Oregon State College
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1940-41

Corvallis, Oregon

Oregon State System of Higher Education BULLETIN

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E. C. Sammons, Portland	1944
Robert W. Ruhl, Medford	1945
Edgar W. Smith, Portland	1946
Willard L. Marks, Albany	1947
R. C. Groesbeck, Klamath Falls	1948
Mac Hoke, Pendleton	1949

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Beatrice Walton Sackett

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Eugene, Oregon

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Oregon State System of Higher Education

THE Oregon State System of Higher Education, as organized in 1932 by the State Board of Higher Education following a Federal survey of higher education in Oregon, includes all the state-supported institutions of higher learning. The several institutions, located at six different places in the state, are now elements in an articulated system, parts of an integrated whole. The educational program is so organized as to distribute as widely as possible throughout the state the opportunities for general education and to center on a particular campus specialized, technical, and professional curricula closely related to one another.

The institutions of the State System of Higher Education are the University of Oregon at Eugene, Oregon State College at Corvallis, the University of Oregon Medical School at Portland, the Oregon College of Education at Monmouth, the Southern Oregon College of Education at Ashland, and the Eastern Oregon College of Education at La Grande.

Each of these institutions, except the Medical School, which is on a graduate basis, provides the general studies fundamental to a well-rounded education. At the three colleges of education general and professional studies are combined in the teacher-training curriculum. At the Southern Oregon College of Education and the Eastern Oregon College of Education students who do not plan to become elementary-school teachers may devote their time exclusively to lower-division studies in the liberal arts and sciences.

At the University and the State College two years of unspecialized work in liberal arts and sciences are provided on a parallel basis in the Lower Division. Beyond the lower-division level the work of the two institutions is distinctly differentiated. At the University are centered the advanced curricula in the arts, letters, and social sciences, and the professional schools resting on these fundamental fields of knowledge. At the State College are centered the advanced curricula in the physical and biological sciences and the professional schools resting on these natural sciences.

The educational program thus developed, as shown in the following insert, includes: (1) Liberal Arts and Sciences, (2) Professional and Technical Curricula, and (3) Graduate Study and Research.

University of Oregon, Eugene
University of Oregon Medical School, Portland
Eastern Oregon College of Education, La Grande

THE OREGON STATE SYS

	UNIVERSITY, Eugene	STATE C
LIBERAL ARTS AND SCIENCES	**Lower Division** (Junior Certificate) Freshman and sophomore work in Liberal Arts and Sciences (Language and Literature, Science, and Social Science) is offered on essentially the same basis at both the University and the State College. **College of Arts and Letters** (B.A., M.A., Ph.D. degrees) Major curricula in General Arts and Letters, and in Classics, English Language and Literature (including Drama, Speech, and Prelibrary options), Germanic Languages, Philosophy, and Romance Languages. **College of Social Science** (B.A., B.S., M.A., M.S., Ph.D. degrees) Major curricula in General Social Science, and in Anthropology, Economics, Geography, History, Philosophy, Political Science, Psychology, and Sociology.	**Lower Division** (Junior Certifi Freshman and sophomore work erature, Science, and Social Scier the State College and the Unive **School of Science** (B.A., B.S., Major curricula in General Scier mology, Geology, Mathematics,
PROFESSIONAL AND TECHNICAL CURRICULA	**School of Architecture and Allied Arts** (B.A., B.S., B.Arch., B.L.A., M.A., M.S., M.Arch., M.F.A., M.L.A. degrees) Architectural Design, Interior Design, Landscape Architecture (with one year at State College), Drawing and Painting, Sculpture, Art Education, and General Art; Structural Design in Architecture, a joint curriculum with Engineering. **School of Business Administration** (B.A., B.S., B.B.A., M.A., M.S., M.B.A. degrees) Accounting, Advertising and Selling, Finance, Foreign Trade, General Business, Industrial Management, Marketing and Merchandising; combined curriculum in Business Administration and Law. **School of Education** (B.A., B.S., M.A., M.S., M.Ed., D.Ed., Ph.D. degrees) General Education Courses and preparation for educational administration. Major curricula preparing for teaching of Literature, Languages, Art, Music, Physical Education, the Social Sciences, Business Administration, and approved combinations of subjects. Training for teachers of atypical children. The School of Education operates jointly at the University and the State College. **School of Journalism** (B.A., B.S., M.A., M.S. degrees) Reporting, Editing, Advertising, Publishing, Typography and Fine Printing. **School of Law** (B.A., B.S., LL.B., J.D. degrees) A professional curriculum of three years above lower division (five years in all), leading to LL.B. degree; a professional curriculum of three years following a three-year general curriculum (six years in all), leading to baccalaureate and law degrees. **School of Music** (B.A., B.S., B.M., B.M.Ed., M.A., M.S., M.F.A. degrees) Music Appreciation, Musicology, Theory and Composition, Applied Music, Music Education, Public-School Music. **School of Physical Education** (B.A., B.S., B.S. in P.E., M.A., M.S. degrees) Professional curriculum combining work in physical education, health education, and recreation. Major and minor norms for coaches and teachers of physical education and health education. ——— In addition to the major professional curricula listed above, the University offers lower-division and service courses in Home Economics. In this field the student may fulfill requirements for admission to upper-division standing in the major school at the State College. It is recommended, however, that the student pursue her lower-division work at the institution where major work is offered.	**School of Agriculture** (B.S., M Animal Industries (Animal, Dai Fish and Game Management, Vet Farm Management; Plant Indus Construction and Maintenance, I tural Engineering; Agricultural T **School of Education** (B.A., B.S Major curricula preparing for te matics, Agriculture, Home Econ of subjects; Educational and Voc preparing for part-time physica Education operates jointly at the **School of Engineering and Ind** M.E. degrees) Chemical Engineering, Civil Eng way options), Electrical Engineer ical Engineering (General curricul Industrial Administration; Struct Architecture and Allied Arts. **School of Forestry** (B.S., M.S. Logging Engineering, Technic Products. **School of Home Economics** (B Clothing, Textiles, and Related A tion; Institution Economics; Ho **School of Pharmacy** (B.S., M. Pharmacy, including Pharmaceut preparation for certification as r **Secretarial Science** (B.S.S. deg Stenography, Typewriting, Offic In addition to the major profession lower-division and service courses in tration, Journalism, Music, and Ph fulfill requirements for admission to University. It is recommended, how work at the institution where the m
GRADUATE STUDY AND RESEARCH **Graduate Division** All graduate instruction in the System is administered by the interinstitutional Graduate Division. **General Research Council** Research in the System is assisted through the interinstitutional General Research Council, and through institutional agencies.	Graduate study leading to advanced degrees has been allocated to the University in the following fields: Arts and Letters, Social Sciences, Architecture and Allied Arts, Business Administration, Education, Journalism, Law, Music, and Physical Education. Advanced degrees granted are listed above, following the name of each major college or school.	Graduate study leading to advanced the following fields: Biological Sciences, Physical Education, Engineering, Fore Advanced degrees granted are listed

TEM OF HIGHER EDUCATION

Oregon State College, Corvallis
Oregon College of Education, Monmouth
Southern Oregon College of Education, Ashland

COLLEGE, Corvallis

icate)
in Liberal Arts and Sciences (Language and Lit-
nce) is offered on essentially the same basis at both
rsity.

M.A., M.S., Ph.D. degrees)
nce, and in Bacteriology, Botany, Chemistry, Ento-
Physics, and Zoology.

M.S., Ph.D. degrees)
ry, and Poultry Husbandry, Dairy Manufacturing,
erinary Medicine); Agricultural Economics including
stries (Farm Crops, Soils, Horticulture, Landscape
Food Industries); Agricultural Education; Agricul-
Technology.

S., M.A., M.S., Ed.M., Ed.D. degrees)
aching of Biological and Physical Sciences, Mathe-
omics, Industrial Arts, and approved combinations
cational Guidance, Secretarial Science. Minor norm
l-education teaching and coaching. The School of
University and the State College.

lustrial Arts (B.S., M.S., Ch.E., C.E., E.E.,

gineering (General curriculum, Business and High-
ing (Power and Communications options), Mechan-
um, Aeronautical option), Industrial Arts Education,
ural Design in Architecture, a joint curriculum with

., M.F., F.E. degrees)
al Forestry (Forest Recreation option), Wood

B.A., B.S., M.A., M.S. degrees)
Arts; Foods and Nutrition; Household Administra-
me Economics Education.

S. degrees)
tical Analysis, Pharmacology, and Pharmacognosy;
egistered pharmacist.

gree)
s Methods.

al curricula listed above, the State College offers
Architecture and Allied Arts, Business Adminis-
ysical Education. In these fields the student may
upper-division standing in the major school at the
wever, that the student pursue his lower-division
ajor work is offered.

degrees has been allocated to the State College in

Sciences (including Mathematics), Agriculture,
stry, Home Economics, and Pharmacy.

above, following the name of each major school.

MEDICAL SCHOOL
Portland

Medicine (M.D. degree)

Four years of professional training, following a three-year premedical curriculum offered at both the State College (third-year emphasis on natural science) and the University (third-year emphasis on arts and letters or social science).

Nursing Education (B.A., B.S. degrees)

Degree curriculum, including preparatory work at University or State College and professional work at Medical School. Curricula leading to certificates in Public Health Nursing, Orthopaedic Nursing, Obstetrical Nursing, Pediatric Nursing, and Nursing Supervision.

Graduate work may be taken at the Medical School, leading to the M.A., M.S., and Ph.D. degrees from the University or the State College, according to allocations of curricula.

COLLEGES OF EDUCATION

Lower Division (Junior Certificate)

At SOUTHERN OREGON COLLEGE OF EDUCATION, Ashland, and at EASTERN OREGON COLLEGE OF EDUCATION, La Grande, freshman and sophomore work in Liberal Arts and Sciences (Language and Literature, Science, and Social Science) is offered within the limits of the college-of-education curriculum.

Elementary Teacher Training (Diploma)

At OREGON COLLEGE OF EDUCATION, Monmouth, EASTERN OREGON COLLEGE OF EDUCATION, La Grande, and SOUTHERN OREGON COLLEGE OF EDUCATION, Ashland, a three-year academic and professional curriculum is offered, leading to a diploma from the colleges of education and to the State Teacher's Certificate, which entitles graduates to teach in elementary schools of the state.

The work includes: (1) Training in the subjects to be taught, and in the effective teaching of those subjects. (2) Broad general education for the prospective teacher as individual and citizen.

EXTENSION

General Extension Division

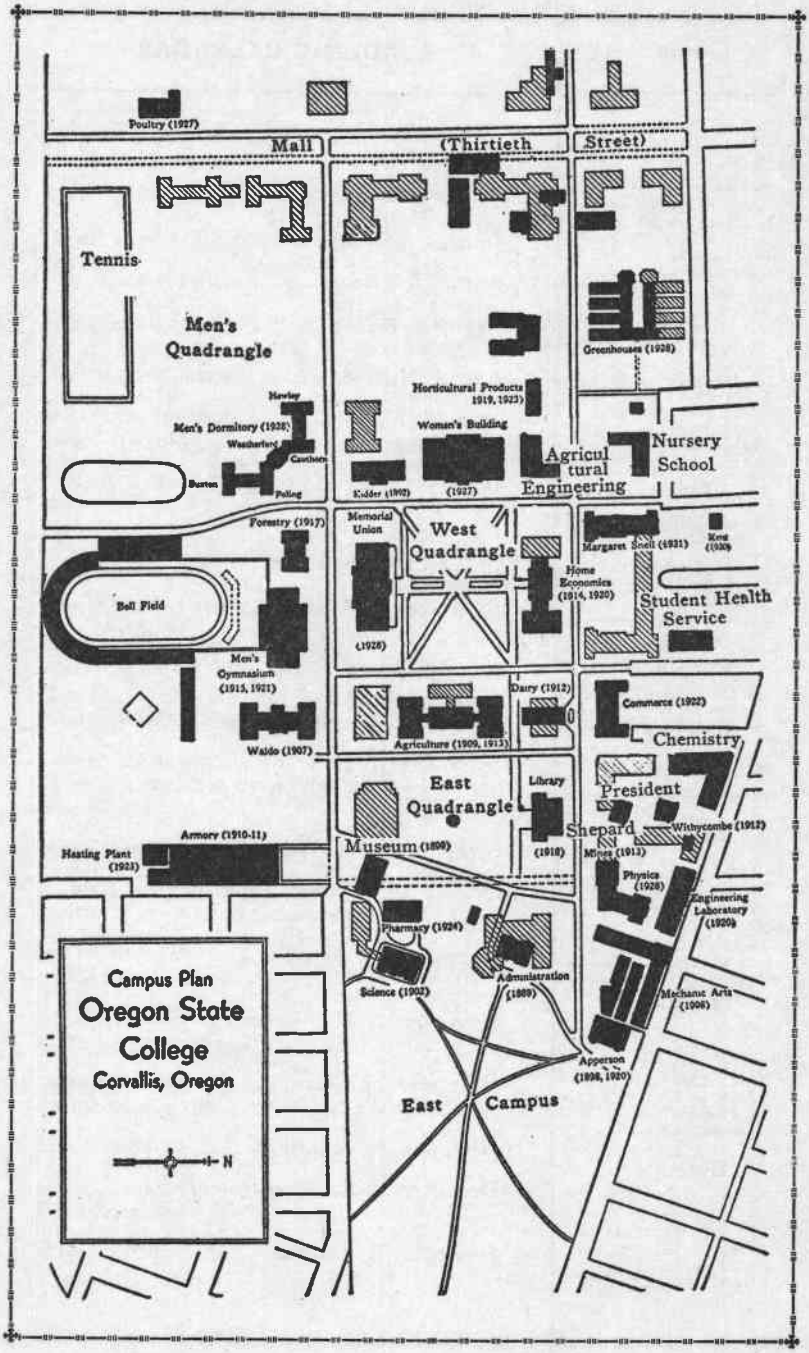
The General Extension Division of the State System extends the services and instruction of the System to the people of the state through the following departments:

- Correspondence Study
- Municipal Service
- Portland Extension Center
- Radio
- Social Welfare
- Statewide Extension Classes
- Visual Instruction

In certain fields graduate work may be taken at the Portland Extension Center, leading to degrees from the University or the State College, according to the major subject.

Federal Cooperative Extension

The Federal Cooperative Extension Service in agriculture and home economics of the State College is closely coordinated with the work of the General Extension Division.


Poultry (1927)
Mall
(Thirtieth
Street)
Tennis
Men's
Quadrangle
Greenhouses (1928)
Horticultural Products
1919, 1923)
Women's Building
Men's Dormitory (1928)
Hawley
Weatherford
Cauthorn
Burton
Poling
Kidder (1902)
(1927)
Agricul
tural
Engineering
Nursery
School
Forestry (1917)
Memorial
Union
West
Quadrangle
Margaret Snell (1931)
Home
Economics
(1914, 1920)
Student Health
Service
Ball Field
(1928)
Men's
Gymnasium
(1915, 1921)
Dairy (1912)
Commerce (1922)
Agriculture (1909, 1913)
Chemistry
Waldo (1907)
East
Quadrangle
Library
President
Shepard
Withycombe (1912)
Armory (1910-11)
Heating Plant
(1923)
Museum (1890)
(1918)
Mines (1913)
Physics
(1928)
Engineering
Laboratory
(1920)
Pharmacy (1924)
Campus Plan
Oregon State
College
Corvallis, Oregon
N
Science (1902)
Administration
(1909)
Mechanic Arts
(1906)
Apperson
(1898, 1920)
East
Campus

1940

June

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July

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August

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September

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October

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December

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ACADEMIC CALENDAR

1940 Summer Sessions

June 24, *Monday*.....First session begins

August 2, *Friday*.....First session ends

August 2, *Friday*.....Second session begins

August 31, *Saturday*.....Second session ends

June 17, *Monday*.....Institute of Marine Biology begins

July 26, *Friday*....Institute of Marine Biology ends

Fall Term 1940-41

September 20, *Friday*.....First faculty meting (4:00 o'clock)

September 23-28, *Monday to Saturday*..Freshman Week and Registration for all students entering for the first time

September 28, *Saturday*....Registration of students who have previously been in attendance

September 30, *Monday*.....Classes begin

October 12, *Saturday*..Latest day for addition of new courses or new registrations

November 11, *Saturday*.....Armistice Day, holiday

November 21-24, *Thursday to Sunday*..... Thanksgiving vacation

November 23, *Saturday*.....Latest day for dropping courses

December 14, *Saturday*.....Classes end

December 16-20, *Monday to Friday*.....Final examinations

December 21, *Saturday*.....Fall term ends

SEVENTY-THIRD YEAR

Winter Term 1940-41

January 2, *Thursday*.....Registration

January 3, *Friday*.....Classes begin

January 18, *Saturday*..Latest day for addition of new courses or new registrations

February 15, *Saturday*.....Latest day for dropping courses

March 8, *Saturday*.....Classes end

March 10-14, *Monday to Friday*.....Final examinations

March 15, *Saturday*.....Winter term ends

Spring Term 1940-41

March 24, *Monday*.....Registration

March 25, *Tuesday*.....Classes begin

April 5, *Saturday*.....Latest day for addition of new courses or new registrations

May 10, *Saturday*.....Latest day for dropping courses

May 30, *Friday*.....Memorial Day, holiday

May 31, *Saturday*.....Classes end

May 31, *Saturday*.....Alumni Day

June 1, *Sunday*.....Baccalaureate Service

June 2, *Monday*.....Seventy-second Annual Commencement

June 2-6, *Monday to Friday*.....Final examinations

June 7, *Saturday*.....Spring term ends

1941 Summer Sessions

June 23, *Monday*.....First session begins

August 1, *Friday*.....Second session begins

1941

January

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February

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March

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April

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May

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June

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July

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Part I

State College Staff

Oregon State College

Officers of Administration

Frederick Maurice Hunter, Ed.D., LL.D. ..... Chancellor
George Wilcox Peavy, M.S.F., Sc.D., LL.D. ..... President
William Arthur Jensen, M.S. ..... Executive Secretary

Richard Harold Dearborn, A.B., E.E. ..... Dean of Engineering and Industrial Arts
Ulysses Grant Dubach, Ph.D. ..... Dean of Men
Francois Archibald Gilfillan, Ph.D. ..... Dean of Science
Kate Wetzel Jameson, Ph.D. ..... Dean of Women
James Ralph Jewell, Ph.D., LL.D. ..... Dean of Education
Olof Larsell, Ph.D. ..... Dean of Graduate Division
Erwin Bertran Lemon, B.S. ..... Registrar
Lucy May Lewis, A.B., B.L.S. ..... Librarian
Ava Bertha Milam, M.A. ..... Dean of Home Economics
Victor Pierpont Morris, Ph.D. ..... Dean in Charge of Secretarial Science
George Wilcox Peavy, M.S.F., Sc.D., LL.D. ..... Dean of Forestry
Charles Lewis Sampson, Colonel, Infantry ..... Commandant
William Alfred Schoenfeld, M.B.A. ..... Dean and Director of Agriculture
Mahlon Ellwood Smith, Ph.D. ..... Dean of Lower Division; Dean of Lower Division and Service Departments; Director of Summer Sessions
Adolph Ziefle, M.S., Phar.D. ..... Dean of Pharmacy

Service Divisions

OFFICE OF THE PRESIDENT

William Arthur Jensen, M.S. ..... Executive Secretary
Hazel Kelsey Westcott, B.S. ..... Administrative Assistant
Vida Lyle Bower ..... Secretary

BUSINESS OFFICE

Edwin Monroe Smith, B.S.D. ..... Business Manager
Harry Benjamin Auld, B.S. ..... Chief Claims Clerk
Arthur Alonzo Brooks ..... Chief Requisition Clerk
Mae Josephine Nusbaum ..... Salary Clerk
Ruth Wagner ..... Cashier

DORMITORIES

Melissa Hunter, M.A. ..... Director of Dormitories
Georgia Chapman Bibee, B.S. ..... Supervisor of Memorial Union Dining Service

STUDENT HEALTH SERVICE

Daniel Clyde Reynolds, B.S., M.D. ..... Director of Health Service
Willard John Stone, A.B., M.D. ..... Assistant Physician
Miriam Luten, B.S., M.S., M.D. ..... Assistant Physician
James Meacham Whitely, B.A., M.D. ..... Assistant Physician
Erna Marguerite Plageman, R.N. ..... Supervising Nurse
Elizabeth Pitblado, R.N. ..... Laboratory Technician
Stella Meagher, R.N. ..... Nurse
Mary Richter, R.N. ..... Nurse
Helen Kirchoff, R.N. ..... Nurse
Mabel Darelius, R.N. ..... Nurse
Martha Josephine Reis, R.N. ..... Nurse
Nelle Mary Gunn ..... X-Ray Technician
Virginia Warren ..... Secretary

DIVISION OF INFORMATION

Edwin Thomas Reed, B.S., A.B. ..... Editor of Publications
Delmer Morrison Goode, M.A. ..... Editor of Publications
John Cole Burtner, B.S. ..... Associate in News Service
Fred Muriel Shideler, B.S. ..... Assistant in News Service
Ethel E Allen, B.S. ..... Assistant Editor of Publications

LIBRARY

Lucy May Lewis, A.B., B.L.S. ..... Librarian
*Lucia Haley, A.B. ..... Assistant Librarian
Elizabeth Prophet Ritchie, A.B., B.L.S. ..... Catalog Librarian
Bertha Emma Herse, B.S., B.L.S. ..... Reference Librarian
Elzie Vance Herbert ..... Orders Librarian
Ruth Caroline Krueger, M.A. ..... Circulation Librarian
Katherine Whipple Hughes, M.A. ..... Science Reference Librarian
Harriet Janet Warner, A.B. ..... Assistant Reference Librarian
Constance Lehde, B.A., B.S. in L.S. ..... Document Assistant
Hendrine Rozendal, M.A. in L.S. ..... Documents Cataloger
Marian Lucille Waby, A.B., B.S. in L.S. ..... Orders Assistant
Catharine Anne Garrett, A.B., B.S. in L.S. ..... General Assistant
Adele Köhn Emery, B.A. ..... Orders Assistant
Emma Lou Bowman, A.B., B.S. in L.S. ..... Periodical Assistant
Catherine Engeln Bazo-Fontanzil, B.A. ..... Catalog Assistant
Mary Edith Fry, B.A., B.S. ..... Circulation Assistant
Margaret Ann Villeneuve, B.S. in L.S. ..... Circulation Assistant

*On leave of absence 1939-40.

