of ammunition. School of the one pounder section. Exercises and demonstrations in direct and indirect fire.

(c) The Light Mortar.—Construction, care and operation of the gun. Mechanics (stripping, assembling, functioning of the gun. Assembling and functioning of bombs). Light mortar emplacements. School of the mortar section.


1. **Theoretical Instruction.**


(b) Rules of land warfare. Lectures on general principles.

2. **Practical Instruction.**

(a) Moot-court exercises.
IV. Command and Leadership.

1. Practical Instruction and Experience.

(See comment under IV, 1 (a) in second year of Basic Course except that instruction should be appropriate to grades of sergeant and lieutenant.)

THE ADVANCED COURSE, INFANTRY UNIT

SECOND YEAR

(Senior Year)

Subjects and Scope

I. Tactics.

1. Theoretical Instruction.

(a) General view of the organization and conduct of the battalion and higher units.
(b) Principles governing the organization, armament, equipment and conduct of the rifle, machine gun, howitzer and headquarters companies, in offensive and defensive combat.
(c) Tactical principles governing the conduct of the platoons and smaller units in offensive and defensive combat. Details of organization, equipment and tactical employment of the rifle company, machine-gun company and howitzer company platoons. Combined action.

2. Practical Instruction.

(a) Demonstrations, exercises and problems on sand table, map and terrain in subjects covered in (b), and (c) above.

II. Military History.

1. Facts of American Military History, including the World War, as to:

(a) The sources of authority for our military establishment.
(b) The development of military resources and the military strength of the United States.
(c) The state of national preparedness for war at critical periods in the history of the United States.
(d) The cost of American wars in relation to national unpreparedness.

2. Lessons from American History as to:

(a) The traditional military policy of the United States.
(b) The need for national organization for military defense of the nation.

III. Administration.

1. Lectures on practical administration of a company, including interior economy and the management of the soldier.

2. Practical work in the preparation of papers pertaining to the administration of a company. As much as a lieutenant should know concerning military correspondence, preparation and application of War Department forms, use and disposition of orders, bulletins and circulars.

IV. Command and Leadership.

1. Practical Instruction and Experience.
(See comment under IV, 1 (a) in second year of Basic Course except that instruction should be appropriate to grades of sergeant and lieutenant.)
UNIVERSITY EXTENSION SERVICE

"Making the Territory of Hawaii Our Campus."

The University of Hawaii is offering a program of extension service whereby some of its educational facilities may be of larger and wider use throughout the Territory. In equipping for its primary function of educating the youth of Hawaii the University has provided scientific laboratories, an extensive library and a corps of specialists as instructors. So far as it is compatible with its primary function, this equipment is offered for service beyond the University campus.

The Extension Service Department of the University of Hawaii is directing its work along several lines, as follows:

1. Extension Classes.
2. Correspondence Instruction.
3. Lectures and Informal Talks.
4. Public Service.

EXTENSION CLASSES

Extension courses open to all interested persons are offered by the University. The length of these courses is variable, from one week to several months. Courses in the following subjects have been given during the year 1922-23.


2. Juvenile Delinquency. A six weeks' lecture course by Dr. Lilburn Merrill of the Seattle Juvenile Court. This course was arranged with the co-operation of the Central Committee on Child Welfare.

3. Marine Biology. A series of six informal weekly lectures on Marine Biology conducted by Dr. Edmondson and Dr. Pollock of the University Faculty, and Dr. H. L. Lyon of the H. S. P. A. Experiment Station. These were given at the Marine Biological Laboratory at Waikiki, March 12 to April 16 inclusive.

4. Millinery. Three courses in millinery, one of twelve and two of eight weeks each, one lesson each week, were conducted by Madame Dahl at the University.

5. Pineapple Production and Canning. A short, intensive course dealing with various phases of the pineapple industry,—
the growing of the fruit, cannery construction, marketing, etc. Given with the co-operation of the Association of Hawaiian Pineapple Canners, the H. S. P. A. Experiment Station, and the Board of Agriculture and Forestry. Daily, March 5 to 9 inclusive.

6. Poultry Culture. A practical, intensive course of ten weekly lessons in poultry raising, dealing especially with Hawaiian conditions. Classroom lectures and demonstrations at the Poultry Plant. A mimeographed lesson was furnished the students each week. Conducted by Professor Krauss.

7. Short Sugar Course. Daily lectures, October 9 to 21 inclusive, given in co-operation with the H. S. P. A., the U. S. Experiment Station and the Board of Agriculture and Forestry. A course offered particularly for men experienced in field work.

Total enrollment in these courses during the year was about 235.

INSTRUCTION BY CORRESPONDENCE

The program of instruction by correspondence commenced last year by offering one course in general agriculture was enlarged this year to four such courses, as follows:

2. Soil Science.
3. Poultry Culture in Hawaii.
4. Natural History and Science.

These are reading courses prepared by members of the Faculty and designed to meet local needs. The lessons are mimeographed and sent out weekly, but no examinations are required and no University credits offered.

There are 260 persons enrolled in these courses, distributed geographically as follows: Hawaii County 100, Oahu 85, Kauai 42, Maui 29, Molokai 2, Lanai 1, and California 1.

HOME READING COURSES

In collaboration with the United States Bureau of Education a number of reading courses are offered by the Extension Division of the University. These courses, 23 in number, are arranged by experts of national reputation and offer an opportunity for home reading of the world's best literature under the guidance of the University. A certain list of books in each course is required to be read and summarized and examination questions answered, all the paper work being reviewed by a member of the University Faculty. Upon satisfactory com-
pletion of this work, a certificate is awarded by the United States Bureau of Education.

The courses are as follows:
1. Great Literary Bibles.
2. Great Literature—Ancient, Mediaeval, and Modern.
3. Miscellaneous Reading Course for Parents.
4. Miscellaneous Reading Course for Boys.
5. Miscellaneous Reading Course for Girls.
7. Thirty World Heroes.
8. American Literature.
10. American History.
11. France and Her History.
13. The Call of Blue Waters (Seamanship).
15. Shipbuilding.
17. Foreign Trade.
18. Dante.
20. Teaching.
22. Agriculture and Country Life.
23. How to Know Architecture.