Mary Elizabeth Binford, B.A., B.L.S. ..... Catalog Assistant
Dora Himmelsbach Costello, B.Ed., B.S. in L.S. ..... Reference Assistant
Ethel Eugenia Patten, B.A., B.S. in L.S. ..... Catalog Assistant
Loretta Gaylord Fisher, A.B., B.S. ..... Reserve Librarian
Xenophon Palmer Smith, B.A., B.A. in L. ..... Reference Assistant
Esther Allen, B.A., B.S. in L.S. ..... General Assistant
Marjorie Ellen Utt, M.A. ..... Circulation Assistant
Carrie Helen Thory ..... Secretary

PHYSICAL PLANT

Louis Napoleon Traver ..... Superintendent of Physical Plant
Elmer Polic Jackson, B.S. ..... Superintendent of Buildings
Arthur Lee Peck, B.S., B.A. ..... Superintendent of Campus
Ervin Earl Barklow, B.S. ..... Acting Superintendent of Surveys, Maps, Roads and Walks, and Fire Protection
Donald Bruce Stuart ..... Superintendent of Light and Power
Charles George Wiltshire ..... Superintendent of Plumbing and Steam Fitting

PRESS AND MANIFOLDING SERVICE

George Youlle Martin, B.S. ..... Superintendent of College Press
Helen Lucile Holgate, B.S. ..... Manager of Clerical Exchange

REGISTRAR'S OFFICE

Erwin Bertran Lemon, B.S. ..... Registrar
Eva Blackwell, B.S. ..... Assistant to the Registrar
Bess Jackson McCoy ..... Chief Clerk
Hulda Burchell Wrigglesworth, B.S. ..... Examiner
Belva Dixon, B.S. ..... Schedule Clerk
Margaret Shupe ..... Recorder
Leta Neugart, B.S. ..... Secretary
Jean Oglesby, B.S. ..... Secretary

STUDENT WELFARE, PERSONNEL, AND PLACEMENT

Ulysses Grant Dubach, Ph.D. ..... Dean of Men
Kate Wetzel Jameson, Ph.D. ..... Dean of Women
Carl Walter Salser, Ed.M. ..... Head of Personnel and Placement Service
Ernest William Warrington, M.A. ..... Director of Religious Education
Edward Christopher Allworth, B.S., LL.D. ..... Manager and Secretary, Memorial Union
Percy Philip Locey, M.A. ..... General Manager of Student Activities
Lorna Collamore Jessup, B.S. ..... Assistant Dean of Women
Dan Williams Poling, M.S. ..... Assistant to the Dean of Men
Clytie May Workinger ..... Placement Secretary
Lula M Howard ..... Employment and Housing Secretary

ALUMNI OFFICE

Warren Alaska Reid, B.S. ..... Manager, Alumni Association
Eunice Esther Courtright, B.S. ..... Records Clerk, Alumni Association

State College Staff*

FREDERICK MAURICE HUNTER, Ed.D., LL.D.....*Chancellor, Oregon State System of Higher Education; Professor of Education*

A.B. (1905), Nebraska; A.M. (1919), Columbia; Ed.D. (1925), California; LL.D. (1930), Colorado College; LL.D. (1932), University of Colorado; LL.D. (1939), Nebraska. Faculty, Nebraska (1911-12); City Superintendent of Schools, Lincoln, Nebraska (1912-17), Oakland, California (1917-28); Chancellor, University of Denver (1928-35); Professor (1935—), Oregon State. Chancellor, State System (1935—).

WILLIAM JASPER KERR, D.Sc., LL.D.....*Chancellor Emeritus, Oregon State System of Higher Education*

B.S. (1885), Utah; B.S. in Didactics (1894), D.Sc. (1896), General Education Board, Utah; LL.D. (1921), Idaho; LL.D. (1938), Utah State. Superintendent of Schools, Smithfield, Utah (1885-87); Faculty, Brigham Young (1887-90, 1891-92), Utah (1892-94); President, Brigham Young (1894-1900); President, Utah State (1900-07); President, Oregon State (1907-32); Chancellor, State System (1932-35); Chancellor Emeritus (1935—); Director of Research in Production and Marketing, State System (1935-38).

GEORGE WILCOX PEAVY, M.S.F., Sc.D., LL.D.....*President; Dean of the School of Forestry; Professor of Forestry*

B.L. (1895), M.S.F. (1905), Sc.D. (1936), Michigan; LL.D. (1937), Willamette. High-School Principal (1895-96), Jackson, Michigan, (1896-1901), Flint, Michigan; Professor (1910—), Dean (1913—), President (1934—), Oregon State. Dean and Director of Forestry, State System (1932—).

ORVILLE DANIEL ADAMS, M.S.....*Associate Professor of Vocational Education*

B.S. (1932), M.S. (1932), Oregon State. Director of Vocational Education (1926—), State of Oregon; Associate Professor (1926—), Oregon State.

RUSSEL MONROE ADAMS, M.S.....*Supervising Teacher in Agricultural Education*

B.S. (in Agric.) (1918), Washington State; M.S. (in Voc. Ed.) (1930), Oregon State. Supervising Teacher (1935—), Oregon State.

WALTER MILO ADRION, M.A.....*Assistant Professor of Physical Education*

B.S. (1924), Michigan State Normal; M.A. (1939), Michigan. Faculty, Michigan State Normal College (1928-34); Assistant Professor (1939—), Oregon State.

ARTHUR LEMUEL ALBERT, M.S., E.E...*Professor of Communication Engineering*

B.S. (1923), M.S. (1926), E.E. (1939), Oregon State. Instructor (1923-29), Assistant Professor (1929-34), Associate Professor (1934-38), Professor (1938—), Oregon State.

ESTHER ALLEN, B.A., B.S.....*General Assistant, Library*

B.A. (1926), Washington State; B.S. in L.S. (1936), Denver. Librarian, Pacific College (1936); General Assistant (Instructor) (1939—), Oregon State.

ETHEL E ALLEN, B.S.....*Assistant Editor of Publications*

B.S. (1916), Oregon State. Assistant in Library (1917-22), Assistant in Publications (1923-31), Assistant Editor (Assistant Professor) (1931—), Oregon State.

LEONARD JOHN ALLEN, M.S.....*Assistant State 4-H Club Leader*

B.S. (1914), M.S. (1915), Oregon State. Assistant State 4-H Club Leader (Assistant Professor) (1915-23), (Associate Professor) (1923—), Oregon State.

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*State College officers of administration, instruction, and extension at Corvallis having the rank of instructor or above are listed in general as of March 1940.

The FACULTIES of the several academic divisions are printed under the school or divisional headings.

An INDEX OF NAMES of members of the State College staff, of United States Department of Agriculture scientists at the State College, and of State System officers of administration, research, and extension, is printed on page 435.

RUDOLPH JOSEPH ALLGEIER, Ph.D.....*Assistant Technologist in Food Industries*
B.S. (1927), M.S. (1928), Ph.D. (1930), Wisconsin. Faculty, Wisconsin (1930-40); Assistant Technologist (Assistant Professor) (1940—), Oregon State.

IRA SHIMMIN ALLISON, Ph.D.....*Professor of Geology*
A.B. (1917), Hanover College; Ph.D. (1924), Minnesota. Faculty, Minnesota (1920-28); Professor (1928—), Oregon State.

DELMAR ISAAC ALLMAN, Dr.P.H.....*Associate Professor of Hygiene*
B.S. (1928), Michigan State Normal College; M.S. (1931), Dr.P.H. (1936), Michigan. Faculty, Michigan State Normal College (1928-37); Associate Professor (1937—), Oregon State.

EDWARD CHRISTOPHER ALLWORTH, B.S., LL.D.....*Manager and Secretary of Memorial Union*
B.S. (1916), LL.D. (1929), Oregon State. Manager and Secretary (Assistant Professor 1936) (1925—), Oregon State.

WILLIAM BALLANTYNE ANDERSON, Ph.D.....*Professor Emeritus of Physics*
B.S. (1901), M.S. (1903), Ph.D. (1906), Wisconsin. Faculty, Iowa State (1905-14); Professor (1914-39), Professor Emeritus (1939—), Oregon State.

MILDRED MARGUERITE ARNOLD, M.S.....*Instructor in Foods and Nutrition*
B.S. (1932), Bradley Polytechnic Institute; M.S. (1939), Chicago. Instructor (1939—), Oregon State.

WINFRED MCKENZIE ATWOOD, Ph.D.....*Professor of Plant Physiology*
A.B. (1907), A.M. (1910), Cornell College; M.S. (1911), Ph.D. (1913), Chicago. Instructor (1913-15), Associate Professor (1915-25), Professor (1925—), Oregon State.

ROBERT STEVENSON AYRE, C.E.....*Instructor in Civil Engineering*
B.A. (1934), Engineer in C.E. (1936), Stanford. Faculty, Stanford (1936-38), Instructor (1938—), Oregon State.

GLENN ALMER BAKKUM, Ph.D.....*Professor of Sociology; Chairman of Department*
B.S. (1920), Iowa State; M.A. (1925), Columbia; Ph.D. (1928), Cornell. Faculty, University of Wichita (Department Head) (1927-35), Director of Bureau of Municipal Social Research (1930-33); Professor (1935—), Oregon State.

LAURIN BURTON BALDWIN, A.M., D.D.....*Assistant Professor of English*
A.B. (1895), A.M. (1897), Philomath; A.B. (1925), California; D.D. (1910), Huntington College. Faculty, Hartsville College (1896-97), Edwards College (1899-1903), Philomath (1903-05); Instructor (1906-14), Assistant Professor (1914-25), Instructor (1925-32), Assistant Professor (1932—), Oregon State.

FRANK LLEWELLYN BALLARD, B.S.....*Vice Director, Federal Cooperative Extension Service; State County Agent Leader; Professor of Extension Methods*
B.S. (1916), Oregon State. County Agricultural Agent, New Hampshire (1916-17); Field Agent in Marketing (1917-18), Assistant County Agent Leader (1918-23), State County Agent Leader (Professor) (1923—), Vice Director (1934—), Professor of Extension Methods (1934—), Oregon State. President-elect, effective July 1940.

BERNICE BAND, M.A.....*Assistant Professor of Clothing, Textiles, and Related Arts*
A.B. (1931), M.A. (1935), California. Faculty, California (1934-36); Assistant Professor (1936—), Oregon State.

ERVIN EARL BARKLOW, B.S.....*Acting Superintendent of Blueprint Service, Campus Surveying, Fire Protection, Roads and Walks, and Sewer Maintenance*
B.S. (1927), Oregon State. Acting Superintendent (Assistant Professor) (1939—), Oregon State.

ELIZABETH MARIA BARNES, B.L.I.....*Associate Professor of Speech*
B.L.I. (1925), Emerson College. Faculty, Idaho (Southern Branch) (1911-15); Instructor (1922-24), Assistant Professor (1924-27), Associate Professor (1927—), Oregon State.

*JAMES HERVEY BATCHELLER, B.S. (Min.E.) ..... *Professor of Mining Engineering; Head of Department*

B.S. (Min.E.) (1900), Massachusetts Institute of Technology. Associate Professor (1919-28), Professor and Department Head (1928—), Oregon State.

CATHERINE ENGELN BAZO-FONTANEIL, B.A. ..... *Catalog Assistant, Library*

B.A. (1934), California at Los Angeles; Certificate of Librarianship (1936), California. Assistant (1936-37), Los Angeles Public Library Branches; Catalog Assistant (Instructor) (1937—), Oregon State.

ERNEST LESLIE BEALS, M.S. ..... *Assistant Professor of Pharmacy*

B.S. (1928), M.S. (1932), Oregon State. Faculty, Idaho (Southern Branch) (1928-30, 1932-38); Assistant Professor (1938—), Oregon State.

HARRY LYNDEN BEARD, M.A. ..... *Assistant Professor of Mathematics; Professor of Music; Conductor of R.O.T.C. Band*

B.S. (1899), Oregon State; M.A. (1929), California. Instructor (1905-18), Assistant Professor of Mathematics (1918—), Professor of Music (1924—), Conductor (1905—), Oregon State.

EDWARD BENJAMIN BEATY, M.A. ..... *Professor of Mathematics*

B.S. (1903), Oregon State; M.A. (1916), California. Adviser of Freshmen (1916-27), Instructor (1908-12), Assistant Professor (1912-15), Associate Professor (1915-27), Professor (1927—), Oregon State.

JAMES RALPH BECK, B.S. ..... *Rural Service Specialist*

B.S. (1920), Oregon State. County Agent (Washington) (1920-22); County Agent (Associate Professor), Lincoln County (1922-26), Polk County (1926-36) (Associate Professor 1930-35, Professor (1935—), Rural Service Specialist (1936—), Oregon State.

BEATRICE BUTLER BEEBE, M.A. ..... *Instructor in English*

A.B. (1908), Illinois; LL.B. (1912), M.A. (1925), Oregon. Instructor (1934—), Oregon State.

NOEL LINDSAY BENNION, M.S. ..... *Poultry Specialist*

B.S. (1928), Utah State; M.S. (1932), Kansas State. Poultry Specialist (Assistant Professor) (1937—), Oregon State.

FREDERICK BERCHTOLD, A.M., Litt.D. ..... *Professor Emeritus of English*

B. in Ped. (1879), State Normal, Berne, Switzerland; A.B. (1899), A.M. (1910), National University; Litt.D. (1934), Oregon State. Faculty (1884—), Professor and Department Head (1900-32), Professor Emeritus (1932—), Oregon State.

RALPH STEPHEN BESSE, M.S. ..... *Vice Director of Agricultural Experiment Station*

B.S.A. (1913), M.S. (1915), Missouri. Faculty, Missouri (1913-15); State Leader of County Agents, Wyoming (1915-18); Extension Specialist in Farm Management (1922-25), Associate Professor (Research) (1926-28), Assistant to Director, Agricultural Experiment Station (1929-31), Vice Director (Professor) (1932—), Oregon State.

GEORGIA CHAPMAN BIBEE, B.S. ..... *Assistant Professor of Institution Economics; Supervisor of Memorial Union Dining Service*

B.S. (1925), Washington. Assistant Manager of University Commons, Washington (1925-26); Instructor (1926-30), Assistant Director of Dormitories (1926-29), Assistant Professor and Supervisor of Memorial Union Dining Service (1930—), Oregon State.

MARY ELIZABETH BINFORD, B.A., B.L.S. ..... *Catalog Assistant, Library*

B.S. (1926), Earlham College; B.L.S. (1929), Columbia. Staff, Indiana State Library (1927-30); Head Cataloger, El Paso Public Library (1930-37); Catalog Assistant (Instructor) (1937—), Oregon State.

FLORENCE BLAZIER, Ph.D. ..... *Professor of Home Economics Education; Head of Department*

Ph.B. (1918), Chicago; M.A. (1924), Indiana; Ph.D. (1932), Minnesota. Faculty, Iowa State (1918-20), Indiana (1920-24); Associate Professor (1924-25), Professor and Department Head (1925—), Oregon State.

*Will teach part time 1940-41.

ESTHER WOOD BODNER, B.S. ..... *Supervising Teacher in Home Economics Education*

B.S. (1933), Oregon State. Supervising Teacher (1939—), Oregon State.

WALTER BENO BOLLEN, Ph.D. ..... *Associate Professor of Bacteriology; Associate Bacteriologist, Agricultural Experiment Station*

B.S. (1921), M.S. (1922), Oregon State; Ph.D. (1924), Iowa State. Assistant Chemist, Idaho (1925-29); Assistant Professor and Associate Bacteriologist (1929-37), Associate Professor (1937-—), Oregon State.

ARTHUR GEORGE BRISTOW BOUQUET, M.S. ..... *Professor of Vegetable Crops; Horticulturist (Vegetable Crops), Agricultural Experiment Station*

B.S. (1906), Oregon State; M.S. (1930), Cornell. Faculty, Cornell (1929-30); Assistant Professor (1911-15), Associate Professor (1915-16), Professor and Horticulturist (1916-—), Oregon State.

DOROTHY MAY BOURKE, B.A. ..... *Assistant Professor of Art*

B.A. (1925), California School of Arts and Crafts. Instructor (1928-37), Assistant Professor (1937-—), Oregon State.

FLORENCE BOWDEN, B.A. ..... *Instructor in Cello, Violin, and Fretted Instruments; Conductor of Mandolin and Guitar Club*

B.A. (1915), Oregon. Instructor and Conductor (1911—), Oregon State.

EMMA LOU BOWMAN, A.B., B.S. in L.S. ..... *Periodical Assistant, Library*

A.B. (1929), Colorado College; B.S. in L.S. (1936), Denver. Library Assistant, Denver Public Library (1929-36); Periodical Assistant (Instructor) (1937—), Oregon State.

WILLIAM PINGRY BOYNTON, Ph.D., Sc.D. ..... *Professor Emeritus of Physics*

A.B. (1890), A.M. (1893), Dartmouth; Ph.D. (1897), Clark; Sc.D. (1937), Oregon. Faculty, Southern California (1890-93), California (1897-1901); Dean and Professor, California College (1901-03); Faculty (1903-32), Department Head (1906-32), Oregon; Professor (1932-37), Professor Emeritus (1937—), Oregon State.

JAMES JOSEPH BRADY, Ph.D. ..... *Associate Professor of Physics*

B.A. (1927), Reed College; M.A. (1928), Indiana; Ph.D. (1931), California. Faculty, St. Louis (1932-37); Assistant Professor (1937-39), Associate Professor (1939—), Oregon State.

VERA HASKELL BRANDON, Ph.D. ..... *Professor of Child Development*

B.S. (1911), B.S. (1927), M.S. (1929), Oregon State; Ph.D. (1936), Iowa. Instructor (1928-34), Assistant Professor (1934-36), Associate Professor (1936-37), Professor (1937—), (Acting Department Head 1934-36, 1937-38), Oregon State.

PHILIP MARTIN BRANDT, A.M. ..... *Professor of Dairy Husbandry; In Charge, Division of Animal Industries; Head of Department of Dairy Husbandry; Acting Head of Department of Animal Husbandry; Dairy Husbandman, Agricultural Experiment Station*

B.S. (1910), A.M. (1913), Missouri. Faculty, Missouri (1911-14); Assistant to Dean and Director (1914-17), Professor (Department Head) and Dairy Husbandman (1917-—), Division Head (1933—), Oregon State.

CLARENCE IVAN BRANTON, B.S. ..... *Assistant Agricultural Engineer, Agricultural Experiment Station*

B.S. (1933), Oregon State. Assistant Agricultural Engineer (1933—), Oregon State.

JEANNETTE ALICE BRAUNS, B.S. ..... *Instructor in Physical Education for Women*

B.S. (1930), Battle Creek College. Instructor (1930—), Oregon State.

LE ROY BREITHAUPT, B.S. ..... *Extension Agricultural Economist, (Statistics, News, and Outlook)*

B.S. (1910), Oregon State. Superintendent, Harney Branch Experiment Station (1911-18), County Agent, Harney County (1914-15), Malheur County (1920-26), Extension Agricultural Economist (Professor) (1926—), Oregon State.

DORRIS JACQUELINE BRIER, B.S. ..... *Instructor in Clothing, Textiles, and Related Arts*

B.S. (1934), Oregon State. Instructor in Household Administration (1937-39), Clothing, Textiles, and Related Arts (1939—), Oregon State.

LEWIS CLEMENCE BRITT, Ph.D.....*Associate Professor of Pharmaceutical Analysis; In Charge of Department; Director of the Drug Laboratory of the Oregon State Board of Pharmacy*

Ph.C. (1925), B.S. (1926), Oregon State; M.S. (1929), Ph.D. (1937), Washington. Instructor (1926-28), Assistant Professor (1930-39), Associate Profesor (1939—), Oregon State.

WALTER SHELDON BROWN, M.S., D.Sc.....*Professor of Horticulture; Head of Department; Horticulturist, Agricultural Experiment Station*

A.B. (1899), D.Sc. (1931), Alfred; B.S.A. (1904), Cornell; M.S. (1906), Wisconsin. Faculty, Wisconsin (1904-06); Head of Department of Horticulture and Forestry, Winona Agricultural Institute (1906-08); Extension Specialist (1913-19), Pomologist (1919-20), Professor (Department Head) and Horticulturist (1920—), Oregon State.

JESSE FRANKLIN BRUMBAUGH, A.M.....*Professor Emeritus of Psychology*

A.B. (1894), DePauw; LL.B. (1911), South Dakota; A.M. (1902), Chicago. Faculty Dakota Wesleyan (South Dakota) (1897-1901), DePauw (1902-06), State Law School of South Dakota (1909-13); Professor (1915-38), Professor Emeritus (1938—), Oregon State.

CLARENCE JOSEPH BUDELIER, B.S.....*Instructor in Logging Engineering*

B.S. (1917), Oregon State. Instructor (1935—), Oregon State.

DELOSS EVERETT BULLIS, M.S.....*Associate Chemist (Small Fruit and Hop Investigations), Agricultural Experiment Station*

B.S. (1917), M.S. (1929), Oregon State. Assistant Chemist (1917-34), Associate Chemist (Associate Professor) (1934—), Oregon State.

URIEL SELLERS BURT.....*Extension Specialist in Visual Instruction*

Assistant in Information and Exhibits (1919-30), Assistant Professor (1925); Extension Specialist in Visual Instruction (Associate Professor and Department Head) (1930—), Oregon State.

JOHN COLE BURTNER, B.S.....*Associate in News Bureau and Extension Editor*

B.S. (1923), Oregon State. Instructor in Journalism (1924-28), Associate Director of News Service and Agricultural Press Editor (Associate Professor) (1929-32), Associate in News Bureau (1932—), Extension Editor (1933—), Oregon State.

JOSEPH SHIREY BUTTS, Ph.D.....*Professor of Biochemistry*

B.S. (1926), Florida; M.S. (1928), Fordham; Ph.D. (1933), Southern California. Faculty, Massachusetts State (1928-29), Southern California (1929-39); Professor (1939—), Oregon State.

WILLIAM ELMER CALDWELL, Ph.D.....*Associate Professor of Chemistry*

Met.E. (1924), Montana School of Mines; B.S. (1928), Ph.D. (1930), Wisconsin. Faculty, Wisconsin (1929); Assistant Professor (1930-39), Associate Professor (1939—), Oregon State.

EDWARD CLEVELAND CALLAWAY, M.S.....*Instructor in Chemistry*

B.S. (1909), M.S. (1911), M.S. (1931), Oregon State. Faculty, North Pacific College (1918-27); Dean of Pharmacy, Des Moines University (1927-29); Instructor (1929—), Oregon State.

PAUL CARPENTER, B.S.....*Extension Agricultural Economist (Marketing)*

B.S. (1932), Minnesota. Extension Economist, Montana State (1927-34); County Agent, Polk County (1922-23), Baker County (1923-27); Extension Economist (Professor) (1934—), Oregon State.

LUCY ADA CASE, M.A.....*Extension Specialist in Nutrition; Associate Professor of Foods and Nutrition*

A.B. (1911), Wisconsin; M.A. (1912), Columbia; B.S. (1924), Minnesota. Nutrition Specialist, Wisconsin (1922-24); Extension Specialist (1924—), Assistant Professor (1924-35), Associate Professor (1935—), Oregon State.

WILLARD JOSEPH CHAMBERLIN, Ph.D.....*Associate Professor of Entomology*

B.S. (1915), M.S. (1921), Oregon State; Ph.D. (1930), Stanford. Instructor (1916-21), Assistant Professor (1921-28), Associate Professor (1928—), Oregon State.

OTHNIEL ROBERT CHAMBERS, Ph.D.....*Professor of Psychology; In Charge of Department*

A.B. (1922), M.A. (1922), Indiana; Ph.D. (1926), Ohio State. Faculty, Ohio State (1923-26), Texas (1926-29); Professor (1929—), Oregon State.

HERBERT ELLSWORTH CHILDS, Ph.D. ..... *Assistant Professor of English*
A.B. (1926), Oberlin College; Ph.D. (1932), Washington. Faculty, Washington (1929-33), Boise Junior College (1933-35); Instructor (1935-38), Assistant Professor (1938-—), Oregon State.

BERT EINAR CHRISTENSEN, Ph.D. ..... *Assistant Professor of Chemistry*
B.S. (1927), Washington State; Ph.D. (1931), Washington. Instructor (1931-34), Assistant Professor (1934-—), Oregon State.

JOHN MYERS CLIFFORD ..... *Extension Secretary*
Secretary to Dean and Director of Agriculture (1918-20), Extension Secretary (Assistant Professor) (1933—), Oregon State.

RILEY JENKINS CLINTON, Ed.D. ..... *Professor of Education*
A.B. (1922), B.S. (in Ed.) (1922), M.A. (1925), Missouri; Ed.D. (1933), Stanford. Cubberley Teaching Fellow and Research Assistant in Psychology, Stanford (1927-28), Professor of Education, Hawaii (Summer, 1939); Associate Professor (1928-33), Professor (1933—), Oregon State.

HAROLD COCKERLINE, B.S. ..... *Assistant Professor of Electrical Engineering*
B.S. (in E.E.) (1912), Oregon. Instructor (1921-23), Assistant Professor (1923—), Oregon State.

RALPH COLBY, Ph.D. ..... *Associate Professor of English*
B.A. (1916), M.A. (1917), Minnesota; Ph.D. (1928), Illinois. Faculty, Illinois (1919-28); Assistant Professor (1928-37), Associate Professor (1937—), Oregon State.

RALPH ORVAL COLEMAN, M.A. ..... *Professor of Physical Education; Director of Intramural Sports; Head Coach of Baseball*
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HOWARD NOTSON COLMAN, B.A., B.S. ..... *Assistant Professor of Dairy Husbandry*
B.A., B.S. (1915), Nebraska. Faculty, Nebraska (1915-18), Washington State (1918-20); Instructor (1920-25), Assistant Professor (1925—), Oregon State.

EDWARD HURSHAL COMBS, Sergeant ..... *Instructor in Military Science and Tactics (Field Artillery Unit)*
Instructor (1932—), Oregon State.

WILBUR TARLETON COONEY, B.S. ..... *Instructor in Poultry Husbandry*
B.S. (1937), Oregon State. Instructor (1937—), Oregon State.

GODFREY VERNON COPSON, M.S. ..... *Professor of Bacteriology; Head of Department; Bacteriologist in Charge, Agricultural Experiment Station*
B.S. (1911), M.S. (1913), Oregon State. Assistant Professor (1915-18), Acting Department Head (1918-20), Professor (Department Head) and Bacteriologist in Charge (1920-—), Oregon State.

HUBERT ELMER COSBY ..... *Professor of Poultry Husbandry; Head of Department; Poultry Husbandman, Agricultural Experiment Station*
Extension Poultryman, United States Department of Agriculture (1917-19); Extension Poultryman, Missouri Poultry Experiment Station (1919-20); Extension Poultryman (1920-36), Associate Professor (1924-36), Professor (Department Head) and Poultry Husbandman (1936—), Oregon State.

DORA HIMMELSBACH COSTELLO, B.Ed., B.S. in L.S. ..... *Reference Assistant, Library*
B.Ed. (1921), B.S. in L.S. (1938), Washington. Library Assistant, Louisiana State (1925-26); California State Library (1926-33); Yakima Public Library (1934-37); Library Assistant (1923-25), Reference Assistant (Instructor) (1937—), Oregon State.

HELEN JULIA COWGILL, M.A. ..... *Assistant State 4-H Club Leader*
B.S. (1913), B.S. (1916), Oregon State; M.A. (1931), Washington. Assistant State Club Leader (Associate Professor) (1914—), Oregon State.

GEORGE BRYAN COX, B.S.....*Professor of Industrial Arts; Professor of Industrial Education; Head of Department; Director of Engineering Shops*

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B.S. (1926), Oregon State; M.B.A. (1931), LL.B. (1936), Washington. Faculty, Grinnell College (1930-33), Washington (1936-38); Assistant Professor (1938—), Oregon State.

JOHN EARL CRAWFORD, Sergeant.....*Instructor in Military Science and Tactics (Infantry Unit)*

Instructor (1937—), Oregon State.

FREDERICK ALEXANDER CUTHBERT, M.L.D.....*Associate Professor of Landscape Architecture*

A.B. (1926), M.L.D. (1928), Michigan. Faculty, Oregon (1932—); Instructor (1928-30), Assistant Professor (1930-34), Associate Professor (1934—), Oregon State.

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MABEL DARELIUS, R.N.....*Nurse, Student Health Service*

R.N. (1912), Eugene Hospital School of Nursing; Graduate work (1917) Los Angeles County Hospital. Nurse (1921—) (Instructor 1937), Oregon State.

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Graduate (1920), Motor Transport School; Graduate (1921) MTTS Ga. School of Tech.; B.S. (1932), M.S. (1934), Oregon State. Instructor (1921—), Oregon State.

EVERETT HENRY DAVIS, B.S.....*Specialist in Agricultural Engineering*

B.S. (1934), Oregon State. Assistant County Agent, Coos County (1934), Crook-Jefferson District (1935); Extension Specialist (1936—), Oregon State.

MERLE BONNEY DAVIS, B.S....*Supervising Teacher in Home Economics Education*

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RICHARD HAROLD DEARBORN, A.B., E.E.....*Dean of the School of Engineering and Industrial Arts; Director of the Engineering Experiment Station*

A.B. (1895), Willamette; E.E. (1900), Cornell. Faculty, Oregon (1901-14), Department Head (1903-14); Professor and Department Head (1914-37), Acting Dean and Director (1933-35), Dean and Director (1935—), Oregon State. Dean and Director of Engineering, State System (1935—).

DANIEL BARTON DELOACH, Ph.D.....*Associate Agricultural Economist, Agricultural Experiment Station*

B.S. (1927), Oregon State; M.A. (1932), Ph.D. (1935), California. Faculty, Oregon Normal School (1928-31); Research Assistant, Giannini Foundation in Agricultural Economics, California (1934-35); Assistant Professor (1935-38), Associate Professor of Business Administration (1938-39), Agricultural Economist (1939—), Oregon State.

JAMES DEMITH, Sergeant, Field Artillery.....*Instructor in Military Science and Tactics (Field Artillery Unit)*

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ERNEST MILTON DICKINSON, D.V.M., M.S.....*Associate Professor of Veterinary Medicine*

D.V.M. (1927), Ohio State; M.S. (1935), Oregon State. Junior Veterinarian, University of California (1936-38); Assistant Poultry Pathologist (1927-36), Associate Professor (1938—), Oregon State.

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JAMES VICTOR DIXON, M.S.....*Instructor in Physical Education; Assistant Coach of Football*

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Graduate (1918), Shattuck Military College; Graduate (1928), Field Artillery School, Battery Officers Course. Assistant Professor (1937—), Oregon State.

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ERNST JOHN DORNFELD, Ph.D.....*Instructor in Zoology*

B.S. (1933), Marquette; M.A. (1935), Ph.D. (1937), Wisconsin. Faculty, Wisconsin (1935-37), Oklahoma (1937-38); Instructor (1938—), Oregon State.

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B.S. (1917), Rutgers; M.S. (1922), California; Ph.D. (1929), Stanford. Fruit Specialist, New Jersey Department of Agriculture (1917); County Club Leader, Wyoming (1919-20); Faculty, California (1920-29); Professor (1929—), Horticulturist (1933—), Oregon State.

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B.S. (1925), Iowa State; M.A. (1939), Columbia. Faculty, Graceland College (Iowa) (1929-30); Instructor (1939—), Oregon State.

WILLIAM DONALD EDWARDS, M.S.....*Assistant Entomologist, Agricultural Experiment Station*

B.S. (1931), M.S. (1936), Oregon State. Assistant (1931-37), Assistant Entomologist (Assistant Professor) (1937—), Oregon State.

THERON HARMS EGBERT, B.Arch.....*Instructor in Art and Architecture*

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ADELE KÖHN EMERY, B.A.....*Orders Assistant, Library*
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CLARK MIXON EMERY, Ph.D.....*Instructor in English*
B.A. (1932), Whitman College; M.A. (1933), Washington University, St. Louis; Ph.D. (1939), Washington. Instructor (1936—), Oregon State.

JOHN WALTER ERICKSON, M.S.....*Assistant Professor of Secretarial Science*
B.S. (1931), M.S. (1938), Oregon State. Instructor (1935-38), Assistant Professor (1938—), Oregon State.

ROBERT MURRAY EVENDEN, M.S.....*Assistant Professor of Wood Products*
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FREDERICK ALTON EVEREST, E.E....*Assistant Professor of Electrical Engineering*
B.S. (1932). Oregon State; E.E. (1936), Stanford. Instructor (1936-39), Assistant Professor (1939—), Oregon State.

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B.S. (1932), Oregon State. Instructor (1937—), Oregon State.

JOHN LEO FAIRBANKS...*Professor of Art and Architecture; Head of Department*
Cert. (1906), Beaux Arts, Paris; Cert. (1909), Academie Julien, Paris; Cert. (1909), Colorossi, Paris. Extension Instructor, Utah and Utah State (1918-22); Professor and Department Head (1923—), Oregon State.

NATHAN FASTEN, Ph.D.....*Professor of Zoology; Head of Department*
B.S. (1910), College of the City of New York; Ph.D. (1914), Wisconsin. Head of Biology Department, Marshall College (1910-11); Faculty, Wisconsin (1911-14), Washington (1914-20); Associate Professor (1920-21). Professor and Department Head (1921—), Oregon State.

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B.S. (in E.E.) (1930), M.S. (in Physics) (1932), E.E. (1937). Oregon State. Assistant Engineer (1929-33), Engineer, Radio Station KOAC, General Extension Division (1933-39), Assistant Professor (1938—), Oregon State.

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A.B. (1929), Miami; A.M. (1931). Oberlin; Ph.D. (1934), Michigan. Instructor (1936-39), Assistant Professor (1939—), Oregon State.

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B.S. (1934), M.S. (1936), Oregon State. Assistant Extension Specialist (1936-37), Assistant Professor (1937—), Oregon State.

LORETTA GAYLORD FISHER, A.B., B.S.....*Reserve Librarian*
A.B. (1930), Willamette; B.S. (1938), Columbia. Circulation Assistant (1938-39), Reserve Librarian (Instructor (1938), (1939—), Oregon State.

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B.S. (1929), Iowa State; M.S. (1931), Ph.D. (1935), Illinois. Assistant Professor and Assistant Agronomist (1935-39), Associate Professor and Associate Agronomist (1939—), Oregon State.

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B.S. (1929), M.S. (1935), Oregon State. Supervising Teacher (1931-37), Assistant State Supervisor (1937—), Oregon State.

MINNIE DEMOTTE FRICK, B.S.....*Associate Professor of Secretarial Science*
B.S. (1929), Oregon State. Instructor (1920-29), Assistant Professor (1929-35), Associate Professor (1935—), Oregon State.

LEO FRIEDMAN, Ph.D.....*Assistant Professor of Chemistry*
B.S. (1925), Maine; Ph.D. (1928), Wisconsin. Faculty, Oregon (1928-32); Assistant Professor (1932—), Oregon State.

*ALMA CATHERINE FRITCHOFF, M.A.....*Professor of Clothing, Textiles, and Related Arts; Head of Department*
B.A. (1917), Nebraska; M.A. (1925), Columbia. Faculty, Wayne State Normal (1916-18), Nebraska (1923-25); Instructor (1918-22, 1925-29), Professor and Department Head (1929—), Oregon State.

MARY EDITH FRY, B.A., B.S.....*Circulation Assistant, Library*
B.A. (1934), Goucher College; B.S. (1937), Columbia. Circulation Assistant (Instructor) (1937—), Oregon State.

*JOHN FULTON, M.S.....*Professor of Chemistry; Head of Department*
B.S. (1892), M.S. (1900), Oregon State. Instructor (1893-95), Acting Station Chemist (1896), Assistant Professor (1897), Associate Professor (1899), Professor (1901—), Department Head (1907—), Oregon State.

JOHN CLIFTON GARMAN, Ph.M.....*Assistant Professor of Physics*
B.S. (in E.E.) (1922), Oregon State; Ph.M. (1933), Wisconsin. Instructor (1923-34), Assistant Professor (1934—), Oregon State.

CATHARINE ANNE GARRETT, A.B., B.S.....*General Assistant, in Charge of McDonald Room, Library*
A.B. (1926), Grinnell College; B.S. in L.S. (1932), Denver. Periodical Assistant, Library, Nebraska (1935); Assistant, Library (Instructor) (1935—), Oregon State.

*EVRA ALTA GARRISON, M.A.....*Assistant Professor of Foods and Nutrition*
B.S. (1923), Nebraska; M.A. (1930), California. Instructor (1930-33), Assistant Professor (1933—), Oregon State.

EMERY MENZO GIBSON, M.A.....*Assistant Professor of Secretarial Science*
B.A. (1925), Montana; M.A. (1937), Washington. Registrar, Montana State Normal (1932-36), Faculty, Washington (1936-37), Pasadena Junior College (1937-39); Assistant Professor (1939—), Oregon State.

HEBER HOWARD GIBSON, A.M.....*Professor of Agricultural Education; Head of Department*
A.B. (1909), Denison University (Ohio); A.M. (1912), Columbia. Faculty, Kearney State Normal School (Nebraska) (1914-15), Iowa State (1915-17); State Supervisor of Agricultural Education, Vermont (1917-19); Faculty, Arizona (1919-21); Professor and Department Head (1921—), Oregon State.

GILBERT LEE GIFFORD, M.B.A.....*Instructor in Business Administration*
B.B.A. (1930), M.B.A. (1938), Washington. Faculty, Washington (1936-38), Iowa (1938-39); Instructor (1939—), Oregon State.

EARL C GILBERT, Ph.D.....*Professor of Physical Chemistry*
B.S. (1916), M.S. (1917), Hiram College; Ph.D. (1922), Chicago. John Simon Guggenheim Fellowship, Polytechnic Institute, Copenhagen, and University of Berlin (1928-29); Instructor (1917-21), Assistant Professor (1922-25), Associate Professor (1925-30), Professor (1930—), Oregon State.

FRANCOIS ARCHIBALD GILFILLAN, Ph.D.....*Dean of the School of Science Professor of Chemistry; Acting Head of Department*
B.S. (1918), Ph.G. (1918), Ph.C. (1920), Oregon State; Ph.D. (1921), Yale. Faculty, Florida (1925-27); Instructor (1918), Assistant Professor (1922-25), Associate Professor (1927-30), Professor (1930—), Department Head (1930-38), Dean (1938—), Acting Department Head (1939—), Oregon State.

HELEN MARGARET GILKEY, Ph.D.....*Associate Professor of Botany; Curator of Herbarium*
B.S. (1907), M.S. (1911), Oregon State; Ph.D. (1915), California. Faculty, California (1915-16); Assistant (1907-09), Instructor (1909-11), Assistant Professor (1918-27), Associate Professor (1927—), Oregon State.

*On leave of absence 1939-40.

AMORY TINGLE GILL, B.S. ..... *Head Coach of Basketball; Instructor in Physical Education*

B.S. (1925), Oregon State. Instructor and Coach (1926—), Oregon State.

WILLIAM JAMES GILMORE, B.C.E., B.S. ..... *Professor of Agricultural Engineering; Head of Department*

B.C.E. (1909), B.S. (in A.E.) (1911), Iowa State. Faculty, Manitoba Agricultural (1911-15); Professor and Department Head (1915—), Oregon State.