PUBLICATIONS

A weekly agricultural "Extension Letter" is printed and mailed out free of charge to about 1300 "subscribers." This carries agricultural information and market news to assist the farmers throughout the Territory.

A bulletin on Vegetable Growing in Hawaii, prepared by Prof. Krauss, was published and distributed for a nominal charge and several mimeographed circulars have been distributed, notably one on Taro Culture, prepared by Hon. G. P. Wilder.

LECTURES

A program of informal lectures by faculty members has been given by the University throughout the Islands. A detailed announcement of this service together with a list of lecture subjects will be mailed upon request.
PUBLIC SERVICE

Under this head are included miscellaneous forms of public service such as technical laboratory and field investigations, expert consultations, dissemination of information through the press or otherwise, special correspondence, assistance in marketing, etc.

EGG-LAYING CONTEST

In co-operation with the Poultry Division, the First Annual Hawaii Egg-Laying Contest was inaugurated in November, 1922, to run for one year. Fifteen specially designed houses were paid for by money contributed from persons and firms interested in the further development of the poultry industry. The results of this contest should be important and far-reaching.
DEGREES CONFERRED
JUNE, 1922

MASTER OF SCIENCE
In Agriculture

William Patterson Alexander, Ph.B., Yale, 1915.
Thesis: Irrigation of Sugar Cane in Hawaii.

Ralph James Borden, B.S. Massachusetts Agricultural College, 1913.
Thesis: Factors Which Influence the Rate of Growth in Market Hogs.

BACHELOR OF SCIENCE
In Civil Engineering.

Peter Yun Tsin Chang.
Francis Aloysius Hookamomi Kanahele.
Keiji Suzuki.
Suematsu Takemoto.

In General Science.
Peter Joseph Solomon Hanohano
Ah Com Lau.
Laura Lister Marques.
Kwan Doo Park.
Douglas Harold Wells.

In Home Economics.
Mary Ling Sang Li.

In Sugar Technology.
Frederic Carlos Denison.
Vydinatha Padmanaba Iyer.
Tsumika Maneki.
Earl Linton McTaggart.
John Colefield Thompson.

BACHELOR OF ARTS

Lum Dip.
Jen Fui Moo.
Charles Tsun Tse Yap.
UNDERGRADUATES WHO HOLD UNIVERSITY SCHOLARSHIPS

University Club Sophomore Scholarship,
PAUL SAKAMAKI.

Hilo Board of Trade Scholarship,
RICHARD CHOI TONG.

Honolulu Rotary Club Scholarships,
HENRY MARTIN BINDT.
CLIFFORD D. McGREW.

Prince Fushimi Fund Scholarship,
TSUYOSHI IWANAGA.

Maui Women’s Club Scholarship,
EDWARD HAIR.

Central Union Church Special Scholarship
JANET M. ROSS.

The Ruth Scudder Memorial Scholarship, controlled by the
Women’s Society of the Central Union Church, is held, in 1922-23
by Yoshino Matsumura, Mitsuko Abe, and Ah Hee Young

Pacific Guano and Fertilizer Co. Scholarship,
WILLIAM WOLTERS.
ALLISTER R. FORBES.
DAVID M. L. FORBES.

Hawaiian Pineapple Packers’ Association Fellowship,
FRANCIS A. E. ABEL.
GRADUATE STUDENTS

Abel, Francis A. E., The MacDonald.
B.S. in Sugar Technology, Univ. of Hawaii, 1921.

Aitken, Robert Thomas, 3 Trentown, Honolulu.
B.S., Univ. of California, 1913.

Barnhart, G. W. H., 2629 Doris Place.
B.S. in Engineering, Univ. of Hawaii, 1914.

Bower, Leon McKinley, Mills School; Eckford, Mich.
Ph.B., Denison Univ., 1920.

Bryan, Edwin Horace, Honolulu.
B.S., Univ. of Hawaii, 1920; Ph.B., Yale, 1921.

Caum, Edward Leonard, 1420 Piikoi St.
A.B., Swarthmore College, 1914.

Couch, Mary J., 242-B Kalulani Ave.

Degener, Otto, The Pleasanton; 42 Fifth Ave., New York City.

Fujimoto, Giichi, 1412 Nuanu St.
B.S., Univ. of Hawaii, 1921.

Koo, Kwai Fan, 9th Ave., Kaimuki; Lima, Peru.
B.S. in Agriculture, Canton Christian Col., 1922.

Larabee, Louise M., The MacDonald.

Loomis, Charles Francis, 1029 Thirteenth Ave.
B.S., Univ. of Missouri, 1911.

Neal, Marie C., 2130 Armstrong St.
A.B., Smith College, 1912.

Pratt, John Scott Boyd, Jr., 1734 Anapuni St.
B.S. in Agriculture, Cornell, 1915.

Spaulding, Thomas Marshall, 2651 Nuanu Ave.; Washington, D.C.
A.B., Univ. of Michigan, 1902.

Thompson, John C., Pahala, Kau, Hawaii.
B.S. in Sugar Technology, Univ. of Hawaii, 1922.