GEORGE WALTER GLEESON, Ch.E. ..... *Professor of Chemical Engineering; Head of Department*

B.S. (in Ch.E.) (1928), M.S. (in M.E.) (1934), Ch.E. (1936), Oregon State. Engineering Experiment Station Fellow (1928-29), Instructor in Mechanics and Materials (1929-32), Assistant Professor of Chemical Engineering (1932-36), Associate Professor in Charge of Department (1936-37), Professor and Department Head (1937—), Oregon State.

BURDETTE GLENN, M.S. ..... *Professor of Highway Engineering*

B.S. (1919). Michigan; M.S. (1931). Iowa State. Faculty. Michigan (1918-19); Instructor (1919-22), Assistant Professor (1922-34), Associate Professor (1934-37), Professor (1937—), Oregon State.

DELMER MORRISON GOODE, M.A. ..... *Editor of Publications*

B.A. (1916), Minnesota; M.A. (1938), Oregon State. Assistant (1919-20), Assistant Editor (1920-22), Associate Editor (Associate Professor) (1922-35), Editor (Professor) (1935—), Oregon State.

KENNETH LLEWELLYN GORDON, Ph.D. ..... *Assistant Professor of Zoology*

A.B. (1923), Colorado College; M.A. (1925), Missouri; Ph.D. (1936), Cornell. Instructor (1927-29), Assistant Professor (1929—), Oregon State.

WILLIAM WINFIELD GORTON, M.S. ..... *Assistant Professor of Farm Management; Assistant Economist (Farm Management) Agricultural Experiment Station*

B.S. (1931), Idaho; M.S. (1936). Oregon State. Research Assistant (Instructor) (1937-38), Assistant Professor (1938—), Assistant Economist (1939—), Oregon State.

SAMUEL HERMAN GRAF, M.E., M S ..... *Professor of Mechanical Engineering; Head of Department; Director of Engineering Research*

B.S. (in E.E.) (1907), E.E. (1908), B.S. (in M.E.) (1908), M.E. (1909), M.S. (in E.E.) (1909), Oregon State. Assistant in Mechanical Engineering (1908-09), Instructor (1909-12), Assistant Professor of Experimental Engineering and Department Head (1912-14), Professor (1914-20), Professor of Mechanics and Materials (Department Head) (1920-34), Professor of Mechanical Engineering (1934—), (Acting Department Head 1934-35, Department Head 1935—), Associate Director of Engineering Experiment Station (1927-28), Director of Engineering Research (1928—), Oregon State.

IRIS GRAY, B.Mus. ..... *Instructor in Piano*

B.Mus. (1933), Cincinnati Conservatory of Music. Instructor (1933—), Oregon State.

KENNETH WIESNER GRAY, M.S. ..... *Assistant Entomologist, Agricultural Experiment Station*

B.S. (1930), M.S. (1935), Oregon State. Assistant (1930-37), Assistant Entomologist (Assistant Professor) (1937—), Oregon State.

JAMES RINALDO GRIFFITH, C.E. ..... *Professor of Structural Engineering*

B.S. (in C.E.) (1916). C.E. (1922), Purdue. Faculty, Washington State (1920-23), Armour Institute of Technology (1925-29); Professor (1929—). Oregon State.

FRANCIS PRIDAY GRIFFITHS, Ph.D. ..... *Assistant Professor of Fish and Game Management; Assistant Economic Biologist, Agricultural Experiment Station*

B.S. (1927). Washington; M.S. (1933), Ph.D. (1935), Massachusetts State. Faculty (1927-30), Massachusetts State; Instructor (1936-38), Assistant Professor (1938—), Oregon State.

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B.S. (1932), M.S. (1935), Oregon State. Research Assistant (Instructor) (1937—), Oregon State.

JOSEPH ROY HAAG, Ph.D. ..... *Chemist (Animal Nutrition), Agricultural Experiment Station*

B.S. (1918), M.S. (1923), Pennsylvania State; Ph.D. (1926), Minnesota. Assistant Chemist, Rhode Island Agricultural Experiment Station (1919-20); Assistant, Maryland Agricultural Experiment Station (1920-21); Faculty, Pennsylvania State (1921-23, 1926-27), Minnesota (1923-26); Chemist (Professor) (1927—), Oregon State.

BRUCE JACKSON HAHN, B.S. ..... *Supervising Teacher in Industrial Education*

B.S. (1930), Oregon State. Supervising Teacher (1939—), Oregon State.

JOHN MELVILLE HALEY, B.S. ..... *Assistant Irrigation Engineer, Agricultural Experiment Station*

B.S. (1936), California. Assistant Irrigation Engineer (Assistant Professor) (1940—), Oregon State.

*LUCIA HALEY, A.B. ..... *Assistant Librarian*

A.B. (1911), Washington; Graduate (1912), Pratt Institute. Reference and Circulation Librarian (1919-20), Acting Librarian (1920-21), Montana; Head of Continuations Department (1921—), Assistant Librarian (Associate Professor) (1925—), Oregon State.

GAINEFORD J HALL, M.A. ..... *Instructor in English*

B.A. (1929), Gonzaga; M.A., (1934), Washington. Faculty, Gonzaga, (1929-30); Instructor (1936—), Oregon State.

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Ph.B. (1930), Ph.M. (1931), Wisconsin; Ph.D. (1937), Washington. Faculty, Wyoming (1937-38), Research Associate, Washington (1938-39); Instructor (1939—), Oregon State.

LEROY ROBERT HANSEN, M.S. ..... *Instructor in Range Agronomy*

B.S. (1937), Nebraska; M.S. (1939), Oregon State. Agrostology Artist, Nebraska (1937); Instructor (1939—), Oregon State.

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*ORVILLE GOODWIN HARROLD, JR., Ph.D. ..... *Instructor in Mathematics*

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B.S. (1917), Washington State; M.S. (1922), Iowa State. Faculty, Iowa State (1917-18); Pomologist, United States Department of Agriculture (1931-32); Instructor, Assistant Professor, Associate Professor (1919-29), Professor and Horticulturist (1929—), Oregon State.

EDWARD WINSLOW HARVEY, M.S. ..... *Instructor in Food Industries*

B.S. (1934), M.S. (1937), Massachusetts State. Faculty, Massachusetts State (1934-38); Instructor (1939—), Oregon State.

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B.S. (1934), Ph.D. (1938), Cornell. Faculty, Wisconsin (1935); Cornell (1935-38); Instructor (1938—), Oregon State.

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Secretary and Orders Clerk (1920-27), Head of Orders Department (1927—), Oregon State. Head of Orders Department (Assistant Professor), State System (1932—).

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B.S. (1910), B.S. (1928), Oregon State; B.L.S. (1924), New York State Library School. Reference Librarian (Assistant Professor) (1924—), Oregon State.

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B.S. (1895), Oregon State. Instructor (1900-05), Secretary to Director of Agricultural Experiment Station (1906-14), Manager of Clerical Exchange (Assistant Professor 1917) (1914—), Oregon State.

WILLIAM HAMILTON HORNING.....*Assistant Professor of Industrial Arts*
Instructor (1920-37), Assistant Professor (1937—), Oregon State.

CARL ROBERT HOWARTH, D.V.M.....*Instructor and Research Assistant in Veterinary Medicine*
D.V.M. (1935), Colorado State. Instructor and Research Assistant (1938—), Oregon State.

ARTHUR DOUGLAS HUGHES, M.S.....*Instructor in Mechanical Engineering*
B.S. (in M.E.) (1932), M.S. (1932), Washington State. Faculty, Washington State (1932-36); Instructor (1938—), Oregon State.

KATHERINE WHIPPLE HUGHES, M.A.....*Science Reference Librarian*
B.S. (in L.S.) (1928), Washington; M.A. (1939), Oregon State. Reference Assistant (Instructor) (1929-39), Science Reference Librarian (Assistant Professor) (1939—), Oregon State.

MARY BOWMAN HULL.....*Curator, Horner Museum of the Oregon Country*
Secretary to the President (1910-32); Secretary to the Chancellor, State System (1932-36); Assistant Curator (Assistant Professor) (1936-39), Curator (1939—), Oregon State.

MELISSA HUNTER, M.A.....*Professor of Institution Economics; Head of Department; Director of Dormitories*
A.B. (1917), Indiana; M.A. (1925), Chicago. Faculty, Utah State (1918-19); Special Adviser to the Director of Dormitories, Miami (1925-26); Instructor and Assistant Director of Dormitories (1919-23), Professor (Department Head) and Director of Dormitories (1926—), Oregon State.

FLORENCE LOUISE HUPPRICH, M.A....*Instructor in Physical Education for Women*
B.S. (1923), M.A. (1926), Wisconsin. Faculty, Lake Forrest College (1923-25); Texas State College for Women (1926-37); Instructor (1937—), Oregon State.

GEORGE ROBERT HYSLOP, B.S.....*Professor of Farm Crops; Head of Department; In Charge, Division of Plant Industries; Agronomist, Agricultural Experiment Station*
B.S. (1907), Ohio State. Special Investigator, Bureau of Agricultural Economics, United States Department of Agriculture; Instructor, Assistant Professor, Associate Professor (1908-16), Professor (Department Head) and Agronomist (1916—), Division Head (1933—), Oregon State.

ELEANOR CALDWELL INGALLS, M.A.....*Instructor in English*
B.L. (1902), Ohio Wesleyan; B.S. (1904), Illinois; M.A. (1927), Columbia. Instructor (1923-32, 1934—), Oregon State.

THYRZA ELIZABETH IVERSON, M.S....*Instructor in Physical Education for Women*
B.E. (1935), Central State Teachers College (Wisconsin); M.S. (1937), Wisconsin. Instructor (1937—), Oregon State.

EDWIN RUSSELL JACKMAN, B.S.....*Extension Specialist in Farm Crops*
B.S. (1920), Oregon State. County Agricultural Agent. Wasco County (1920-22); Extension Specialist (Professor 1929) (1922-26); (1929—), Oregon State.

ELMER POLIC JACKSON, B.S.....*Superintendent of Buildings*
B.S. (in E.E.) (1904), Oregon State. Instructor (1903-04), Assistant Professor (1908-14), Superintendent of Buildings (1914—) (Associate Professor 1936—), Oregon State.

KATE WETZEL JAMESON, Ph.D.....*Dean of Women*
A.B. (1905), A.M. (1910), Ohio Wesleyan; A.M. (1914), Ph.D. (1916), Wisconsin. Faculty, Wisconsin (1914-16); Professor of German and Dean of Women, Montana (1916-20); Head of German Department and Dean of Women, Arizona (1920-23); Professor and Dean (1923—), Oregon State.

BETTY JELINEK, B.S.S.....*Supervising Teacher in Commercial Education*
B.S.S. (1933), Oregon State. Supervising Teacher (1939—), Oregon State.

LAWRENCE COATS JENKINS, B.S.....*Assistant Extension Specialist in Farm Crops*
B.S. (1935), Oregon State. Assistant County Agent, Yamhill County (1935); Assistant State Leader, County Program Planning (1936); Assistant Extension Specialist (1936—), Oregon State.

IZOLA DOROTHY JENSEN, M.A.....*Assistant Professor and Extension Specialist in Community Social Organization*
B.S. (1921), Brigham Young; M.A. (1936), New York. District Extension Agent (1930-34), Home Agent-at-Large (1936), Utah State; Extension Specialist (Assistant Professor) (1936—), Oregon State.

WILLIAM ARTHUR JENSEN, M.S.....*Executive Secretary*
M.S. (1932), Oregon State. Faculty, Utah State (1904-07); Secretary (1907-15), Executive Secretary (Professor and Dean) (1915—), Oregon State.

LORNA COLLAMORE JESSUP, B.S.....*Assistant Dean of Women*
B.S. (1923), Oregon State. Head of Home Economics Department, Flagstaff (Arizona) State Teachers College (1923-27); Assistant Dean of Women (1927—), Oregon State.

JAMES RALPH JEWELL, Ph.D., LL.D.....*Dean of the School of Education*
A.B. (1903), Coe; M.A. (1904), Ph.D. (1906), Clark; LL.D. (1927) Arkansas. Director of Training, South West Louisiana Industrial Institute (1906-07); Faculty, Kansas State Teachers (1907-09, 1911-13); Dean, College of Education, Arkansas (1913-27); Dean and Professor (1927—), Oregon State. Dean of Education, Director of High School Teacher Training, State System (1932—).

CHARLES LESLIE JOHNSON, B.S.....*Professor of Mathematics*
B.S. (1892), Oregon State. Instructor (1895-1905), Assistant Professor (1905-07), Professor (Department Head 1907-32) (1907—), Oregon State.

RAY GEORGE JOHNSON, B.S.....*Professor of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station*
B.S. (1924), Oregon State. County Agricultural Agent, Grant County (1928-35); Professor and Animal Husbandman (1935—), Oregon State.

TRACY WORDEN JOHNSON, M.S.....*Assistant Professor of Journalism*
B.S. (1924), M.S. (1925), Wisconsin. Faculty, North Dakota State (1925-38); Assistant Professor (1938—), Oregon State.

IDWAL RALPH JONES, Ph.D.....*Associate Professor of Dairy Husbandry; Associate Dairy Husbandman, Agricultural Experiment Station*
B.S. (1920), Pennsylvania State; M.S. (1921), Rutgers; Ph.D. (1925), Minnesota. Faculty, Clemson College (1921-23); Caleb Dorr Fellow, Minnesota (1923-25); Assistant Professor (1925-29), Associate Professor and Associate Dairy Husbandman (1929—), Oregon State.

J SHIRLEY JONES, M.S.A.....*Professor of Agricultural Chemistry; Chemist in Charge, Agricultural Experiment Station*
B.S. (1903), California; M.S.A. (1914), Cornell. Chemist, Idaho (1906-18); Faculty, Idaho (1908-18), Director of Idaho Agricultural Experiment Station (1914-18); Professor and Chemist in Charge (1919—), Oregon State.

SIDNEY CARROLL JONES, M.S.....*Assistant Entomologist, Agricultural Experiment Station*
B.S. (1926), Oregon State; M.S. (1928), Iowa State. Assistant Entomologist (Assistant Professor) (1930—), Oregon State.

HUGH BROADUS KEEN, Lieutenant Colonel, Infantry.....*Assistant Professor of Military Science and Tactics*
Graduate (1909), Virginia Military Institute; Graduate (1926), Infantry School; Graduate (1927) Command and General Staff School. Assistant Professor (1937—), Oregon State.

CURTIS KELLEY, M.B.A.....*Associate Professor of Business Administration*
A.B. (1925), M.B.A. (1927), Washington. Faculty, Washington (1926-27); Assistant (1927-28), Instructor (1928-29), Assistant Professor (1929-36), Associate Professor (1936—), Oregon State.

JOHN M KIERZEK, Ph.D.....*Professor of English*
B.A. (1913), Carleton College; M.A. (1917), Ph.D. (1925), Minnesota. Faculty, Iowa State (1919-20), Minnesota (1920-24); Assistant Professor (1924-28), Associate Professor (1928-37), Professor (1937—), Oregon State.

ARTHUR SOLOMON KING, M.S.....*Extension Specialist in Soils*
B.S. (1928), M.S. (1930), Oregon State. District Agent (Baker, Union, and Wallowa Counties) (1929), Extension Specialist (Assistant Professor 1935) (1930—), Oregon State.

HELEN MARGARET KIRCHOFF, R.N.....*Nurse, Student Health Service*
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WILLIAM JOHN KIRKHAM, Ph.D.....*Assistant Professor of Mathematics*
A.B. (1927), A.M. (1928), Ph.D. (1935), Indiana. Instructor (1929-36), Assistant Professor (1936—), Oregon State.

PAUL LINCOLN KLEINSORGE, Ph.D.....*Instructor in Business Administration and Economics*
A.B. (1927), Stanford; M.B.A. (1929), Harvard; Ph.D. (1939), Stanford. Faculty, Stanford (1935-36, 1937-39); Instructor (1939—), Oregon State.

PAUL XENOPHON KNOLL, M.S.....*Assistant Professor of Speech*
B.S. (1923), M.S. (1930), Oregon State. Faculty, Oregon (1933-34); Instructor in Economics and Sociology (1927-28), Instructor in Speech (1928-33), Assistant Professor (1934—), Oregon State.

FRANK LESTER KNOWLTON, M.S.....*Professor of Poultry Husbandry; Poultry Husbandman, Agricultural Experiment Station*
B.S. (1919), Cornell; M.S. (1932), Wisconsin. Research Assistant (1920-23), Assistant Poultry Husbandman (1923-25), Poultry Husbandman (Professor) (1925—), Oregon State.

BERTHA KOHLHAGEN, B.S.....*State Supervisor and Teacher Trainer in Home Economics Education*
B.S. (1929), Oregon State. State Supervisor and Teacher Trainer (1935—), Oregon State.

AGNES KOLSHORN, M.A. ..... *Associate Professor of Foods and Nutrition*
B.S. (1913), Oklahoma State; B.S. (1918), Columbia; M.A. (1919), Denver. Faculty, Colorado Women's College (1914-17), Mississippi State (1918-21), Minnesota (1921-28), Washington (1928-29); Assistant Professor (1929-39), Associate Professor (1939—), Oregon State.

RUTH CAROLINE KRUEGER, M.A. ..... *Circulation Librarian*
B.S. (in Ed.) (1925), Eastern State Teachers College, South Dakota; B.S. (in L.S.) (1927); M.A. (1936), Illinois. Cataloger (1927-28), Illinois; Librarian (1928-36), Eastern State Teachers College, South Dakota; Librarian (1936-37), Western State College of Colorado; Instructor (Summers 1931, 1935, 1936, 1939), University of Illinois Library School; Circulation Librarian (Assistant Professor), 1937—), Oregon State.

GUSTAV WESLEY KUHLMAN, Ph.D. ... *Associate Professor of Farm Management; Associate Economist, Agricultural Experiment Station*
B.S. (1925), South Dakota State; M.S. (1926), Ph.D. (1938), Illinois. Faculty, Illinois (1925-27); Assistant Professor (1927-32), Associate Professor and Associate Economist (1932—), Oregon State.

EDITH CARTER KUNEY, A.M. ..... *Associate Professor of Modern Languages*
A.B. (1909), Willamette; A.M. (1925), Stanford. Instructor (1910-15), Assistant Professor (1925-29), Associate Professor (1929—), Oregon State.

LUCY ROCENA LANE, M.A. ..... *Assistant Professor and Extension Specialist in Clothing and Textiles*
A.B. (1921), Baker University, Kansas; M.A. (1938), Iowa. Extension Specialist (Assistant Professor) (1938—), Oregon State.

CLAIR VAN NORMAN LANGTON, Dr.P.H., Ed.D. ..... *Director of the Division of Physical Education; Professor of Physical Education; Professor of Hygiene; Technical Counselor in Sanitary Engineering, Engineering Experiment Station*
B.S. (1923), M.S. (1925), Dr.P.H. (1928), Michigan; Ed.D., (1938), Oregon. Faculty, Michigan (1923-26), Director of Hygiene Laboratory (1926-28); Dean of the School of Health and Physical Education (1929-32), Professor and Director (1928—), Oregon State.

OLOF LARSELL, Ph.D., Sc.D. ..... *Dean of Graduate Division*
B.S. (1910), Sc.D. (1937), Linfield; M.A. (1914), Ph.D. (1918), Northwestern. Faculty, Linfield (1910-15), Northwestern (1915-18, 1920-21, 1926), Wisconsin (1918-20), California (1931-32), University of Oregon Medical School (1921—); Dean, Graduate Division, State System (1938—).

HERBERT REYNOLDS LASLETT, Ph.D. ..... *Professor of Educational Psychology*
A.B. (1918), Kansas; A.M. (1923), Ph.D. (1926), Stanford; Certificat (1919), Universite Montpellier. Faculty, Colorado State (1923-24), Whitman College (1926-28); Associate Professor (1928-29), Director of Supervised Teaching (1930-38), Professor (1929—), Oregon State.

WILLIAM EVANS LAWRENCE, B.S. ..... *Associate Professor of Plant Ecology*
B.S. (1904), Earlham College. Faculty, Michigan State (1906-09), Oklahoma A. & M. (1909-10); Instructor (1910-15), Assistant Professor (1915-20), Associate Professor (1920—), Oregon State.

WILLIAM DORR LEGG, M.L.D. ..... *Assistant Professor of Landscape Architecture*
A.B. (1926), B.M., M.L.D. (1928), Michigan. Assistant Professor (1935—), Oregon State.

CONSTANCE LEHDE, B.A., B.S. ..... *Document Assistant, Library*
B.S. (in L.S.) (1930), B.A. (1932), Washington. Acquisitions Assistant, Washington (1930-35); Document Assistant (Instructor) (1935—), Oregon State.

JEROME LLOYD LEMASTER, LL.B., M.A. ..... *Associate Professor of Business Administration*
LL.B. (1923), Illinois; Cert.d' A. en Droit Civile (1924), Bordeaux; M.A. (1925), Colorado. Oregon Bar (1930); American Bar Association (1935). Faculty, Illinois (1925-28); Assistant Professor (1928-29), Associate Professor (1929—), Oregon State.

ERWIN BERTRAN LEMON, B.S. ..... *Registrar*
B.S. (1911), Oregon State. Statistician, State Statistical Bureau, Oregon (1911-12); Instructor in Accounting (1912-18), Assistant Professor (1918-20), Associate Professor (1920-22), Registrar (Professor and Dean) (1922—), Oregon State.

LUCY MAY LEWIS, A.B., B.L.S. ..... *Librarian*
A.B. (1905), B.L.S. (1906), Illinois. Librarian, New Mexico State (1906-11); Assistant Librarian and Cataloger (1911-18), Assistant Librarian and Reference Librarian (1918-20), Acting Librarian (1920), Librarian (Department Head) (1920-32), Librarian (Professor and Dean) (1932—), Oregon State. Director of Libraries, State System (1932—).

MARY EUNICE LEWIS, Ph.D. ..... *Associate Professor of Modern Languages*
B.S. (1906), Pacific College; A.B. (1907), Penn College; M.A. (1918), California; Ph.D. (1939), Washington. Faculty, Pacific College (1910-26); Instructor (1928-30), Assistant Professor (1930-33), Associate Professor (1933—), Oregon State.

MORTIMER REED LEWIS, C.E. ..... *Senior Agricultural Engineer, Agricultural Experiment Station*
B.S. (1906), C.E. (1925), Utah. Faculty, Idaho (1922-28), Head of Department (1925-28); Irrigation and Drainage Engineer (Professor) (1928—), Oregon State.

HARRY ARTHUR LINDGREN, B.S. ..... *Extension Animal Husbandman*
B.S. (in Agric.) (1911), Oregon State. Superintendent, John Jacob Astor Experiment Station (1913-15); Agriculturist (Colorado Reclamation Projects) (1915-19); Extension Animal Husbandman (1920—), (Associate Professor 1920-37, Professor 1937), Oregon State.

PERCY PHILIP LOCEY, M.A. ..... *Director of Intercollegiate Athletics; Director of Educational Activities*
B.S. (1924), Oregon State; M.A. (1935), California. Professor of Athletic Education, Denver (1932-36); Assistant Professor (1936-38), Professor (1938—), Oregon State.

EDWARD GIBSON LOCKE, Ph.D. ..... *Assistant Professor of Chemical Engineering*
B.S. (in Ch.E.) (1928), Oregon State; M.S. (1930), Ph.D. (1932), Ohio State. Faculty, Ohio State (1928-32); Assistant Professor (1936—), Oregon State.

JAY B LONG, B.S. ..... *Instructor in Fish and Game Management, Assistant in Wildlife Management, Agricultural Experiment Station*
B.S. (1939), Oregon State. Instructor (1940—), Oregon State.

WALTER THOMAS LUND, M.S. ..... *Instructor-Technician in Botany*
B.S. (1930), M.S. (1932), Oregon State. Instructor-Technician (1937—), Oregon State.

RALPH NICHOLAS LUNDE, B.S. ..... *Assistant Professor of Agricultural Engineering*
B.S. (1926), Oregon State. Instructor (1930-34), Assistant Professor (1934—), Oregon State.

MIRIAM LUTEN, M.S., M.D. ..... *Assistant Physician, Student Health Service*
B.S. (1922), M.S. (1923), Washington; M.D. (1935), Oregon. Assistant Physician (1936—), (Assistant Professor 1937), Oregon State.

EDWARD HIRAM MCALISTER, A.M., Sc.D. ..... *Professor Emeritus of Mathematics*
A.B. (1890), A.M. (1893), Sc.D. (1937), Oregon. Tutor (1891-95), Faculty, Oregon (1895-1902), Dean of the College of Engineering (1902-15), Head of Department of Mechanics and Astronomy (1915-32); Professor (1932-37), Professor Emeritus (1937—), Oregon State.

LAURA CORNELIA MCALLESTER, B.S. ..... *Assistant Professor of Physical Education for Women*
Diploma (1906), Boston Normal School of Gymnastics; B.S. (1932), Oregon State. Faculty, North Carolina College for Women (1909-17), Oregon (1920-21); Instructor (1926-33), Assistant Professor (1933—), Oregon State.

ANN MCCLEW, M.S. ..... *Supervising Teacher in Home Economics Education*
B.S. (1929), M.S. (1939), Oregon State. Supervising Teacher (1937—), Oregon State.

WALTER FRASER MCCULLOCH, M.S. ..... *Assistant Professor of Forestry*
B.A. (1925), British Columbia; M.S. (1936), Syracuse (New York State College of Forestry). Director, Forest Experiment Station (1936-37), Michigan State; Assistant Professor (1937-—), Oregon State.

HELEN E MCCULLOUGH, M.A. ..... *Assistant Home Economist, Agricultural Experiment Station; Assistant Professor of Home Economics Research*
B.A. (1917), Illinois; M.A. (1920), Columbia. Faculty, Illinois (1920-29, 1933-34); Kansas (Summer 1918); Colorado (Summer 1922); Assistant Home Economist and Assistant Professor (1939—), Oregon State.

GERTRUDE ELIZABETH MCELFRESH, A.M. ..... *Assistant Professor of English*
B.S. (1902), Oregon State; A.B. (1909), Cornell; A.M. (1924), Columbia. Instructor (1909-22), Assistant Professor (1922-—), Oregon State.

*CHARLES JARVIS MCINTOSH, B.S., B.S.D. ..... *Professor of Industrial Editing*
B.S. (1893), Christian College; B.S.D. (1893), Oregon State Normal. Instructor (1914-18), Assistant Professor (1919-20), Professor (1920—), Oregon State.

WILLIAM W MCKALIP, B.S. ..... *Instructor in Physical Education; Freshman Coach*
B.S. (1931), Oregon State. Faculty, Colorado School of Mines (1932-33); Instructor and Freshman Coach (1937-—), Oregon State.

ESTHER FLORA MCKINNEY ..... *Accountant, School of Agriculture and Agricultural Experiment Station*
Secretary to the Director of the Agricultural Experiment Station (1920-31), Accountant, School of Agriculture and Agricultural Experiment Station (1931—), (Assistant Professor 1938), Oregon State.

FRED ORVILLE MCMILLAN, M.S. ..... *Professor of Electrical Engineering; Head of Department*
B.S. (in E.E.) (1912), Oregon State; M.S. (in E.E.) (1919), Union College. Assistant Professor (1920-23), Associate Professor (1923-30), Research Professor (1930-—), Department Head 1937-—), Oregon State.

FRANK PADEN MCWHORTER, Ph.D. ..... *Plant Pathologist, Agricultural Experiment Station*
B.S. (1917), Vanderbilt; M.S. (1920), Chicago; Ph.D. (1928), Cornell. Faculty, University of the Philippines (1920-23); Pathologist, Virginia Truck Experiment Station (1924-29); Associate Pathologist (1929-32), Pathologist (Professor) (1932-—), Oregon State.

OVID TULLIUS MCWHORTER, B.S. ..... *Extension Horticulturist*
B.S. (1912), Washington State. County Agent, Washington State (1915-20); County Agent, Washington County (1920-30), Extension Horticulturist (Professor) (1930—), Oregon State.

NATHAN MACCOBY, M.A. ..... *Instructor in Psychology*
B.A. (1936), Reed College; M.A. (1938), Washington. Instructor (1939—), Oregon State.

FRANK ABBOTT MAGRUDER, Ph.D. ..... *Professor of Political Science*
A.B. (1905), Washington and Lee; Ph.D. (1911), Johns Hopkins. Faculty, Princeton (1911-17); Assistant Professor (1917-21), Associate Professor (1921-25), Professor (1925-—), Oregon State.

BUENA MARGASON MARIS, M.S. ..... *Assistant Professor and Extension Specialist in Family Relationships*
A.B. (1936), College of Puget Sound; M.S. (1939), Oregon State. Instructor (1937-39), Assistant Professor and Extension Specialist (1939—), Oregon State.

BENJAMIN MAXWELL MARSHALL, M.A. ..... *Instructor in Speech*
B.A. (1935), Humbolt State (California); M.A. (1937), Southern California. Instructor (1940—), Oregon State.

GEORGE YOULLE MARTIN, B.S. ..... *Superintendent of College Press*
B.S. (1935), South Dakota State. Faculty, South Dakota State, (1928-36), Superintendent of Printing Department (1935-36); Superintendent of Press (1936—) (Assistant Professor 1938), Oregon State.

*Will teach part time 1940-41.

MELISSA MARGARET MARTIN, A.M. ..... *Professor of Modern Languages; Chairman of Department*

A.B. (1912), Oregon; B.S. (1915), Oregon State; A.M. (1920), Columbia. Instructor (1915-24), Assistant Professor (1924-30), Associate Professor (1930-37), Professor (1937—), Oregon State.

WALLACE HOPE MARTIN, M.E., M.S. ..... *Professor of Heat Engineering*

M.E. (1910), Minnesota; M.S. (1930), Iowa State. Faculty, Minnesota (1911-17), Pennsylvania State (1919-20); Professor (1920—), Oregon State.

DONALD LYMAN MASON, B.S. ..... *Instructor in Industrial Arts*

B.S. (1937), Oregon State. Instructor (1938—), Oregon State.

EARL GEORGE MASON, M.F. ..... *Professor of Forestry; Assistant Dean, School of Forestry*

B.S. (1920), Oregon State; M.F. (1923), Yale. Instructor (1920-24), Assistant Professor (1924-32), Associate Professor (1932-34), Professor (1934—), Assistant to Dean (1935-38), Assistant Dean (1938—), Oregon State.

IDA MARTHA MATSEN, A.M. ..... *Associate Professor of Art*

Diploma (1920), Pratt Institute; B.F.A. (1925), Washington; A.M. (1926), Columbia. Instructor (1927-34), Assistant Professor (1934-37), Associate Professor (1937—), Oregon State.

STELLA MEAGHER, R.N. ..... *Nurse, Student Health Service*

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JOSEPH PARKE MEHLIG, Ph.D. ..... *Associate Professor of Analytical Chemistry*

B.S. (1908), M.S. (1910), Ph.D. (1931), Purdue. Instructor (1920-24), Assistant Professor (1924-34), Associate Professor (1934—), Oregon State.

FRED MERRYFIELD, M.S. ..... *Associate Professor of Civil Engineering*

B.S. (1923), Oregon State; M.S. (1930), North Carolina. Faculty, North Carolina, (1929-30); Instructor (1927-29), Assistant Professor (1930-37), Associate Professor (1937—), Oregon State.

EDWIN DAVID MEYER, B.S. ..... *Assistant Professor of Industrial Arts*

B.S. (1927), Stout Institute. Instructor (1925-34), Assistant Professor (1934—), Oregon State.

AVA BERTHA MILAM, M.A. ..... *Dean of the School of Home Economics*

Ph.B. (1910), M.A. (1911), Chicago. Faculty, Iowa State (1911); Director of Home Economics and Visiting Professor, Yenching University (Peiping, China) (1922-24, 1931-32), Visiting Professor, Lingnan University (Canton, China), Kwassui College (Nagasoki, Japan), Ewha College (Seoul, Korea) (1931-32); Assistant Professor (1911-16), Professor (1916—), Dean (1917—), Oregon State. Dean and Director of Home Economics, State System (1932—).

JOHN A MILBRATH, Ph.D. ..... *Research Assistant in Plant Pathology*

B.S. (1934), Washington State; Ph.D. (1938), Oregon State. Research Assistant (Instructor) (1937—), Oregon State.

WILLIAM EDMUND MILNE, Ph.D. ..... *Professor of Mathematics; Head of Department*

A.B. (1912), Whitman College; A.M. (1913), Ph.D. (1915), Harvard. Faculty, Bowdoin College (1915-18), Oregon (1919-32); Professor and Department Head (1932—), Oregon State.

CHARLES BUREN MITCHELL, M.A. ..... *Professor of Speech; Head of Department*

B.A. (1911), DePauw; M.A. (1912), Michigan. Faculty, Michigan State (1912-20); Professor and Department Head (1920—). Oregon State.

CHARLES ARTHUR MOCKMORE, C.E., Ph.D. ..... *Professor of Civil Engineering, Head of Department*

B.E. (1920), C.E. (1926), M.S. (1932), Ph.D. (1935), Iowa. Research Associate, Iowa (1931-32); Instructor (1921-24), Assistant Professor (1925-28), Associate Professor (1929-32), Professor (1932—), Acting Department Head (1933-34), Department Head (1934—), Oregon State.

HAROLD WILLIAM MOE, B.S.....*Assistant Coach of Football; Instructor in Physical Education*

B.S. (1934), Oregon State. Assistant Coach (1934—), (Instructor 1937—), Oregon State.

DELBERT WARREN MOORE, B.A.....*Professor of Stringed Instruments; Conductor of Orchestras*

B.A. (1933), Oregon. Professor (1935—), Oregon State.

FRED BUCKNER MORGAN, M.S.....*Assistant Professor of Physics*

B. Ped. (1910), Kirksville State Normal (Missouri); A.B. (1915), B.S. (1915), Missouri; M.S. (1930), Pittsburgh. Faculty, Oregon (1932-34); Instructor (1921-30), Assistant Professor (1930-32, 1934—), Oregon State.

HENRIETTA MORRIS, Sc.D.....*Associate Professor of Hygiene*

A.B. (1923), Goucher College; Sc.D. in Hygiene (1927), Johns Hopkins. Faculty, University of Oregon Medical School (1932-35); Associate Professor (1935—), Oregon State.

VICTOR PIERPONT MORRIS, Ph.D.....*Dean in Charge of Secretarial Science*

B.A. (1915), M.A. (1920), Oregon; Ph.D. (1930), Columbia. Faculty, Grinnell (1922-24), Oregon (1919-20, 1926—); Instructor (1924-26), Dean in Charge (1936—), Oregon State. Dean and Director of Business Administration, State System (1936—).

HUGH ENGLE MORRISON, M.S.....*Assistant Entomologist*

B.S. (1927), Franklin and Marshall; M.S. (1936), Ohio. Faculty (1932, 1936, 1937), Ohio State. Assistant (1937—), Oregon State.

ROGER WILLIAM MORSE, B.S.....*Extension Dairyman*

B.S. (1916), Washington State. County Agent, Wyoming (1921-23); County Agent, Morrow County (1923-27), Baker County (1927-30), Extension Dairyman (Associate Professor) (1930-35), Professor (1935—), Oregon State.

DON CARLOS MOTE, Ph.D.....*Professor of Entomology; Head of Department; Entomologist in Charge, Agricultural Experiment Station*

B.S. (1911), M.S. (1912), Ph.D. (1928), Ohio State. Parasitologist (1912-19), Ohio Experiment Station; State Entomologist (1919-23), Arizona; Associate Entomologist (1923-24), Assistant and Acting Head (1924-25), Professor (Department Head) and Entomologist in Charge (1925—), Oregon State.

DWIGHT CURTIS MUMFORD, M.S.....*Professor of Farm Management; Head of Department; Economist (Farm Management), Agricultural Experiment Station*

B.S. (1923), Illinois; M.S. (1925), Cornell. Faculty, Minnesota (1925-28); Associate Economist, Bureau of Agricultural Economics, Division of Farm Management and Costs (1928-33), Associate Economist, A.A.A. Wheat Section (1933-34), Agricultural Economist, A.A.A., Wheat Section (1934-35), Senior Administrative Officer, A.A.A., Division of Grains, Western Division (1935-36), Senior Extension Economist, Agricultural Economics Section, Division of Cooperative Extension Work, Extension Service, United States Department of Agriculture (1936-38); Professor (Department Head) and Economist (1938—), Oregon State.

KENNETH MUNFORD, B.S.....*Instructor in English*

B.S. (1934), Oregon State. Instructor (1939—), Oregon State.

EDWARD ANNE MURRAY, M.S.....*Instructor in Chemical Engineering*

B.S. (in Ch.E.) (1938), M.S. (in Ch.E.) (1939), Washington. Instructor (1939—), Oregon State.

OTTO HERBERT MUTH, D.V.M., M.S.....*Associate Professor of Veterinary Medicine; Associate Veterinarian, Agricultural Experiment Station*

D.V.M. (1929), M.S. (1934), Michigan State. Veterinary Pathologist, Wisconsin (1936-37); Assistant Veterinarian (1929-36), Associate Professor (1937—), Oregon State.

RAYMOND GEORGE NEBELUNG, Dr.P.H.....*Associate Professor of Hygiene*

B.S. (1929), M.S. (1931), Dr. P.H. (1935), Michigan. Faculty, Michigan (1934-35); Associate Professor (1937—), Oregon State.

*HERBERT BENJAMIN NELSON, M.A. ..... *Assistant Professor of English*
A.B. (1926), M.A. (1927), Colorado. Instructor (1927-34), Assistant Professor (1934—), Oregon State.

MILTON NELS NELSON, Ph.D. ..... *Professor of Economics; Head of Department; Professor of Agricultural Economics; Acting Head, Department of Business Administration*
A.B. (1915), M.A. (1917), Ph.D. (1921), Illinois. Faculty, Minnesota (1921-22), Illinois (1922-23), Ohio State (1923-26); Professor (Department Head) and Agricultural Economist (1926—), Acting Head, Department Business Administration (1939—), Oregon State.

ORAN MILTON NELSON, M.S. ..... *Professor of Animal Husbandry; Animal Husbandman, Agricultural Experiment Station*
B.S. (1913), M.S. (1930), Wisconsin. Instructor (1913-17), Assistant Professor (1917-18), Associate Professor (1918-21), Professor and Animal Husbandman (1921—), Oregon State.

HARRY IRA NETTLETON, M.S.F. ..... *Assistant Professor of Forestry*
B.S. (1921), Oregon State; M.F. (1928), Idaho. Faculty, Idaho (1923-30); Instructor (1936-37), Assistant Professor (1937—), Oregon State.

BEN HODGE NICHOLS, M.S. ..... *Associate Professor of Electrical Engineering*
B.S. (in M.E.) (1919), M.S. (in E.E.) (1932), Oregon State. Instructor in Mechanical Engineering (1919-20), Instructor in Electrical Engineering (1921-34), Assistant Professor (1934-39), Associate Professor (1939—), Oregon State.

HOLGER PETER CARL NIELSEN ..... *Instructor in Dairy Manufacturing*
Instructor (1937—), Oregon State.

ALFRED WEAVER OLIVER, M.S. ..... *Assistant Professor of Animal Husbandry; Assistant Animal Husbandman, Agricultural Experiment Station*
B.S. (1918), Oregon State; M.S. (1928), Wisconsin. Faculty, Idaho (1918-19); Instructor (1919-22), Assistant Professor and Assistant Animal Husbandman (1922—), Oregon State.

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B.S. (1924), Oregon State; M.S. (1935), Massachusetts State. Instructor (1928-31), Assistant Horticulturist (1931-38), Assistant Professor (1931—), Assistant Food Industries Technologist (1938—), Oregon State.

DANIEL THOMAS ORDEMAN, Ph.D. ..... *Associate Professor of English*
A.B. (1920), M.A. (1922), Washington and Lee; Ph.D. (1927), Maryland. Assistant Professor (1927-37), Associate Professor (1937—), Oregon State.

LOUISE JACKMAN ORNER, B.S. ..... *Instructor in Secretarial Science*
B.S. (1922), Oregon State. Instructor (1936—), Oregon State.

JOHN LYNN OSBORN, Ph.D. ..... *Assistant Professor of Zoology*
Ph.C. (1915), Michigan; A.B. (1922), Kansas; A.M. (1923), Nebraska; Ph.D. (1939), Washington. Faculty, Nebraska (1922-23); Instructor (1923-34), Assistant Professor (1934—), Oregon State.

JAMES CAREY OTHUS, M.E., M.S. ..... *Associate Professor of Mechanical Engineering*
M.E. (1917), Cornell; M.S. (1932), Illinois. Instructor (1921-26), Assistant Professor (1926-37), Associate Professor (1937—), Oregon State.

ANDREA JOHNSEN OVERMAN, M.Sc. ..... *Instructor in Foods and Nutrition*
B.S. (1933), M.Sc. (1937), Nebraska. Faculty, Nebraska (1937-38); Instructor (1938—), Oregon State.

CHARLES ELMER OWENS, Ph.D. ..... *Professor of Botany and Plant Pathology; Head of Department; Plant Pathologist in Charge, Agricultural Experiment Station*
A.B. (1910), A.M. (1911), Indiana; Ph.D. (1934), Wisconsin. Instructor (1912-16), Assistant Professor (1916-20), Associate Professor (1920-30), Professor (1930—), Acting Department Head (1934-35), Department Head (1935—), Oregon State.