Wist, Benjamin O., 2128 Oahu Avenue.
A.B., Spokane College, 1910.
Students

GRADUATES IN UNDERGRADUATE COURSES

Ashford, Marguerite K., 1088 Young St.
Babcock, Marjorie Elizabeth, 2726 Hillside Ave.; Hornell, N. Y.
Barnhard, Emma C., Punahou Schools; Independence, Mo.
Biery, Marguerite, 219 Helumoa Rd.; Bowling Green, Ohio.
Chen P. Ling, 1508 Keaumoku St.; Canton, China.
Craddock, Wm. Henry Augustus, Normal School.
Davis, Mrs. Alice N., 610 S. King St.
Day, Mrs. Bernice B., 2541 Lower Manoa Rd.
Given, Allison Bryce, University Club, Honolulu.
Hemmerly, W. R., Mills School; Seattle, Wash.
Kelly, Paul W., The Donna Hotel.
Lyon, Mrs. Maud Fletcher, 1328 Matlock Ave.
Meinecke, Wm. Hildebert, 1014 Kapiolani St.; Waiohinu, Hawaii.
Moo, Jen Fui, Tenth Ave., Palolo Valley.
Morita, Jiro, 1021 Kama Lane.
Pratt, Helen Gay, 1500 Kapiolani St.
Radke, Etta, 6 Hustace Court; Madison, Wis.
Rugh, Dwight D., Men’s Dormitory.
Ruley, Elizabeth, St. Andrew’s Priory; Goshen, Ind.
Sayers, Ephraim Vern, Honolulu.
Schattinger, Clara, Fernhurst; Denver, Colo.
Schwartz, Mrs. G. P., 1136 Davenport Place; Wilkes-Barre, Pa.
Van Winkle, Mrs. Margaret Elliott, 1536 Domin’s St.
Warner, Bernice, 7 Haulani Court, Waikiki.

COLLEGE OF APPLIED SCIENCE

SENIORS.

Hashimoto, Shoichi (Sugar Tech., Engineering), 65 Smith Lane, Fort Street.
Jacobson, Wilson N. (Sugar Technology, Engineering), 3155 Waialae Road.
Jay Yuk (General Science, Biological), 635 Panui St.
Kapohakimohewa, David K., (General Science), 1457 Noble Lane; Waiakea, Maui.
Kealamakia, Anum Yim (General Science, Biological), 93 Kukui St.
Lambert, Charles B. (Sugar Tech., Agriculture), 1550-D Pensacola St.
Low, Daniel T. K. (General Science), 2236 Lopes and Young Sts.
Miyake, Seichi (General Science), 2225 Hyde St.; Takebara, Japan.
Park, T. S. Yerngho (General Science), 3161 Kaimuki Ave.
Searle, Clarence C. (Civil Engineering), 1534 Magazine St.
Tong, Richard C. (General Science, Biological), 1013 Yamamoto Lane.
Wilson, William S. (Civil Engineering), 1806 College St.
Students

Wolters, William (Sugar Tech., Agriculture), 1836 Punahou St.; Kealia, Kauai.
Zane, James C. (General Science), 1066 Young St.

JUNIORS

Beveridge, Thomas (Sugar Technology, Chemistry), Men's Dormitory; Papaikou, Hawaii.
Bowers, Francis A. I. (Sugar Technology, Agriculture), Men's Dormitory.
Chang, Peter Tai (Civil Engineering), Cot. 2, Smith Lane.
Chung, Wal (Agriculture), 803 Gulick Ave.
Chung, William C. (General Science), 1432 Fort St.
Forbes, Allister (Sugar Technology, Agriculture), Men's Dormitory; Hilo, Hawaii.
Forbes, David M. L. (General Science), Men's Dormitory; Hilo, Hawaii.
Goto, Yasuo Baron (Pre-Medical), 2125 Beretania St.; Puako, Hawaii.
Greig, Marjorie I. (Household Science), 2438 Upper Manoa Road.
Hee, Kai Ngu (Agriculture), 86 School St.
Hirashima, Kazuo B. (Civil Engineering), 320-B Frog Lane.
Kawahara, Kazuto (Sugar Tech., Eng.), 626 King St.; Papaaloa, Hawaii.
Keppeler, Herbert K. (Civil Engineering), Men's Dormitory; Pearl City, Oahu.
Koiki, Tsuneo (Civil Eng.), 2225 Hyde St.; Holualoa, Hawaii.
Lum, Richard (Agriculture), 2101 No. King St.; Wahiawa, Oahu.
Matsuki, Henry Y. (Civil Engineering), 2125 S. Beretania St.; Waimea, Kauai.
Morimoto, Hiroshi Wm. (Civil Engineering), 591-D Beretania St.
Morita, Helene T. (General Science), 1021 Kama Lane.
Omura, Shizuo (Civil Eng.), 2125 So. Beretania St.; Hamakuapoko, Maul.
Tani, Edward M. (Civil Engineering), 1407 Nuuanu St.; Kamuela, Hawaii.
Tarleton, Colby D. (General Science), 24 Haleleina Park.
Wong, Cheong (General Science, Pre-Medical), 1835 Fort St.
Wong, Sum (Civil Engineering), Heeia, Oahu.

SOPHOMORES

Blaisdell, Neal S. (Sugar Tech., Agriculture), 486 Hotel St.
Burbidge, Cornelia H. (General Science), 137-C Kealohilani St.; Idaho Falls, Idaho.
Ching, You Kee (General Science), Leilehua St.
Deverill, Norman S. (Sugar Tech., Agriculture), 2172 Atherton Rd.
Farden, Carl A. (Sugar Technology, Agriculture), Men's Dormitory; Lahaina, Maui.
Fincke, William S. (Civil Engineering), 1225 Wilhelmina Rise; Olaa, Hawaii.
Forbes, Dyfrig McH. (Sugar Technology, Agriculture), Men's Dormitory; Hilo, Hawaii.
Ing, Edmund T. (General Science), Pre-Medical), 1749 Lewis Ave.
Iwasaki, Koji (Sugar Technology, Agriculture), Fort St.; Kurtistown, Hawaii.
Kobatake, Akeshi (Civil Engineering), P. O. Box 936; Pahoa, Hawaii.
Kunimoto, Takeo (General Science), 1335 Pua Lane; Waialua, Oahu.
Leong, Edward C. H. (General Science), Box 1680; Waialua, Oahu.
Lung, Kwai Chong (Civil Engineering), 1707 Nuuanu St.; Kilauea, Kauai.
Lyman, Richard, Jr. (Sugar Technology, Agriculture), Men's Dormitory; Kapoho, Hawaii.
Minvielle, Albert E., Jr. (General Science), 1641 Young St.
Mori, Takeshi (Civil Engineering), 2 Pacific and Iwilei Road.
Reeves, Charles K. (General Science), 1031 East 5th Ave., Kaimuki.
Sakamaki, Paul F. (Sugar Technology, Agriculture), 610 S. King St.; Olaa, Hawaii.
Sato, Mutsuru (General Science), Waialae Road.
Suga, Hajime (Civil Engineering), 2125 So. Beretania St.; Lawai, Koloa, Kauai.
Tani, Ernest M. (Civil Engineering), 1407 Nuuanu St.; Kamuela, Hawaii.
Tanimura, John M. (Civil Engineering), 1968-C Ohai Lane; Paaulolo, Hawaii.
Tong, Ruddy F. (General Science), 1013 Yamamoto Lane.
Tsujii, Keizo (General Science), 1921 Kalia Road.
Waters, Theodore R. (Sugar Tech., Agr.), 118 Kealohilani Ave.
Wicke, Henry A. (Civil Engineering), 1222 Young Street.
Wong, Bung Fong (General Science), 260 No. Kukui St.
Wongwai, Tin Luke (General Science), 1202-A Morris Lane.
Yamanaka, Toshio (Civil Engineering), 1141 Maunakea St.; Waianae, Oahu.
Yamane, Eiji (General Science), Waimea, Kauai.

FRESHMEN

Baker, Edward† (General Science), 2470 Kuhio Ave.
Chi, Yun Kong, 11; 14 (Agriculture), 1229 Piikoi St.

*Numbers in black face type are Grade Points earned. (For explanation of Grade Points see p. 18); numbers in ordinary type are semester credits earned.
†Withdrew before end of first semester.
Students

Church, Tom Munson, 19; 20 (Agriculture), 2376 Oahu Ave.
Clark, Ernest Montgomery, 40; 19 (Sugar Technology, Agriculture),
Waialae.
Clarke, Jack† (Agriculture), Tokomaru Bay.
Copp, Henry Benjamin, 2; 15 (General Science), 1210 Kalihi St.;
Alea, Oahu.
Cornelison, Alexander, 32; 19 (General Science), 2536 Manoa Road.
Crookshank, George Bruce, 7; 15 (Civil Engineering), Men's Dormitory;
Waialua, Oahu.
Doak, Arthur Burton, 5; 13 (Sugar Technology, Agriculture), 918 Kawaiaha'o Street.
Downer, John M., 16; 17 (Agriculture), Men's Dormitory; Hilo, Hawaii.
Hair, Edward Beckwith, 17; 18 (General Science), Men's Dormitory;
Hamakua, Wicko, Maui.
Hartman, William A., 25; 20 (Civil Engineering), Men's Dormitory,
Hilo, Hawaii.
Ikuta, Shunji, 26; 20 (General Science, Pre-Medical), 1522 Oliver Lane.
Ishikawa, Yasuo, 24; 19 (Sugar Technology, Chemistry), Kealakekua, Hawaii.
Kam, Edwin Too Kui, 12; 17 (General Science, Pre-Medical), 2353 East Manoa Road; Hanalei, Kauai.
Kang, Chung-Ho, 27; 20 (Civil Engineering), 584-M Circle Lane.
Kapukui, Claudet† (General Science, Pre-Dental), 1337 Fort St.
Katsuki, Sadao, 32; 17 (General Science, Pre-Medical), 1326 Keaumoku St.
Kerns, Kenneth R., 14; 17 (General Science), Waipahu, Oahu.
Kerns, Lambert C., 5; 14 (General Science), Waipahu, Oahu.
Kinney, Addison A., 39; 17 (Sugar Technology, Engineering), Men's Dormitory; Waialua, Oahu.
Krauss, Beatrice H., 24; 15 (General Science), 2447 Parker St.
Kum, Kong Lun, 8; 14 (Agriculture), 2808 S. Beretania St.
Lee, Soo Nam, 21; 15 (General Science), 1233 Lakimela Lane.
Lee, William Hin† (General Science, Pre-Medical), 347 Buckle Lane.
Lennox, Colin Gordon, 25; 19 (Agriculture), 982 Prospect St.
Leong, David, 23; 16 (Agriculture), 1338 Young St.
Leong, Peter Kim Fook, 12; 20 (Agriculture), 1417 Beretania St.;
Waimea, Kauai.
Low, James, 26; 20 (Agriculture), 2336 Young St.
Lum, Henry K.,† (General Science), 6 Matsumoto Lane.

†Withdrew before end of first semester.
Students

Makino, Kazumi, 35; 20 (Civil Engineering), 1483 S. King St.; Honolulu, Hawaii.

McLennan, Ronald H., 19; 20 (Agriculture), Men's Dormitory; Kohala, Hawaii.

McNicol, Simpson Allen, 15; 14 (General Science), Makiki and Kinau Sts.

Mermod, Leon, 12; 15 (General Science, Pre-Medical), Waipahu; Winters, Cal.

Miller, Michael, 20; 14 (Civil Engineering), Army and Navy Y. M. C. A.

Miyamoto, Koichi, 12; 19 (General Science, Pre-Medical), Coral St. Mopua, Francis, 5; 19 (Sugar Technology, Agriculture), 106 School St. Mossman, Thomas, 14; 17 (General Science, Pre-Medical), 1350 Miller Lane.

Nakamura, Takeo, 29; 20 (Sugar Technology, Chemistry), 222 Liliuokalani Road.

Ohta, Takashi, 16; 14 (General Science, Pre-Medical), 1719 N. King Street.

Oliviera, Bennett C., Jr., 22; 26 (Sugar Technology), Kahuku, Oahu.

Pang, Hong Quon, 38; 20 (General Science, Pre-Medical), 1409-C Cunha Lane, Vineyard St.

Pang, John, 8; 17 (Civil Engineering), 1799 Kalakaua Ave.