*On leave of absence 1939-40.

EARL LEROY PACKARD, Ph.D.....*Dean and Director of General Research; Director of Research in the Institute of Marine Biology; Professor of Paleontology; Head of Department of Geology*

A.B. (1911), M.A. (1912), Washington; Ph.D. (1915), California. Faculty, Washington (1915-16), Mississippi A. & M. (Department Head) (1917-18), Oregon (1916-32) (Department Head 1930-32); Dean of the School of Science (1932-38), Professor (Department Head) (1932—), Oregon State. Dean and Director of Science, State System (1932-38); Dean and Director of General Research, State System (1932—).

ELIZABETH GERTRUDE PADDOCK, M.A.....*Assistant Professor of Child Development and Director of Nursery School*

B.A. (1927), Ohio; M.A. (1936), Columbia. Faculty, Merrill-Palmer School (1929-30), Michigan (1930-35), Teachers College (1936-39); Assistant Professor (1939—), Oregon State.

THOMAS RICHARDSON PALMERLEE, A.M...*Instructor in Mechanical Engineering*

B.S. (in Ed.) (1929), North Dakota Agricultural; A.M. (in Mth.) (1933), B.S. (in M.E.) (1939), Kansas. Faculty, Kansas (1931-33), North Carolina (1933-34), Kansas (1937-39); Instructor (1939—), Oregon State.

JOHNNIE ERNEST PARKER, Sergeant, Field Artillery.....*Instructor in Military Science and Tactics (Field Artillery Unit)*

Instructor (1937—), Oregon State.

FRANK WINTHROP PARR, Ph.D.....*Professor of Secondary Education; Director of Supervised Teaching*

B.S. (1925) Illinois; M.A. (1926), Ph.D. (1929), Iowa. Associate Professor (1929-30), Professor (1930—), Oregon State.

ETHEL EUGENIA PATTEN, B.S.....*Catalog Assistant, Library*

B.A. (1926), Vassar College; B.S. in L.S. (1930), Western Reserve. Junior Assistant (1937-39), California; Catalog Assistant (Instructor) (1939—), Oregon State.

HENRY RICHARD PATTERSON, JR., B.S.....*Professor of Logging Engineering; Head of Department*

B.S. (in C.E.) (1909), Oregon. Associate Professor (1920-23), Professor and Department Head (1923—), Oregon State.

JOAN PATTERSON, B.Arch.....*Assistant Professor and Extension Specialist in Home Management*

B.Arch. (1931), Oregon. Faculty, Oregon (1932-34); Extension Specialist (Instructor 1936-38), Assistant Professor (1938—), Oregon State.

WILLIAM HOWARD PAUL, M.S.--*Associate Professor of Mechanical Engineering*

B.S. (1924), M.S. (1935), Oregon State. Instructor (1926-35), Assistant Professor (1935-39), Associate Professor (1939—), Oregon State.

CHARLES S PEASE, Ph.D.....*Assistant Professor of Organic Chemistry*

B.S. (1918), Denison University; Ph.D. (1928), Ohio State. Faculty, Ohio State (1919-25); Instructor (1925-30), Assistant Professor (1930—), Oregon State.

ARTHUR LEE PECK, B.S., B.A.....*Professor of Landscape Architecture; Head of Department*

B.S. (1904), Massachusetts State; B.A. (1904), Boston. Faculty, Kansas State (1907-08), Oregon (1932—); Instructor (1908-09), Assistant Professor (1909-10), Associate Professor (1912-17), Professor (1917—), Department Head (1932—), Oregon State.

KARL GEORGE PETERSON, B.S.....*Instructor in English*

B.S. (1932), Oregon State. Instructor (1938—), Oregon State.

SIGURD HARLAN PETERSON, Ph.D.....*Professor of English; Head of Department*

A.B. (1910), Minnesota; Ph.D. (1931), Washington. Instructor (1911-14), Assistant Professor (1914-21), Associate Professor (1921-33), Department Chairman (1932-33), Professor and Department Head (1933—), Oregon State.

LILLIAN JEFFREYS PETRI.....*Professor of Piano and Music Theory*

Professor (1924—), Oregon State.

PAUL PETRI.....*Director of Music; Professor of Singing and Conductor of Choruses; Head of Department*

Faculty, Oregon (1933-39); Director and Professor (Department Head) (1924—), Oregon State.

MARK CLYDE PHILLIPS, B.M.E. ..... *Professor of Mechanical Engineering*
B.M.E. (1896), Oregon State. Instructor (1897-1909), Associate Professor (1909-37), Professor (1937—), Oregon State.

ELIZABETH LUCILLA PITBLADO, B.S., R.N. ..... *Nurse, Student Health Service*
B.S. (1939), Portland; R.N. (1939), St. Vincent's School of Nursing. Nurse (Instructor) (1939—), Oregon State.

ERNA MARGUERITE PLAGEMAN, R.N. ... *Supervising Nurse, Student Health Service*
R.N. (1926), Michigan. Supervising Nurse (1929—), (Instructor 1937), Oregon State.

DAN WILLIAMS POLING, M.S. ..... *Assistant to Dean of Men; Assistant Professor of Political Science*
B.S. (1928), M.S. (1938), Oregon State. Assistant to Dean of Men, Assistant Professor (1937—), Oregon State.

RICHARD LEWIS POST, B.S. ..... *Technician in Entomology*
B.S. (1932), Michigan State. Technican (Instructor) (1939—), Oregon State.

ERMINE LAWRENCE POTTER, M.S. ..... *Professor of Agricultural Economics; In Charge, Division of Agricultural Economics; Agricultural Economist, Agricultural Experiment Station*
B.S. (1906), Montana State; B.S.A. (1908), M.S. (1920), Iowa State. Instructor (1908-10), Assistant Professor (1910-11), Professor (1911—), Department Head (1913-33), In Charge of Division of Agricultural Economics (1933—), Oregon State.

ELIZABETH POULTON, M.S. ..... *Instructor in Secretarial Science*
B.S. (Bus.) (1928), M.S. (1934), Idaho. Instructor (1938—), Oregon State.

GARLAND MARIE POWELL, M.S. ..... *Instructor in Botany; Herbarium Assistant*
B.S. (1928), M.S. (1937), Oregon State. Herbarium Assistant (Instructor) (1937—), Oregon State.

WILBUR LOUIS POWERS, Ph.D. ..... *Professor of Soils; Head of Department; Soil Scientist in Charge, Agricultural Experiment Station*
B.S. (1908), M.S. (1909), New Mexico Agricultural; Ph.D. (1926), California. Instructor (1909-12), Assistant Professor (1912-14), Associate Professor (1914-15), Professor (1915—), Department Head and Soil Scientist in Charge (1918—), Oregon State.

SARA WATT PRENTISS, M.A. ..... *Professor of Child Development and Parent Education; Head of Department of Household Administration*
B.S. (1917), Oregon State; M.A. (1929), California. Faculty, California (1934-36); Instructor (1917-21), Assistant Professor (1921-31), Professor (1931—) (Acting Department Head 1932-34, Department Head 1936—), Oregon State.

FREDERICK EARL PRICE, B.S. ..... *Professor of Agricultural Engineering; Assistant Dean, School of Agriculture; Agricultural Engineer, Agricultural Experiment Station*
B.S. (1922), Oregon State. Extension Agronomist, Montana State (1922); Extension Specialist in Soils (1922-25), Extension Specialist in Soils and Agricultural Engineering (1925-28), Professor and Agricultural Engineer (1929—) (Acting Department Head 1935-37), Assistant to Dean (1935-38), Assistant Dean (1938—), Oregon State.

HAROLD FRANKLIN PRINDLE, B.S. ..... *Junior Extension Statistician*
B.S. (1939), Oregon State. Junior Extension Statistician (Instructor) (1939—), Oregon State.

MURRAY HAROLD PROTTER, M.A. ..... *Instructor in Mathematics*
B.A. (1937), M.A. (1938), Michigan. Faculty (1937-38), Michigan; (1938-39), Brown; Instructor (1939—), Oregon State.

HOWARD WILLIAM RAABE, M.S. ..... *Instructor in Physical Education*
B.S. (1935), M.S. (1939), Oregon State. Instructor (1935—), Oregon State.

EDWIN THOMAS REED, B.S., A.B. ..... *Editor of Publications; Head of Department*
B.S. (1895), Minnesota; A.B. (1896), Harvard. Head of English Department, Moorhead (Minnesota) State Teachers College (1901-12); Editor (Professor and Department Head) (1912—), Oregon State. Editor of Publications, State System (1932—).

NATALIE REICHART, M.A.....*Assistant Professor of Physical Education for Women*

B.S. (1924), Columbia; M.A. (1929), New York. Faculty, Washington State (1924-25); Instructor (1925-37), Assistant Professor (1937—), Oregon State.

ROBERT RAY REICHART, M.S.....*Instructor in English*

B.S. (1917), M.S. (1937), Oregon State. Instructor (1926-32, 1934—), Oregon State.

WARREN ALASKA REID, B.S.....*Manager, Oregon State College Alumni Association*

B.S. (1934), Oregon State. Manager, Alumni Association (Instructor) (1938—), Oregon State.

WILLIAM CURTIS REID, M.S.....*Instructor in Physics*

B.A. (1929), Willamette; M.S. (1932), New York University. Camp Educational Adviser C.C.C. (1934-37); Part-time Instructor (1937—), Oregon State.

MARTHA JOSEPHINE REIS, R.N.....*Nurse, Student Health Service*

R.N. (1932), St. Vincent's School of Nursing. Nurse (Instructor) (1939—), Oregon State.

DANIEL CLYDE REYNOLDS, B.S., M.D.....*Professor of Hygiene; Director of Student Health Service*

B.S. (1916), M.D. (1918), Michigan. Director Health Service, Michigan State (1920-22); Physician, Health Service, Michigan (1918-20, 1922-29); Professor and Director (1929—), Oregon State. Assistant Director of Health Services, State System (1933—).

EDITH RHYNE, M.A.....*Associate Professor of Clothing, Textiles, and Related Arts; Acting Head of Department*

B.S. (1918), Texas State College for Women; M.A. (1926), Washington. Faculty, Montana (1927-28), Montana State (1929-35); Associate Professor (1935—), Acting Department Head (1939—), Oregon State.

ROBERT CHARLES RHYNEARSON, M.S.....*Associate Professor of Industrial Arts*

B.S. (1928), M.S. (1932), Purdue. Instructor (1933-36), Assistant Professor (1936-38), Associate Professor (1938—), Oregon State.

CLARENCE WILFRED RICHEN, B.S.....*Instructor in Forestry*

B.S. (1935), Oregon State. Instructor (1937—), Oregon State.

MARY E RICHTER, R.N.....*Nurse, Student Health Service*

R.N. (1925), St. Joseph's School of Nursing. Nurse (1935—), (Instructor 1937), Oregon State.

ELIZABETH PROPHET RITCHIE, A.B., B.L.S.....*Catalog Librarian*

A.B. (1900), Cotner College; B.L.S. (1909), Illinois. Head Cataloger (Assistant Professor) (1920—), Oregon State.

AUDRED ROBERTS, A.B.....*Assistant in English*

A.B. (1924), Willamette. Assistant (1936—), Oregon State.

VIVIAN MAE ROBERTS, M.S.....*Instructor in Foods and Nutrition*

B.S. (1928), Rockford College; M.S. (1933) University of Chicago. Faculty, Carolina New College (Burnsville, North Carolina) (1928-29); Connecticut College (1934-37); Instructor (1937—), Oregon State.

FRANK LESLIE ROBINSON, M.Acct.....*Associate Professor of Accounting*

M.Acct. (1894), Upper Iowa University. Instructor (1919-22), Assistant Professor (1923-27), Associate Professor (1928—), Oregon State.

REGINALD HEBER ROBINSON, M.S.....*Chemist (Insecticides and Fungicides), Agricultural Experiment Station*

A.B. (1909), Pacific; M.S. (1912), California. Assistant Chemist U. S. Department of Agriculture (1910-11, 1928), Principal Chemist (1934); Assistant Chemist (1911-18), Associate Chemist (1918-24), Chemist (Professor) (1924—), Oregon State.

ASA AUSTIN ROBLEY, B.S.....*Instructor in Industrial Arts*

B.S. (1939), Oregon State. Instructor (1939—), Oregon State.

*FRED GRANT ROBLEY, B.S. ..... *Instructor in Civil Engineering*
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BENJAMIN WILLIAM RODENWOLD, M.S. ..... *Assistant Professor of Animal Husbandry*
B.S. (1920), Nebraska; M.S. (1929), Iowa State. Assistant Professor (1920—), Oregon State.

ZELTA FEIKE RODENWOLD, M.S. ..... *Director of Women's Radio Programs, Station KOAC; Assistant Professor of Home Economics Extension*
B.S. (1919), Oregon State; M.S. (1929), Iowa State. Secretary, School of Home Economics (1919-21), Alumni Association (1921-26); Extension Economist in Home Management (1930-32), Director and Assistant Professor (1932—), Oregon State.

DONALD PHILIP ROGERS, Ph.D. ..... *Instructor in Botany*
B.A. (1929), Oberlin; Ph.D. (1935), Iowa. National Research Fellow, Harvard (1935-36); Instructor (1936—), Oregon State.

JACK GLYNDON ROOF, Ph.D. ..... *Instructor in Chemistry*
B.A. (1934), M.A. (1935), California at Los Angeles; Ph.D. (1938), Wisconsin. Instructor (1938—), Oregon State.

ARNOLD SAMUEL ROSENWALD, B.S., D.V.M. ..... *Instructor in Veterinary Medicine; Assistant Veterinarian*
B.S. (1930), California; D.V.M. (1936), Kansas State. Agent, Arizona and New Mexico (1930-31), Junior Veterinarian, United States Bureau of Animal Industry, California (1936), Minnesota (1936-37); Instructor (1937—), Oregon State.

EDWARD JAMES ROXBURY, Captain, Field Artillery, A.B. ..... *Assistant Professor of Military Science and Tactics*
A.B. (1917), Michigan; Graduate (1926) Field Artillery School; Graduate (1918) Saumur Artillery School. Faculty, Colorado State (1928-34); Assistant Professor (1935—), Oregon State.

HENDRINE ROZENDAL, M.A. ..... *Documents Cataloger, Library*
B.A. (1925), Dakota Wesleyan; B.S. in L.S. (1932), M.A. in L.S. (1936), Illinois. Periodicals Assistant, Illinois (1933-35), Acting Librarian, Eastern Oregon College of Education (1938-39); Reference Assistant (Instructor) (1935-38); Documents Cataloger (1939—), Oregon State.

BENJAMIN FRANKLIN RUFFNER, Aero.E., M.S. ..... *Professor of Aeronautical Engineering; Director of Civilian Pilot Training*
B.S. (in M.E.) (1929), Aero.E. (1930), M.S. (1935), New York University. Faculty, New York University (1929-36); Assistant Professor (1936-37). Associate Professor (1937-39), Professor (1939—), Director of Civilian Pilot Training (1939—), Oregon State.

A'LEEN ELIZABETH RUNKLE, B.S. ..... *Instructor in Art*
B.S. (1934), Oregon State; Ecole Americainé des Beaux-Arts, Palais de Fontainebleau (1939). Instructor (1939—), Oregon State.

CHARLES VLADIS RUZEK, M.S. ..... *Professor of Soil Fertility; Soil Scientist (Fertility), Agricultural Experiment Station*
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AZALEA LINFIELD SAGER, M.A. ..... *State Leader of Home Demonstration Agents; Professor of Extension Methods*
B.S. (1919), Montana State; M.A. (1921), Columbia. Extension Specialist, South Dakota State (1921-25); Home Demonstration Agent, California (1926-30); Extension Specialist (Associate Professor) (1932-36), Professor and State Leader (1936—), Oregon State.

NEIL EDMUND SALING, B.S. ..... *Supervising Teacher in Industrial Education*
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*On leave of absence 1939-40.

CARL WALTER SALSER, Ed.M.....*Professor of Education; Head of Department; Head of Placement; Assistant Dean of the School of Education*

A.B. (in Ed.) (1911), Kansas State Teachers (Emporia); Ed.M. (1926), Harvard. Faculty, Kansas State Teachers (Emporia) (1911-29), Director of Extension Division (1914-29), Head of Appointment Bureau (1911-14); Professor and Department Head (1929—), Assistant to the Dean (1932-34), Assistant Dean (1934—), Oregon State.

COLONEL CHARLES LEWIS SAMPSON, Infantry.....*Commandant; Professor of Military Science and Tactics*

Graduate (1918), General Staff College, American Expeditionary Forces, Langres, France; Graduate (1923), Command and General Staff School; Graduate (1928), Army War College; Graduate (1929), Naval War College. Faculty, General Staff College, AEF, (1918), Command and General Staff School (1923-27); Commandant and Professor (1939—), Oregon State.

ETHEL IDA SANBORN, Ph.D.....*Associate Professor of Botany; Associate Professor of Paleobotany*

B.S. (1903), South Dakota State; B.A. (1904), M.A. (1907), South Dakota; Ph.D. (1928), Stanford. Faculty, Oregon (1914-32), Curator of Herbarium (1914-17); Assistant Professor (1932-33), Associate Professor (1933—), Oregon State.

*HENRY SCHEFFÉ, Ph.D.....*Instructor in Mathematics*

B.A. (1931), M.A. (1933), Ph.D. (1935), University of Wisconsin. Faculty (1931-37), Wisconsin; Instructor (1937—), Oregon State.

WILLIAM ALFRED SCHOENFELD, M.B.A.....*Dean of the School of Agriculture; Director of the Agricultural Experiment Station; Director of Federal Cooperative Extension*

B.S. (1914), Wisconsin; M.B.A. (1922), Harvard. Faculty, Wisconsin (1912-14), Secretary of Experiment Station (1914); Faculty, Texas (1914-15); Assistant and Acting Director of Extension, Tennessee (1915-20); Lecturer, Massachusetts Institute of Technology (1921); Professor, Dean and Director (1931—), Oregon State. Dean and Director of Agriculture, State System (1932—).

GEORGE HARWOOD SCHROEDER, M.S.....*Assistant Professor of Forestry*

B.S. (in L.E.) (1935), B.S. (in Tech. For.) (1935), M.S. (1936), Oregon State. Instructor (1936-39), Assistant Professor (1939—), Oregon State.

JOE SCHUH, M.S.....*Research Assistant in Entomology, Agricultural Experiment Station*

B.S. (1932), M.S. (1936), Oregon State. Instructor (1937-39), Research Assistant (1937—), Oregon State.

ROLAND O SCOTT, D.V.M.....*Instructor and Research Assistant, Veterinary Medicine*

D.V.M. (1936), Michigan State. Michigan Producers Dairy Company (1936-38); Instructor and Research Assistant (1938—), Oregon State.

HENRY DESBOROUGH SCUDDER, B.S.....*Professor of Farm Management*

B.S. (1902), Illinois. Research Assistant, United States Department of Agriculture (1903-04); Faculty, Kansas State (1906-07); (Department Head and Economist in Charge 1907-36), Professor (1907—), Oregon State.

HERMAN AUSTIN SCULLEN, Ph.D.....*Associate Professor of Entomology*

B.A. (1910), M.A. (1927), Oregon; Ph.D. (1934), Iowa State. Faculty, Iowa State (1912-18); Instructor (1921-22), Assistant Professor (1922-29), Associate Professor (1929—), Oregon State.

OWEN LESTER SEARCY, B.S.....*Technician (Veterinary Medicine)*

B.S. (1928), Oregon State. Technician (1928—), Oregon State.

EVA M SEEN, Ed.D.....*Professor of Physical Education for Women; Head of Department*

B.S. (1922), Knox College; M.A. (1926), Wisconsin; Ed.D. (1937), New York University. Director of Physical Education for Women, Central State Teachers (Stevens Point, Wisconsin) (1927-35); Professor (Department Head) (1935—), Oregon State.

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*On leave of absence 1939-40.

HARRY CASE SEYMOUR.....*State Leader of 4-H Club Work*
State Leader of 4-H Club Work (Professor) (1916—), Oregon State.

JAMES NIVEN SHAW, B.S., D.V.M.....*Professor of Veterinary Medicine; Head of Department; Veterinarian, Agricultural Experiment Station*
B.S. (1915), Oregon State; B.S., D.V.M. (1917), Washington State. Instructor (1919-21, 1926-27), Assistant Professor (1927-34), Associate Professor (1934-38), Professor and Department Head (1938—), Oregon State.

MILTON CONWELL SHEELY, B.S.....*Instructor in Industrial Arts*
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JAMES WILSON SHERBURNE, Ph.D.....*Assistant Professor of Psychology*
A.B. (1927), Greenville College; M.A. (1928), Michigan; Ph.D. (1938), Ohio State. Faculty, Wessinton Springs College (1928-29), Ohio State (1934-38); Assistant Professor (1938—), Oregon State.