Penhallow, David P.† (Sugar Technology, Engineering), Men's Dormitory; Wailuku, Maui.

Penhallow, Richard, 26; 18 (Agriculture), Men's Dormitory; Wailuku, Maui.

Samson, Walter H., 43; 50 (Sugar Technology), 600 Wyllie St.

Sonoda, Allen Sadao, 17; 17 (General Science, Pre-Medical), 478 Kukui St.

Soong, Kiwo† (Agriculture), 1235 Elizabeth St., Kaimuki; Waihapu, Maui.

Takakawa, Sadao, 12; 17 (Agriculture), School St.; Papaikou, Hawaii.

Thompson, Henry, 14; 20 (Agriculture), 2521 Rose St.

Tokimasa, Hidemichi, 38; 20 (Agriculture), 610 S. King St.; Kahului, Oahu.

Tong, Fook Hing, 13; 20 (General Science, Pre-Medical), 1216 Young St.; Wahi, Hawaii.

Wedemeyer, Ernest F., 16; 20 (Civil Engineering), Men's Dormitory; Lihue, Kauai.

Williams, Roger T., 19; 18 (General Science), 2535 Manoa Road.

Wong, James B. Y.† (General Science), 1334 Hospital Lane.

Yamamoto, Shigeo, 35; 20 (General Science, Pre-Medical), S. King St. Yapp, Chester Fook Loy, 20; 17 (General Science), 1216 Young St.

Young, Fred Owen, 13; 20 (Civil Engineering), 3818 Paki Ave.

Yuen, Jen Han, 16; 16 (General Science), 1709-J Center Drive.
Students

SPECIALS.

Akai, Mrs. Elizabeth, 2445 Alewa St.
Andrews, Mrs. Harriet C., 2346 Liloa Rise.
Atkinson, William J., Tripler General Hospital.
Ball, Mrs. Augusta L., 2125 Armstrong St.
Barrere, Mrs. Rosalind, 2231 Hyde St.
Berg, Mrs. Alice G., 2572 Jones St.
Brown, Mrs. Jane L., 33 Dowsett Ave.
Campbell, Mrs. Dorothy F., 2239 Kamehameha Ave.
Chandler, Mrs. Martha A., 1625 Dole St.
Chock, Quan Chew, 586 Beretania St.
Choi, Dongho, 1506 Bernice St.
Clarke, Adna Girard, Jr., Kamehameha Schools.
Clark, Mrs. Marjorie F., 2112 Damon St.
Cooper, Reginald C., 315 Young St.
Donaghho, Mrs. Lila V., 961 Alewa Drive.
Easton, George E., 257 Saratoga Road.
Elliott, Mrs. Robina, 1945-G John Ena Tract.
Ellis, Mrs. J. H., 2140 Armstrong St.
Espanola, Nicolas Solis, Hawaiian Board, Filipino Centre; Colasi, P.I.
Estes, Mrs. Marcella, 1415 Punahou St.
Goodrich, Mrs. Echo M., 1017 Third Ave.
Gowans, Mrs. Helen Taylor, 717 Fifteenth Ave.
Hopwood, Mrs. Mabel B., 2410 Kaala Ave.
Hughes, Evan S., 2447 Parker St.
Hunter, Paul Kuhl, Weather Bureau, Box 3175.
Johnson, Mrs. Elizabeth L., 2506 East Kalakaua Ave.
Johnson, Mrs. Jean L., 2115 Kamehameha Ave.
Johnston, Mary W., Pearl City.
Judd, Mrs. Martha C., 2162 Atherton Road.
Kau, Mrs. S. L., Ewa Plantation Co., Ewa; Hankow, China.
Kelley, Claire M., 915 Piikoi St.
Kim, Hark Sung, 217 North Queen St.
Kinney, Howard K., 1337 Fort St.; 1917-D Luzo St.
Koo, Mrs. Kwai Fan, 1448-D Melrose St.
Krauss, Mrs. Elizabeth H., 2447 Parker St.
Lambert, Mrs. A. W., 1118 Fifteenth Ave.
Lane, Lucille A., 2410 Kalakaua Ave.
Mellon, Mrs. Margaret H., 218 Dewey Ave.
Morgan, Mrs. Laura, 2421 Armstrong St.
Students

Ormiston, Douglas von Holt, 1020 Eighth Ave.
Ostergaard, Jans M., 9 Ocean View Court.
Pearson, Mrs. Marion G., 2010 Kamehameha Ave.
Pope, Mrs. W. T., U. S. Experiment Station.
Schuster, Lawrence P., Fort Armstrong; St. Paul, Minn.
Smith, Martin R., Tripler General Hospital; Elkhart, Ind.
Stainback, Mrs. Cecil White, Courland Hotel; Springfield, Mo.
Stubblefield, Mrs. Beatrice, 924 Sixth Ave., Kaimuki.
Swezey, Mrs. Mary H., 925 Twelfth Ave.
Tay, Mrs. Edna, 2413 East Manoa Road.
Thompson, Robert Russell, 3741 Palolo Ave.
Warriner, Mrs. Beatrice Annie, 2462 Kuhio Ave.
Webster, Mrs. Leonie L., 969 Alewa Drive.
Webster, Mrs. Marion Mix, Kamehameha Schools.
Wilder, Mrs. Eva Boswell, 1718 Anapuni St.
Williamson, Lydia, Kamehameha Girls' School.
Wilson, Mrs. Vivienne, 1977 Alewa Drive.
Woo, Winnie W., 52 South Kukui St.; Hong Kong, China.
Wright, Mrs. May M., 1054 Kinau St.
Yamamoto, James K., 1943 Fort St.
Yamasaki, George S., 39 School St.

COLLEGE OF ARTS AND SCIENCES

SENIORS.

Bindt, Henry M. (Group I), 3258 Monsarrat Ave.
Broadbent, Dora M. (Group II), 2048 Nuuanu Ave.; Lihue, Kauai.
Cartmill, Eva M. (Group IV), 242-B Kalulani Ave.; Tulare, Cal.
Chong, Beatrice S. Y. (Group II), 723 Waialamilo Road.
Cullen, Herbert F. (Commerce), Men's Dormitory; Pauuilo, Hawaii.
Fukushima, Kiyoshi (Commerce), Monsarrat Ave.; Makaweli, Kauai.
Gay, May K. (Group IV), 1611 Keaumoku St.; Lalakoa, Lanai.
Hoermann, Mrs. Maria (Group II), 1036 Green St.
Johnson, Frederick (Group II) care of American Express Co., Honolulu; Boston, Mass.
Matsumura, John Y (Group II), 21 School St.; Pauuilo, Hawaii.
Matsumura, Yoshino (Group III), 2346 Liloa Rise; Waimea, Kauai.
Nishimoto, Shizuto (Commerce), 1117 Division Lane.
Matsumura, Yoshino (Group II), 21 School St.; Pauuilo, Hawaii.
Yap, Ruth L. T. (Group I), 3465 Waialae Rd.

JUNIORS.

Aiau, Chadwick K. (Pre-Medical), P. O. Box 86; Hilo, Hawaii.
Allen, Gwenfrede E. (Group II), 1480 Makiki St.
Bierbach, Gretchen H. (Group II), 2346 Oahu Ave.
Students

Brown, Robert Wendell (Group III), The Makiki; Bad Axe, Mich.
Cho, Jay Uhn (Commerce), 1520 Fort St.; Wahiawa, Oahu.
Chun, James Joy H. (Group IV), 82 N. Beretania St.
Clarke, Benita (Group II), Kamehameha Boys' School.
Durfee, Leonor N. (Group II), 315 Saratoga Rd.
Goo, Paul K. C. (Group III), 82 N. Beretania St.; Nuuanu and Pauoa Road.

Hirano, Kazuichi (Group I), 1239 King St.; Wahiawa, Kauai.
Ing, Hen Kong (Group I), 1882 Lusitania St.
Krauss, Dorothea H. (Group II), 2447 Parker St.
Kunkiyo, Toworu (Commerce), 1804 Nuuanu St.
Lau, Lawrence B. L. (Group I), 1340 Beretania St.
Liu, Ken Kiu (Commerce), 2206 S. King St.
Luke, Jennie E. J. (Group IV.), 1308 Date St.
Mashimo, Ruth S. (Group II), 1252 Young St.
McVeagh, Rebecca C. (Group IV), 1627 Anapuni St.
Moo, Jen Fong (Pre-Medical), P. O. Box 1678.
Mossman, Doris K. (Group IV), 1319 Emma St.
Nichols, Martha A. (Group II), 930 Ocean View Drive; Pearl Harbor.
Perry, Larlette (Group I), 1641 Anapuni St.; Schofield Barracks.
Sakai, Hannah (Group IV), Ohai Lane, Pauoa.
Seals, James Forbes (Commerce), 1513 Spreckles St.
Searle, Lucy (Group IV), Women's Dormitory; Lahaina, Maui.
Shields, Euphie G. (Group II), 2544 Jones St., Manoa.
Sur, Kee Moon (Group I), 1506 Miller St.; Schofield Barracks.
Ting, Joseph Geen (Group I), 82 Beretania St.
Yamamoto, Takeo (Group IV), 1444 Nuuanu St.
Yamashiro, Masami (Commerce), 206 N. Beretania St.
Yanigihara, Masichi (Commerce), 1467 King St.
Yee, Ah Kim (Commerce), 1860 Queen St.

SOPHOMORES.

Abe, Mitsuko (Group IV), 2336 Liloa Rise; Kurtistown, Hawaii.
Beardmore, Dorothy M. L. (Group II), 2391 Beckwith St.
Bourne, Charles P., 20th and Palolo Aves., Kaimuki.
Ching, Sin Choy (Pre-Medical), 1675 Kamamalu Ave.
Choy, Soon Hee (Group IV), 1614 Kamamalu Ave.
Chung, Clara Wai-Ung (Group IV), 1028 Beretania St.
Chung, Walter M. S. (Pre-Medical), 1432 Fort St.
Cook, Edgar K. (Pre-Medical), Men's Dormitory; Hilo, Hawaii.
Doi, Isame (Group II), P. O. Box 1384; Kalaheo, Kauai.
Harada, Shizuo (Commerce), 1233 Elm St.
Hayashi, Chisato (Group I), 610 S. King St.; Holualoa, Kona, Hawaii.
Hess, Juanita (Group I), 204 Kaulilani Ave.
Students

Hirano, Umeyo (Group II), 1013 Peterson Lane.
Hope, Robert S. (Pre-Medical), 3115 Waialae Rd.
Katsuki, Ichio (Pre-Medical), 1326 Keaumoku St.
Kawachi, Kenseuke (Group I), 610 S. King St.; Kealakekua, Hawaii.
Kawasaki, Yoshikazu (Pre-Medical), 285 N. Kukui St.
Kinnard, Cynthia A. (Group II), 2065 Lanihuli Drive; Schofield Bks.
Kono, Ayako (Group IV), Box 877; Hilo, Hawaii.
Kuminobu, Toshiyuki (Group III), 1423 S. King St.
Kuribayashi, Selchi (Commerce), 33 Chaplain Lane; Wailuku, Maui.
Lai, Lee (Pre-Medical), 1232 Kamanuwai Lane.
Leong, Yau Sing (Group I), Keola Lane.
Li, Benjamin Luko (Pre-Medical), 52 S. Kukui St.
Lum, Martin N. (Pre-Medical), 1456 Kauluwela Lane.
Mark, Yin Fo (Pre-Medical), 1417 Beretania St.
Matsuguma, Shigi (Commerce), 1311 Auld Lane.
Matsuno, Taichi (Pre-Theological), 576 Quinn Lane.
McGrew, Clifford D. (Group I), Men's Dormitory.
McLane, Anna K. (Group II), 2039 Nuuanu Ave.
Morelock, Geraldine T. (Group II), 2116 Lanihuli Drive.
Pollock, Florence Allen (Group I), The Makiki; Ann Arbor, Mich.
Pratt, Laura M. (Group I), 2048 Nuuanu Ave.
Quinn, Vesta (Group I), 2171 Atherton Rd.
Ross, Kawehelani Janet (Group IV), 1448-B Melrose Lane.
Saiki, Kasu (Pre-Medical), P. O. Box 976.
Tokioka, Masayuki (Group I), 2478 Kealohilani and Kuhio Sts.
Yamaguchi, Shichiro (Commerce), P. O. Box 820.
Yanagi, Ume Ellen (Group IV), Women's Dormitory; Wailuku, Maui.
Yap, David (Pre-Medical), 1509 Kauluwela Lane.
Yee, Peter Sin T. (Pre-Medical), 1850 Fort St.
Young, Ah Hee (Group IV), Kaimana Home; Wailuku, Maui.