FRANK SYLVESTER SHERMAN, Sergeant, Field Artillery.....*Instructor in Military Science and Tactics (Field Artillery Unit)*
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FRED MURIEL SHIDELER, B.S.....*Associate Professor of Journalism; In Charge of Department; Assistant in News Service*
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JOSEPH ELLSWORTH SIMMONS, M.S.....*Professor of Bacteriology; Bacteriologist, Agricultural Experiment Station*
B.S. (1916), M.S. (1918), Wisconsin. Faculty, Ontario Agricultural (1916), Wisconsin (1916-17); Instructor (1919-20), Assistant Professor (1920-26), Associate Professor and Associate Bacteriologist (1926-38), Professor and Bacteriologist (1938—), Oregon State.

HERBERT REEVES SINNARD, M.S., R.A.....*Associate Professor of Agricultural Engineering; Associate Professor of Architecture; Associate Agricultural Engineer (Farm Structures), Agricultural Experiment Station*
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B.S. (1910), U. S. Naval Academy; Graduate (1925) Field Artillery School; Distinguished Graduate (1926) Command and General Staff School; Graduate (1932) Army War College; Graduate (1932) Chemical Warfare School. Faculty, Field Artillery School (1917-18); Texas Agricultural and Mechanical College (1926-31); Command and General Staff School (1932-36); Associate Professor (1938—), Oregon State.

CHARLES BASSEL SMITH, Ph.D.....*Instructor in Mathematics*
B.S.E. (1934), M.S. (1936), Florida; Ph.D. (1939), Wisconsin. Instructor (1939—), Oregon State.

CHARLES WESLEY SMITH, B.S.....*Assistant County Agent Leader*
B.S. (1921), Washington State. County Agent Morrow County (Assistant Professor 1927-33), Assistant County Agent Leader (1934—), (Associate Professor 1933-37), Professor (1937—), Oregon State.

EDWIN MONROE SMITH, B.S.D.....*Business Manager*
B.S.D. (1891), Oregon Normal School. Requisition and Order Clerk (1915-18), Chief Clerk (1918-20), Assistant Manager (1920-25), Manager (Professor and Department Head) (1925—), Oregon State. Assistant Comptroller, State System (1934—).

FRANK HERSCHEL SMITH, Ph.D.....*Instructor in Botany*
B.S. (1929), Arkansas; M.S. (1930), Washington State; Ph.D. (1932), Wisconsin. Faculty, St. Lawrence (1935-36); Instructor (1936—), Oregon State.

MAHLON ELLWOOD SMITH, Ph.D.....*Dean of Lower Division; Dean of Lower Division and Service Departments; Director of Summer Sessions; Professor of English*

A.B. (1906), Syracuse; M.A. (1909), Ph.D. (1912), Harvard. Faculty, Syracuse (1906-08. 1912-19), Director of Summer Session (1917-19), Director of Evening Session (1918-19); Dean of School of Basic Arts and Sciences (1919-32), Director of Summer Sessions (1919—), Professor of English (1919—), Dean of Lower Division and Service Departments (1934—), Oregon State; Dean (1932—), Oregon State and Oregon. Dean and Director of Lower Division, State System (1932—).

XENOPHON PALMER SMITH, B.A.....*Reference Assistant, Library*

B.A. (1921), Kansas; B.A. in Librarianship (1938), Washington. Reference Assistant (Instructor) (1938—), Oregon State.

ANDREW SOBCZYK, Ph.D.....*Instructor in Mathematics*

B.A. (1935), M.A. (1936), Minnesota; Ph.D. (1939), Princeton. Faculty (1936-39), Princeton; Instructor (1939—), Oregon State.

ORLIN CHALMER SPICER, A.M.....*Instructor in English*

A.B. (1935), Whitworth College; A.M. (1938), Gonzaga. Faculty, Whitworth College (1935-38); Instructor (1939—), Oregon State.

ELEANOR MAY SPIKE, M.S.....*Associate Professor of Household Administration; Director of Home Management Houses*

B.S. (1925). M.S. (1933), Oregon State. Instructor (1932-36), Assistant Professor (1936-38), Associate Professor (1938—), Oregon State.

THURMAN JAMES STARKER, B.S.....*Professor of Forestry; Head of Department*

B.S. (1910), Oregon State. Assistant Professor (1922-23), Associate Professor (1923-24), Professor and Department Head (1924—), Oregon State.

EUGENE CARL STARR, B.S., E.E.....*Professor of Electrical Engineering*

B.S. (1923), E.E. (1938), Oregon State. Instructor (1927-30). Assistant Professor (1930-37), Associate Professor (1937-39), Professor (1939—), Oregon State.

ROBERT ADOLPH STEINER, M.B.A.....*Instructor in Business Administration*

B.B.A. (1933), M.B.A. (1936), Washington. Faculty, Washington (1934-36); Instructor (1937—), Oregon State.

ROSCOE ELMO STEPHENSON, Ph.D.....*Professor of Soils; Soil Scientist, Agricultural Experiment Station*

B.S. (1915). Purdue; M.S. (1917). Illinois; Ph.D. (1920), Iowa State. Faculty, West Virginia (1918-20). Kentucky (1920-23); Associate Professor and Associate Soil Scientist (1923-38), Professor and Soil Scientist (1938—), Oregon State.

EDWARD ALMERON STEVENS, LL.B.....*Assistant Professor of Physical Education; Coach of Rowing*

LL.B. (1909), Cornell. Assistant Coach of Rowing, Cornell (1911-12); Head Coach of Rowing, Harvard (1923-26); Instructor (1931-38), Assistant Professor (1938—), Oregon State.

ALONZO L STINER, B.S.....*Head Coach of Football; Instructor in Physical Education*

B.S. (1927), Nebraska. Faculty, Colorado (1927-28); Instructor, Track Coach, and Assistant Football Coach (1928-33), Head Coach of Football (1933—), Oregon State.

WILLARD JOHN STONE, A.B., M.D...*Assistant Physician, Student Health Service*

A.B. (1928). M.D. (1931), Oregon. Assistant Physician (1935—), (Assistant Professor 1937), Oregon State.

ROY EDGAR STOUT, M.S.....*Research Assistant in Dairy Manufacturing*

B.S. (1938), M.S. (1939), Oregon State. Research Assistant (Instructor) (1939—), Oregon State.

GERTRUDE STRICKLAND, B.S.....*Assistant Professor of Clothing, Textiles, and Related Arts*

B.S. (1935). Texas State College for Women. Faculty, Denton (Texas) College of Industrial Arts (1912-18), Washington State (1918-19); Instructor (1920-36), Assistant Professor (1936—), Oregon State.

DONALD BRUCE STUART.....*Superintendent of Light and Power*
Superintendent (Assistant Professor) (1914—), Oregon State.

ERNST THEODORE STUHR, M.S.....*Associate Professor of Pharmacology and Pharmacognosy; In Charge of Department*
Ph.G. (1922), Ph.C. (1922), B.S. (1925), Nebraska; M.S. (1927), Florida. Faculty, Nebraska (1920-22), Florida (1925-27); Assistant Professor (1927-30), Associate Professor (1930—), Oregon State.

BERTHA WHILLOCK STUTZ, M.S.....*Associate Professor of Secretarial Science*
B.Ped. (1910), Missouri State Teachers; B.S. (1918), M.S. (1927), Oregon State. Instructor (1918-27), Assistant Professor (1927-29), Associate Professor (1929—), Oregon State.

GRANT ALEXANDER SWAN, B.S.....*Assistant Professor of Physical Education; Head Coach of Track*
B.S. (1922), Oregon State. Instructor (1926-30), Assistant Professor (1930—), Oregon State.

NICHOLAS TARTAR, B.S.....*Associate Professor Emeritus of Mathematics*
B.S. (1907), Oregon State. Instructor (1904-09), Assistant Professor (1909-29), Associate Professor (1929-32), Associate Professor Emeritus (1932—), Oregon State.

ALFRED TAYLOR, Ph.D.....*Instructor in Zoology*
B.A. (1932), Oregon; M.A. (1934), Ph.D. (1935), Oregon State. Instructor (1935—), Oregon State.

LILLIAN CATHERINE TAYLOR, M.A....*Assistant Professor of Foods and Nutrition*
B.S. (1916), Illinois; M.A. (1927), Columbia. Instructor (1919-37), Assistant Professor (1937—), Oregon State.

WILLIAM LEROY TEUTSCH, B.S.....*Assistant County Agent Leader*
B.S. (1920), Oregon State. County Agent (Lake County) (1920-23), District Agricultural Agent (Associate Professor) (1924-27), Assistant County Agent Leader (Professor 1935) (1927—), Oregon State.

CHARLES EDWIN THOMAS, M.M.E.....*Professor of Engineering Materials*
M.E. (1913), M.M.E. (1931), Cornell. Faculty, Cornell (1914-17); Assistant Professor (1918-22), Associate Professor (1922-39), Professor (1939—), Oregon State.

MARION DAWS THOMAS, B.S.....*Assistant Extension Economist*
B.S. (1937), Oregon State. Assistant Extension Economist (1937—), Oregon State.

BENJAMIN GARRISON THOMPSON, Ph.D.....*Associate Entomologist,*
B.S. (1918), M.S. (1924), Oregon State; Ph.D. (1939), Washington. Assistant Entomologist (Assistant Professor) (1924-39), Associate Entomologist (Associate Professor) (1939—), Oregon State.

BETTY LYND THOMPSON, M.A.....*Associate Professor of Physical Education for Women*
A.B. (1923), Illinois Wesleyan; M.A. (1926), Wisconsin. Faculty, Illinois Wesleyan (1924-25); Instructor (1927-30), Assistant Professor (1930-39), Asssociate Professor (1939—), Oregon State.

ELNORA ELVIRA THOMSON, R.N.....*Professor of Nursing Education; Director of Department*
R.N. (1910), State of Illinois; R.N. (1920), State of Oregon. Executive Secretary and Director, Illinois Society for Mental Hygiene (1911-18); Director, Department of Public Health Nursing, Chicago School of Civics and Philanthropy (1917-18, 1919-20); Director, Public Health Nursing Education, American Red Cross Tuberculosis Commission to Italy (1918-19); Director, Far-Western Office, American Child Health Association (1923-25); Professor (1920-23, 1925—), Director of Public Health Nursing (1920-23), Director of Health and Nursing Education (Portland School of Social Work) (1925-32), Director, Nursing Education, Medical School (1932—), Oregon State.

EDWARD FRITCHOFF TORGERSON, B.S.....*Associate Professor of Soils; Associate Soil Scientist (Soil Survey), Agricultural Experiment Station*
B.S. (1914), Illinois. Faculty, Illinois (1914-18); Assistant Professor and Assistant Soil Scientist (1918-36), Associate Professor and Associate Soil Scientist (1936—), Oregon State.

LOUIS NAPOLEON TRAVER.....*Superintendent of Physical Plant*
Superintendent of Physical Plant (Professor) (1940—), Oregon State.

MARJORIE ELLEN UTT, M.A.....*Circulation Assistant, Library*
A.B. (1931), California at Los Angeles; Certificate of Librarianship (1932), Los Angeles Library School; M.A. (1939), California. Assistant Librarian, State Medical Library, California (1932-38); Circulation Assistant (Instructor) (1939—), Oregon State.

HERBERT TOWNSEND VANCE, M.S.....*Professor of Secretarial Science; Head of Department*
B.S. (1924), M.S. (1927), Oregon State. Assistant Professor (1916-17), Professor and Department Head (1919—), Oregon State.

JOHN ALBERT VAN GROOS, M.S.....*Associate Professor of Mathematics*
B.S. (1899), Oregon State; M.S. (1903), Yale. Instructor (1919-22), Assistant Professor (1922-39), Associate Professor (1939—), Oregon State.

EDNA MARJORIE VAN HORN, M.A.....*Assistant Professor of Household Administration*
B.A. (1923), Colorado College; M.A. (1932), Columbia. Faculty (1938-39), Columbia; Assistant Professor (1939—), Oregon State.

WILLIAM ROY VARNER, E.E., Ph.D.....*Assistant Professor of Physics*
B.S. (1912), M.S. (1932), Ph.D. (1939), Oregon State; E.E. (1914), Westinghouse. Faculty, Oregon (1933-34); Instructor (1929-33, 1934-36), Assistant Professor (1936—), Oregon State.

EARNEST VANCOURT VAUGHN, Ph.D.....*Professor of History; In Charge of Department*
B.L. (1900), M.A. (1904), Missouri; Ph.D. (1910), Pennsylvania. Faculty, Missouri (1905-11); Department Head, Delaware (1911-22); Associate Professor (1924-37), Professor (1937—), Oregon State.

HENRY JAMES VAUX, M.S.....*Instructor in Forestry*
B.S. (1933), Haverford College; M.S. (1936), California. Instructor (1937—), Oregon State.

EDWARD VIETTI, M.S.....*Instructor in Secretarial Science*
B.A. (1929), Utah; M.S. (1937), Southern California. Instructor (1938—), Oregon State.

MARGARET ANN VILLENEUVE, B.S.....*Circulation Assistant, Library*
B.S. in L.S. (1933), Washington. Circulation Assistant (1935-37), Seattle Public Library; Circulation Assistant (Instructor) (1937—), Oregon State.

HAROLD ROTH VINYARD, Ph.D.....*Instructor in Physics*
B.S. (in E.E.) (1924), M.S. (1928), Oregon State; Ph.D. (1938), Pennsylvania State. Instructor (1938—), Oregon State.

GLENN VOORHIES, M.S.....*Assistant Professor of Wood Products*
B.S. (1929), M.S. (1930), Oregon State. Instructor (1936-39), Assistant Professor (1939—), Oregon State.

MARIAN LUCILLE WABY, A.B., B.S.....*Orders Assistant, Library*
A.B. (1934), California at Los Angeles; B.S. in L.S. (1935), Illinois. Orders Assistant (Instructor) (1935—), Oregon State.

HERBERT ALONZO WADSWORTH, Lieutenant Colonel, Infantry, B.S.....*Associate Professor of Military Science and Tactics; Director of Infantry Unit*
B.S. (1910), Idaho; Graduate (1924) Infantry School; Graduate (1925) Command and General Staff School; Graduate (1932) Tank School. Associate Professor (1928-31) (1938—), Oregon State.

CLYDE WALKER, M.S.....*Associate Professor of Agricultural Engineering*
B.S. (1924), M.S. (1930), Nebraska. Instructor (1928-29), Assistant Professor (1929-32), Associate Professor (1932—), Oregon State.

RUPERT ALRED WANLESS, B.S.....*Assistant Professor of Civil Engineering*
B.S. (in C.E.) (1923), Oregon State. Instructor (1929-32), Assistant Professor (1935—), Oregon State.

GLEN CHASE WARE, M.S. ..... *Instructor in Chemistry*
B.S. (1918), M.S. (1928), Kansas State. Instructor (1928-—), Oregon State.

HARRIET JANET WARNER, A.B. ..... *Assistant Reference Librarian*
A.B. (1919), California. Reference Assistant (Instructor) (1930-39), Assistant Reference Librarian (Assistant Professor) (1939—), Oregon State.

ERNEST WILLIAM WARRINGTON, M.A. ..... *Professor of Philosophy; Professor of Religion; Head of Department*
A.B. (1905), Deleware; M.A. (1907), Princeton. Faculty, Oregon (1934-36); General Secretary, Student Y.M.C.A. (1921-26), Professor and Department Head (1928—), Oregon State.

IVAN FREDERIC WATERMAN, C.E. ..... *Associate Professor of Civil Engineering*
B.S. (1910), John B. Stetson University; C.E. (1912), Wisconsin. Faculty, John B. Stetson University (1912-16); Instructor (1919-21), Assistant Professor (1921-37), Associate Professor (1937-—), Oregon State.

EARL WILLIAM WELLS, M.A. J.D. ..... *Professor of Speech*
A.B. (1921), Iowa; M.A. (1927), Wisconsin; J.D. (1928), Iowa. Faculty, Wisconsin (1926-27); Instructor (1921-26), Assistant Professor (1927-30), Associate Professor (1930-39), Professor (1939-—), Oregon State.

WILLIBALD WENIGER, Ph.D. ..... *Assistant Dean of the Graduate Division; Professor of Physics; Head of Department*
B.A. (1905), M.A. (1906), Ph.D. (1908), Wisconsin. Instructor (1908-09), Assistant Professor (1909-10), Professor and Department Head (1910-14, 1920—), Assistant Dean (1933-—), Oregon State.

LLOYD ELLIS WEST, Ph.D. ..... *Instructor in Chemistry*
A.B. (1929), Doane College; M.S. (1930), Florida; Ph.D. (1939), Washington. Faculty, North Dakota State (1930-35); Instructor (1938—), Oregon State.

HAZEL KELSEY WESTCOTT, B.S. ..... *Administrative Assistant, President's Office*
B.S. (1920), Oregon State. Secretary-Statistician (1926-36), Administrative Assistant (Assistant Professor) (1936-—), Oregon State.

BAYARD O WHEELER, M.A. ..... *Assistant Professor of Business Administration and Economics*
A.B. (1928), California; M.A. (1930), Washington. Faculty, Washington (1929-33), California (1934-36); Instructor, (1936-37), Assistant Professor (1937—), Oregon State.

RUTH VEE WHEELOCK, M.A., R.N. ..... *Associate Professor of Nursing Education*
B.A. (1911), M.A. (1915), Michigan; Diploma (1920), Bellevue Hospital School of Nursing; R.N. (1920), States of New York, Michigan, California, Oregon. Faculty, Michigan (1921-26); Department Director, Riverside Junior College (1927-33); Assistant Professor (1933-35), Associate Professor (1935-—), Oregon State.

HAROLD H WHITE, M.S. ..... *Associate Extension Economist*
B.S. (1920), M.S. (1938), Oregon State. Instructor in Agricultural Education (1923-27), Associate Extension Economist (Assistant Professor) (1931-—), Oregon State.

JAMES MEACHAM WHITELY, B.A., M.D. ..... *Assistant Physician, Student Health Service*
B.A. (1936), Oregon; M.D. (1938), Oregon Medical School. Assistant Physician (Assistant Professor) (1939-—), Oregon State.

ERNEST HERMAN WIEGAND, B.S.A. ..... *Professor of Food Industries; Head of Department; Food Technologist in Charge, Agricultural Experiment Station*
B.S.A. (1914), Missouri. Poultry Specialist, United States Department of Agriculture (1917-19); Professor (1919-—), Horticulturist (1919-38), Department Head and Food Industries Technologist in Charge (1938-—), Oregon State.

ELIZABETH CECELIA WILEY, A.M. ..... *Associate Professor of Clothing, Textiles, and Related Arts*
A.B. (1925), A.M. (1926), California. Faculty, Alabama College (1928-32), Millikin (1933-35), Montana State (1935-37); Associate Professor (1937-—), Oregon State.

WILLIAM DONALD WILKINSON, Ph.D.....*Assistant Professor of Geology*
B.A. (1923), Ph.D. (1932), Oregon. Faculty, Oregon (1930-32); Instructor (1932-33), Assistant Professor (1933—), Oregon State.

EARL CLARK WILLEY, B.S.....*Assistant Professor of Mechanical Engineering*
B.S. (1921), Oregon State. Instructor (1922-37), Assistant Professor (1937—), Oregon State.

GEORGE ALFRED WILLIAMS, A.M.....*Associate Professor of Mathematics*
A.B. (1918), Illinois; A.M. (1926), California. Instructor (1920-27), Assistant Professor (1927-39), Associate Professor (1939—), Oregon State.

JESSAMINE CHAPMAN WILLIAMS, M.A.....*Professor of Foods and Nutrition; Head of Department*
B.S. (1906), M.A. (1921), Columbia. Head, Home Economics Department, Sweet Briar College (Virginia) (1906-11); Head, Home Economics Department, Oklahoma State (1912-13); Faculty, Arizona (1914-23); Professor and Department Head (1923—), Oregon State.

CHARLES HERBERT WILLISON, JR., M.F.....*Assistant Professor of Forestry*
B.S. (1933), Oregon State; M.F. (1934), Yale. United States Forest Service (1934, 1938-39); Research, Duke Forest (1934-35), Pacific Northwest Forest Experiment Station (1935-37, 1938); Faculty (1937), Idaho; Assistant Professor (1939—), Oregon State.

MAUD MATHES WILSON, A.M.....*Home Economist, Agricultural Experiment Station; Professor in Charge of Home Economics Research*
B.S. (1913), Nebraska; A.M. (1931), Chicago. Faculty, Nebraska (1913-15), In Charge of Home Economics Extension, Nebraska (1915-18); State Leader of Home Economics Extension, Washington State (1918-22), Assistant Director of Extension, Washington State, (1922-25); Home Economist and Professor (1925—), Oregon State.