FRESHMEN.*

Adams, Katharine, 47; 16 (Group I), 2315 Liloa Rise.
Ault, Ralph Williams, 15; 17 (Commerce), 1807 Anapuni St.
Bell, Alfred Kaonohi, 29; 20 (Group I, Pre-Legal), 1202 Morris Lane,
Kalihi; Hilo, Hawaii.
Brash, Adrian, 34; 17 (Group III, Pre-Dental), 1294 Emma St.
Carvalho, Anita Jacintha, 19; 15 (Education), 2516 Lower Manoa Rd.; Papaikou, Hawaii.
Chan, Ruth Me Lan, 47; 19 (Group III, Pre-Medical), 178 School St.
Ching, Kam Dal† (Commerce), 1234-F Emma Lane.
Ching, Raymond Hong Chow, 38; 20 (Group I), 77 Kukui Lane.
Chu, Arthur Kim Ket, 20; 17 (Group III, Pre-Dental), 653 Capt. Cook Avenue.

*Numbers in black face type are Grade Points earned. (For explanation of Grade Points see p. 18); numbers in ordinary type are semester credits earned.

†Withdrawed before end of first semester.
Students

Chung, Tai Wha, 18; 12 (Group III, Pre-Medical), 3320 Waialae; Ho-nokaa, Hawaii.
Collins, Louis, 29; 19 (Education), 3337 Campbell Ave.
Corell, Bernice Emily, 37; 17 (Group II), Women's Dormitory; Ha-makuapoko, Maui.
Cruickshank, James, 3; 14 (Group I), Men's Dormitory; Waialua, Oahu.
Deverill, Anna Isabelle, 11; 13 (Commerce), 2172 Atherton Rd.
Duvel, Albert Walter, 55; 49 (Commerce), Men's Dormitory; Hilo, Hawaii.
Endo, Mokotot† (Group III, Pre-Medical), 1211 Asylum Rd.; Pauwela, Maui.
Gleason, Bertha Pauline† (Group II), Oahu Prison.
Hara, Iwao, 18; 15 (Group II), 1085 Alakea St.; Waiakea, Hilo, Hawaii.
Harpham, William Elmer, 4; 8 (Group I, Commerce), Men's Dormitory; Waialua, Oahu.
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Hung, Ching Cheung, 9; 6 (Group I), Chinese Church, Fort St.; Canton, China.
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‡Entered second semester.
Students

Lum, Hardy Chun, 14; 17 (Group III, Pre-Medical), 82 N. Beretania St.; Honokaa, Hawaii.
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Miyamoto, Edward T.† (Commerce), 503 S. King St.; Puunene, Maui.
Miyazaki, Fuji Debora† (Group II), 1434 Punahou St.; Holualoa, Kona, Hawaii.
Moriwake, Ernest Kenichit (Group I), 1821 Luso St.; Waimea, Kauai.
Morse, John Douglas, 2; 14 (Group I, Commerce), 2355 Oahu Ave.
Nakamura, Hideo, 14; 17 (Group I, Pre-Legal), Puuloa, Watertown, Oahu.
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Park, Esther, 18; 16 (Education), Kawaihao Seminary; Waialua, Oahu.
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Poepoe, Samuel Keao, 26; 19 (Group I), 768 Kanoa St.
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Wall, Margaret Ruth, 24; 15 (Group II), Makiki Heights.
Whang, Joon Tai, 15; 15 (Group I), P. O. Box 2133.
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Wise, William, 21; 14 (Commerce), 1910 Fort St.
Yamada, Toraichit† (Group I), Punchbowl and Halekauila Sts.; Koloa, Kauai.

†Withdrawed before end of first semester.
‡Entered second semester.
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Young, Gordon See, 16; 14 (Group III), 2425 Manoa Rd.

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Allen, Suzanne M., 46 Halelena Park.
Betts, Charlotte, 1545 Kewalo St.
Bratton, Louise, 1725 Kewalo St.
Cannon, Glenn D., Alewa Heights.
Capek, Beatrice A., 160-A Kealohelani St.; Lebanon, Oregon.
Caro, Ida J., Colonial Hotel.
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Collins, Mrs. Carter, Schofield Barracks.
Cooper, Mrs. Lucy M. D., 1220 Kalihi St.
Cowan, Charlotte Marie, McDonald Hotel.
Davis, Emma, Women's Dormitory.
Davis, Florence S., 1136 S. King St.
De Corte, Manuel, Honolulu.
Deverill, Florence K., 2172 Atherton Rd.
Dominis, Sybil M., 3031 Alika St.
Elston, Bert, Army & Navy Y. M. C. A.; Ridgefield Park, N. J.
Farrington, Frances Crane, Washington Place.
Faulkner, R. M., 1071-B Beretania Ave.
Faulkner, Mrs. Robert, 1071-B Beretania Ave.
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Fisher, Lynn A., 803 Kinau St.; Rockford, Ill.
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Freitas, Henrietta, 1415 Lanakila St.
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Grainger, Mrs. Ethel C., 2557 Parker St.
Greenwood, Alice E., 1289 Matlock Ave.
Hamilton, Florence Ruth, 250 Hotel St.
Hasseltine, Mrs. Bertha, 1331 Lunalilo St.
Hasseltine, Dr. Hermon E., 1331 Lunalilo St.
Hasty, Helen E., Punahou School.
Heen, Elizabeth Lulu, 1319 Emma St.
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Hoe, Paul, 3134 Hobron Ave.
Hooley, Leigh, Y. M. C. A.; Milwaukee, Wis.
Howell, Mrs. E. M., 946 10th Ave.; Forest Grove, Ore.
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Hunt, Mrs. Lulu H., 2316 Liloa Rise.
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Jaeger, Iwalani, 1738 Kewalo St.
James, Mrs. Flora S., 2341 N. King St.
Jarrett, Lorna H., 2356 Oahu Ave.
Kekapa, W. K., 1219 Center St.
Kekoa, Albert, 757 S. Beretania St.
King, Helen, 1836 Punahou St.
Kirk, Mary E., 2762 Hillside; Sioux City, Iowa.
Klum, Mrs. Mildred, 2122 Hunnewell St.
Klum, Otto, 2122 Hunnewell St.
Knoll, Pansy Marie, 3165 Waialae Rd.
Lam, Chas. K. Y., St. Peter's Rectory.
Leung, Muriel, Colonial Hotel; Kobi, Japan.
Loo, Sau Ung, 1065 Beretania St.
Lung, Thomas S., Buckle Lane.
Macdonald, Ida C., 2250 Oahu Ave.
Macfie, Gertie Gordon T., 1319 Emma St.
Magoon, Marmion M., Kaalawai.
Martin, Mrs. Ethel B., Waikiki Court; Huntington Park, Cal.
McCluskey, William, 1215 Wilder Ave.
McNamara, Mary G., 2577 Parker St.
Mecredy, Frances, 5 Haulani Court; San Francisco, Cal.
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Morse, Mrs. Maude L., 1619 Dole St.; San Francisco, Cal.
Mowat, Mrs. Olive, 1104 Kalihi St.
Murphy, Thelma K., 1500 Kapiolani St.
Oldt, Hazel, 752 S. King St.; Scottville, Mich.
Otremba, Frances M., 2659 Oahu Ave.
Otremba, Hedwig S., 2659 Oahu Ave.
Owens, David R., Jr., 1071-A Beretania St.; San Francisco.
Pereira, Anthony C., 1239 Matlock Ave.; Paia, Maui.
Pelps, Delma Elizabeth, McDonald Hotel.
Piutti, Gertrude Elizabeth, 1640-D Liholiho St.
Poole, Mrs. Alice F., 72 Cleghorn Drive.
Purdy, Charles, 2235 Kalia Road; Portland, Ore.
Reynolds, M. L. Horace, 825 Spencer St.
Rickard, Gladys Maude, The Donna Hotel.
Riggle, Leonard J., 11 John Ena Tract; St. Louis, Mo.
Robertson, Elva Alice, Kakaako Japanese Church.
Ruttman, George F. K., 474 Hotel St.
Ryan, Mrs. Ruth S., Schofield Barracks.
Schmittgen, Paul H., Mills School.
Schwallie, Leonie Mary, Halepupule.
Serrao, Louis Gomes, 1704 Anapuni St.; Hilo, Hawaii.
Shaw, Ruth C., 2121 McKinley St.
Smith, Mildred L., Kawalahaoo Seminary.
Sokabe, Miyuki, Pawaa Junction.
Stanley, H. Brian, Puiwa Rd.
Sylva, Rose A., Kahala.
Toi, Kenso, 1039 Pua Lane.
Traut, Gladys, 1120 King St.
Tyler, Beatrix C., 1424 Dominis St.
Varney, Ada S., 902 Kinau St.
Wall, Catherine, Courtland Hotel.
Ward, Mrs. Ella E. H., 1104 Piikoi St.
Watanabe, Shichiro, 162 Liliuokalani Ave., Waikiki.
Webling, Gustave Henry, 1556 Keeaumoku St.
Weissberger, Alexander, 286 Beach Walk.
Whittle, Mabel, 584 N. Circle Lane.
Wilcox, Eleanor Kilani, 1319 Emma St.
Wilson, Mrs. Charlotte M., St. Andrew's Priory.
Wilson, James A., 1804 Anapuni St.
Woodhull, Mrs. Deborah, 18 Dewey Court.
Woods, Ida, Hustace Court.
Wrede, Elsie Margaret, 1641 Anapuni St.; Hayfield, Minn.
Yamamoto, Clifton Hatsuji, 475-E Kuakini St.
Yamamoto, Samuel Y., P. O. Box 734, Honolulu.
Yap, David T. W., 3465 Waialae Ave.
Young, Alice Pauline, King and Victoria Sts.
Young, Neva E., 2565 Parker St.
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QUARTERLY BULLETIN

In 1921 the University of Hawaii commenced the publication of the "Quarterly Bulletin," to be issued four times a year, in October, January, April and August. This catalog is the third number of Vol. II. The preceding numbers were:

Vol. I., No. 1—Register of Officers and Students and Abridged Announcement of Courses, October, 1921.
Vol. I., No. 3—Catalogue and Announcement of Courses, 1922-1923; April, 1922.
Vol. I., No. 4—Register of Officers and Students and Abridged Announcement of Courses, October, 1922.
Vol. II., No. 2—Report of the Board of Regents to the Legislature of 1923; February, 1923.

UNIVERSITY RECORDS

No. 1. Report of the Board of Regents to the Legislature of 1921. February, 1921; pp. 44.

As "College Records" there have been published previous to July, 1920, some twenty catalogs and reports to the Territorial Legislature. Very few research bulletins have been published by the institution, there being no financial provision for such publications. Six bulletins have, however, appeared with titles as follows:
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No. 4. Rock, Joseph F. Palmyra Island, with a Description of Its Flora. April, 1916, pp. 53.


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