GUSTAV HANS WILSTER, Ph.D.....*Professor of Dairy Manufacturing; Dairy Husbandman, Agricultural Experiment Station*
B.S. (1920), M.S. (1921), Ph.D. (1928), Iowa State. Faculty, Utah State (1921-25, 1927-28); Professor and Dairy Husbandman (1929—), Oregon State.

CHARLES GEORGE WILTSHIRE.....*Superintendent of Plumbing and Steam Fitting*
Superintendent (Assistant Professor) (1911—), Oregon State.

CARLYN REO WINGER, M.A.....*Assistant Professor of Speech*
B.A. (1928), Washington State; M.A. (1932), Wisconsin. Faculty, Pacific University (1928-38); Instructor (1938-39), Assistant Professor (1939—), Oregon State.

LOUIS RUSSELL WIRAK, First Lieutenant, Corps of Engineers, C.E.....*Assistant Professor of Military Science and Tactics*
B.S. (1931), U. S. Military Academy; C.E. (1934), Princeton; Graduate (1935), Army Engineer School; First Lieutenant, U. S. Army. Assistant Professor (1937—), Oregon State.

CLARENCE CALVIN WOODBURY, Staff Sergeant (Captain, Infantry, Officers' Reserve Corps)....*Instructor in Military Science and Tactics (Infantry Unit)*
Instructor (1920—), Oregon State.

JOHN CARSON WOODBURY, Staff Sergeant.....*Assistant to Professor of Military Science and Tactics (Sergeant-Major)*
Assistant to Commandant (1920—), Oregon State.

LAWRENCE FISHER WOOSTER, M.S.....*Professor of Applied Electricity*
B.S. (in E.E.) (1906), Illinois; M.S. (1931), Oregon State. Instructor (1910-14), Assistant Professor (1914-19), Superintendent of Light and Power (1914-19), Professor (1919—), Oregon State.

CLYTIE MAY WORKINGER.....*Placement Secretary*
Secretary of School of Agriculture (1911-18), Secretary of School of Vocational Education (1918-23), Placement Secretary (Assistant Professor) (1923—), Oregon State.

LEMUEL DARY WRIGHT, M.S. ..... *Assistant Chemist, Agricultural Experiment Station*

B.S. (1935), M.S. (1936), New Hampshire; Graduate Scholar (1936-37), Pennsylvania State. Assistant Chemist (Instructor) (1937—), Oregon State.

ROSALIND WULZEN, Ph.D. ..... *Assistant Professor of Zoology*

B.S. (1904), M.S. (1910), Ph.D. (1914), California. Department Head, Mills (1909-13); Faculty, California (1914-28), Oregon (1928-34); Assistant Professor (1933—), Oregon State.

CHARLES THEODORE YERIAN, Ph.D. ... *Associate Professor of Secretarial Science*

B.S. (1932), Oregon State; M.S. (1936), Ph.D. (1938), Iowa. Assistant Professor (1937-39), Associate Professor (1939—), Oregon State.

DELOSS PALMER YOUNG, B.S. ..... *Assistant Professor of Speech and Dramatics*

B.S. (1926), Oregon State. Instructor (1927-35), Assistant Professor (1935—), Oregon State.

EDWIN ARTHUR YUNKER, Ph.D. ..... *Associate Professor of Physics*

A.B. (1924), California; Ph.M. (1930), Wisconsin; Ph.D. (1939), Stanford. Instructor (1925-33), Assistant Professor (1933-39), Associate Professor (1939—), Oregon State.

SANFORD MYRON ZELLER, Ph.D. ..... *Plant Pathologist, Agricultural Experiment Station*

B.S. (1909), Greenville College; A.B. (1912), A.M. (1913), Washington; Ph.D. (1917), Washington University (St. Louis). Faculty, Seattle Pacific College (1909-12), Washington (1912-14); Assistant Professor and Assistant Plant Pathologist (1919-20), Associate Professor and Associate Plant Pathologist (1920-24), Professor and Plant Pathologist (1924—), Oregon State.

ADOLPH ZIEFLE, M.S., Phar. D. ..... *Dean of the School of Pharmacy; Professor of Pharmacy*

Ph.C (1904), B.S. (1907), M.S. (1919), Michigan; Phar.D. (1928), Pittsburgh. Faculty, Michigan (1905-07), Kansas (1907-09), North Dakota State (1909-14); Professor (Department Head) and Dean (1914—), Oregon State. Dean and Director of Pharmacy, State System (1932—).

Part II
General Information

Organization and Facilities

History

HISTORY of the State College dates from Oregon's territorial beginnings. In 1856 a building was begun at the corner of Fifth and Madison Streets, Corvallis, to house a coeducational community school which in 1858 was incorporated under the name of Corvallis College. In 1865 the college passed under the control of the Methodist Episcopal Church, South. While in its inception a private enterprise, the institution from the beginning served a public purpose. It was destined to become, not only a state college, but one of a national system of universities and colleges.

A National College. The Federal Land-Grant Act, approved by President Lincoln on July 2, 1862, provided Federal aid, derived from what is known as the Land-Grant Fund, for each state that should avail itself of the benefits of the Act for the support and maintenance of a "college where the leading objects shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

Ninety thousand acres of land were appropriated to Oregon; and by an Act approved October 9, 1862, the Legislative Assembly of Oregon accepted the provisions of the Congressional law. The legislature of 1868 provided for the location of the land received under the Act of 1862, and as there were no state colleges in Oregon at that time "designated and adopted" Corvallis College as the state's agricultural college and the recipient of the income from the land-grant funds.

A State College. The history of Oregon State College as a state institution thus dates from 1868. The first class was graduated in 1870. The legislature in 1870 "permanently adopted" Corvallis College "as the agricultural college of the State of Oregon." During subsequent years the catalog of the institution bore various designations, including "Corvallis State Agricultural College" (1872-1875), "Corvallis College" (1881-82), "Corvallis and Oregon State Agricultural College" (1885-86). In 1885, the State assumed entire control of the institution. During the summer of 1887, the cornerstone of a building erected by the citizens of Benton County on the present campus was laid by the Governor of Oregon. The structure is the present Administration Building.

The population of Oregon, while steadily growing, was small and the annual enrollment did not reach a total of one hundred students until 1889. By 1906-07 the enrollment was eight hundred and thirty-three, and since then the growth in attendance has been rapid. As late as 1900, though the

State College had discontinued its preparatory department, only four Oregon cities had high schools, and the scope of the college work was necessarily extended downward to bridge the gap. Oregon now has more than 270 standard high schools, and since 1915 full high-school preparation has been demanded for admission to freshman standing. Most of the students at first came from Benton and neighboring counties; today, all counties in Oregon, many other states and a number of foreign countries are represented. The teaching faculty has increased from a maximum of five in 1884 to three hundred, in addition to many other staff members.

"Liberal and Practical Education." In accordance with the acts of Congress under which it is maintained, the purpose of the State College is to provide "liberal and practical education." Technical education must be offered, but "other scientific and classical studies" are not to be excluded. While special attention is given to the natural sciences and their applications in professional and technical fields, thorough general education is recognized as of primary importance in all the work of the institution.

Curricula. The curriculum of the earlier years included chiefly the academic and classical subjects originally taught by Corvallis College—mathematics, sciences, history, English, Latin, Greek, philosophy, logic, and political economy. Other subjects were mensuration, mechanics, surveying and navigation, and bookkeeping.

From 1872 to 1885 the instruction was organized into seven coordinate divisions, each constituting a major group of studies leading to a degree, and each called a "school," as follows: Physics, Mathematics, Moral Science, Language, History and Literature, Engineering, Agriculture. In 1885 a single four-year "course of study prescribed by the State" was established, including mathematics, science, English, languages, philosophy, agriculture, and military training.

The first instruction in agriculture, announced in 1869 as a two-year curriculum, was given principally in the Chemistry Department; the studies included soil analysis, fertility, drainage, stock raising, fruit culture, and farm buildings. The earliest actual instruction in engineering was about 1888-89, in connection with the Department of Mathematics.

The departments of Agriculture and Engineering were the first of their kind in any college in the Pacific Northwest. The same was true of the Department of Household Economy established in 1889. In the field of business training the State College was also among the pioneers, having taught economics and accounting from the time of its establishment. These and allied subjects were organized in 1900 into the Department of Business, offering a two-year curriculum.

By 1900, therefore, definite establishments had been made that were to develop by 1908 into full degree-granting schools of Agriculture, Commerce, Engineering, and Home Economics.

Other schools soon followed. Forestry, first developed in the Department of Botany, was organized as a school in 1913. Pharmacy, established as a department in 1898 on petition of the druggists of the state, was organized as a school in 1917. Education, first established as a Department of Industrial Pedagogy in 1909, became the School of Vocational Education in 1918, and in 1932, in the reorganization of State higher education, was organized as a coordinate division of the School of Education, which operates jointly at the University and the State College.

As the professional schools were developed, the basic departments in some cases became part of the school organization. The social sciences were in the School of Commerce, geology was in the School of Mines, psychology in the School of Vocational Education. Other similar departments were included in the nonmajor School of Basic Arts and Sciences. In the reorganization of 1932, when the School of Commerce was consolidated with the School of Business Administration at the University, the School of Science of the State System of Higher Education was established at the State College, offering undergraduate and graduate work in all the biological and physical sciences.

In the same year, the Lower Division was established on a parallel basis at the University and the State College, offering freshman and sophomore work in the liberal arts and sciences. The primary purpose of the Lower Division is to give the general education needed by men and women without respect to the careers that they may follow.

Graduate work, which since 1910 had been administered through the faculty committee on graduate study and advanced degrees, in 1933 was included in the interinstitutional Graduate Division.

The State College is on the accredited list of the Association of American Universities, the Northwest Association of Secondary and Higher Schools, the American Association of University Women, and other authoritative rating organizations.

Income

THE state law creating the Board of Higher Education specified that this body was to "have and exercise control of the use, distribution and disbursement of all funds, appropriations and taxes, now or hereafter in possession, levied, and collected, received or appropriated for the use, benefit, support and maintenance of institutions of higher education." By virtue of this act, and beginning July 1, 1931, the Board has administered all funds for all state-supported higher educational activities, including Oregon State College, on the basis of a unified budget.

Funds for the support of higher education in Oregon are derived primarily from the following sources: a millage appropriation equal to 2.04 mills on all taxable property; certain continuing appropriations from the State for definite purposes; specified sums from the National Government assigned for definite purposes by Congressional acts; income from student tuition and fees; and other sources such as sales, service charges, gifts, and miscellaneous.

During the year 1939-40, the income budgeted for all institutions under the control of the Board was approximately $4,422,519. Of this total $2,782,904 was provided from state sources, $38,501 from Federal sources, $109,177 from county sources, $899,829 from student fees, and $248,108 from gifts and other sources. The state support for general instructional functions was $2,602,154. The remaining state support accrued through special appropriations for agricultural extension, research, and other state-wide public service.

Location

CORVALLIS (population 7,585), situated in the heart of the Willamette Valley 85 miles south of Portland, is a healthful city with a remarkably equable climate, the average annual temperature averaging about 52 degrees Fahrenheit. Rainfall, mostly during the winter months, averages about 42 inches annually. Corvallis has pure mountain water, modern sanitation, good schools, numerous churches, and strong civic and social organizations. The Coast Range mountains and the distant splendor of the Cascades present a constant panorama of mountain scenery.

Campus

DEVELOPMENT of the State College campus during the past thirty years has been in accordance with a permanent plan prepared for the institution by consulting landscape architects of national recognition. The late John C. Olmsted visited the institution in 1908 and prepared the fundamental plan. In 1925 Mr. A. D. Taylor, following a visit to the campus, revised and enlarged the Olmsted plan, embodying recommendations for future development.

The campus proper, exclusive of farm and forest lands, includes 189 acres. It extends from near Ninth Street westward between Monroe and Jefferson Streets in a wedge shape to Sixteenth Street, thence in a rectangular shape to the Mall (Thirtieth Street). The area from Ninth to Fourteenth Streets, known as the East Campus, is a spacious, attractively planted, park-like recreation area. Directly west is the East Quadrangle. The Engineering Quadrangle, including Chemistry Hall, is immediately to the north. The West Quadrangle is the heart of the present campus. Between it and the Mall are the men's and women's quadrangles, devoted to halls of residence and recreation areas. To the north are the greenhouses with adjacent gardens. Across the Mall, facing east, are a number of agricultural buildings. Between this row of buildings and the farms are areas assigned to barns and stables.

Each quadrangle is planted with ornamental trees and shrubs that not only contribute to the beautification of the campus but also serve as living laboratory material for students pursuing landscape and horticultural studies.

Farm and Forest Lands

FOR instruction and research in agriculture and forestry, the State holds title to farm and forest lands, not only at Corvallis but also at various points throughout the state. In addition to the lands west of the Mall, the South Farm, including horticultural and poultry tracts, lies just south of the city limits of Corvallis. The main campus and adjoining lands total 566 acres, in addition to which 428.34 acres of farm land in Benton County, owned by the State College, is used largely for agricultural research and experimentation. The Peavy Arboretum, the McDonald For-

est, the Blodgett Tract, the Spaulding Woodlot, and the Prospect Tract total 8,122 acres. For branch-experiment station use, the State College owns 620 acres in Union County and 20 acres in Umatilla County. The aggregate total of land owned by the institution is 9,756.34 acres.

The State College has additional land under lease as follows: for instructional use by the School of Agriculture, 182 acres; for research and experimentation in agriculture by the Central Experiment Station, 79.82 acres; for the Eastern Oregon Branch Experiment Station, 1,920 acres of grazing land; for the Squaw Butte Regional Range Experiment Station, 1,280 acres of grazing land; for the Hood River Branch Experiment Station, 10 acres; for the Division of Physical Education for rowing club purposes, 1 acre. The total amount of land thus under lease is 3,472.82 acres.

Buildings

WITH the exception of four or five of the older buildings which date from 1889 to 1902, all of the principal buildings of the State College have been erected within the past thirty years and are of harmonious construction and design. The following brief descriptions, arranged alphabetically, will convey a general idea of the buildings and the purpose for which they are used. In each case the date of erection is indicated; in case a building was erected by units, the dates of erection for the respective units are indicated in order. The location of the various buildings is shown on the map of the campus on page 9. In addition to the buildings listed, various service buildings are found on the campus, and the several branch experiment stations have buildings adapted to the research and experimental work carried on.

The Administration Building (1889), the gift of the citizens of Benton County, is a three-story brick structure, 90 by 120 feet, containing the office of the Registrar, the Business Office, the office of the Comptroller and Director of Business Offices of the Oregon State System of Higher Education, the office of the Director of Music, the studios of the music faculty, the Workshop Theater, and recitation rooms. On the second floor is a memorial tablet erected in 1894 by the Alumni Association in honor of Benjamin Lee Arnold, A.M., President from 1871 to 1892.

Agricultural Engineering Building (1912, 1939). The Agricultural Engineering Building is built of brick and reinforced concrete, two stories high, and consists of a main unit 50 by 120 feet with a wing 40 by 50 feet. The building provides drafting rooms, classrooms, and laboratories for the work in agricultural engineering. Facilities are provided for teaching and experimental work dealing with farm power, farm machinery, farm water supply and irrigation equipment, farm shop, farm building, automobile mechanics, and rural electrification.

Agriculture Hall (1909, 1913), constructed of brick and sandstone, consists of the central section with wings. The central section, 66 by 140 feet, with four stories and basement, contains offices of the School of Agriculture, the Agricultural Experiment Station, and the Federal Cooperative Extension Service, including 4-H Clubs; soils research laboratories; offices, classrooms, and laboratories of the departments of Botany, Zoology, and

Entomology. The fourth floor is occupied by the Department of Bacteriology. The north wing, 72 by 130 feet, three stories high, is occupied by the departments of Soils, Farm Management, and Farm Crops, including the cooperative seed-testing laboratory. The third floor is occupied by the Department of Entomology. The south wing, 72 by 130 feet, with its basement and three floors, accommodates the central offices and various activities of the Department of Horticulture, the Visual Instruction Department of the Extension Service, and some of the laboratories, museums, lecture rooms, and offices of the departments of Botany and Zoology. United States Department of Agriculture cooperative research workers also occupy offices and laboratories in each of the three units of the building.

Apperson Hall (1898, 1920), named in honor of the late Honorable J. T. Apperson, regent of the State College from 1888 until his death in 1917, is 90 by 120 feet in size, three stories high, constructed of Oregon gray granite, sandstone, and terra cotta. The first floor contains offices and laboratories for the Department of Electrical Engineering. The second floor contains offices of the Dean of the School of Engineering and various offices, classrooms, and laboratories of the Department of Electrical Engineering. The third floor contains offices for the Department of Civil Engineering, four drawing rooms, and five class and lecture rooms.

The Armory (1910, 1911), of concrete and steel construction, 126 by 355 feet, contains offices, store rooms, and classrooms used by the Military Department. The drill hall, with a floor of earth 36,000 square feet in area, is used for the military instruction of the R.O.T.C., for practices of the football and track teams during inclement weather, and for various other events. At the northwest corner is a tablet in memory of the late General Ulysses Grant McAlexander, known as "The Rock of the Marne" during the World war, who was Commandant at Oregon State College from 1907 to 1911.

Chemistry Hall (1939). Chemistry Hall is located near the Engineering Laboratory and the Mines Building, extending 173 feet along Monroe Street and 182 feet along Twenty-Second to a point near Commerce Hall. The building is of concrete construction throughout, brick veneered, harmonizing in architectural style with the other principal buildings of the campus. Forced-draft ventilation, modern lighting, and other features conform to the best building standards. Each floor is provided with a stockroom, balance rooms, and offices. The basement floor is largely occupied by chemists of the Agricultural Experiment Station. The first floor provides research facilities and contains two large laboratories in each wing, accommodating 1,000 students in successive sections of freshman chemistry. The second floor is devoted to physical and analytical chemistry and the main laboratories for agricultural chemistry. The third floor contains six large laboratories for organic chemistry, one laboratory for biochemistry, and seven research laboratories. On the first and second floors, located at the junction of the two wings, are two large lecture rooms, each seating about 275 students.

Commerce Hall (1922), constructed of brick and terra cotta, is of "U" shape, 186 feet long and 67 feet wide, with wings 28 by 107 feet, and has entrances from both north and south. The building contains the offices of the President and the Executive Secretary, the Dean of Lower Division, the Dean of Men, the Dean of Women, and the Editor of Publications.

It provides offices, classrooms, and laboratories for the department of Secretarial Science. On the ground floor are located the Clerical Exchange, the College Press, and the Department of Agricultural Economics Extension.

Crew House. The Crew House, 42 by 105 feet, is located about twelve blocks from the campus on the Willamette River. The building contains storage space for 15 shells, locker room for 250 men, concrete shower room and lavatories, and a completely equipped repair and construction shop. Present equipment includes 7 shells, a 20-position training barge, a 21-foot coaching launch, and 2 four-oared barges. Nearly one acre of ground surrounds the Crew House, including the approach to the river floats. The Willamette River affords one of the best rowing courses in the United States. Rowing is carried on throughout practically the whole year.

The Dairy Building (1912) in both outside and inside finish is of architecture similar to that of Agriculture Hall. The structure is 54 by 141 feet, three stories high. On the first floor are the laboratories for buttermaking, cheesemaking, and market milk instruction. On the second floor are student and research laboratories and offices of the Division of Animal Industries and the departments of Animal Husbandry and Dairy Husbandry. The third floor is occupied by the Department of Mathematics.

Education Hall (1902). When first constructed this building was known as Agricultural Hall by reason of the fact that it housed primarily the instructional and research work in agriculture. Later it was utilized entirely by chemistry, and the name changed to Science Hall. With the removal of chemistry to the new Chemistry Hall in 1939, the building was remodeled and renamed Education Hall. Within it are located the School of Education and the departments of Mathematics, Geology, Psychology, Philosophy, and Religion. As remodeled it is a fireproof structure, with the original outside walls of gray granite and sandstone. It covers a ground space of 85 by 125 feet and is four stories high.

The Engineering Laboratory (1920) is a brick and concrete building 63 by 220 feet in dimensions and three stories high. The main laboratory is 40 by 220 feet and includes three principal divisions: (a) a materials laboratory occupying about one-third of the building at the east end; (b) a hydraulics laboratory occupying the middle third; and (c) a steam- and gas-engine laboratory occupying the west end of the building. All are served by a five-ton electric traveling crane. The south part of the building contains offices, recitation rooms, drafting rooms, and special laboratories.

The Forestry Building (1917), three stories high, 80 by 136 feet, constructed of brick, contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, technology, mapping, logging engineering, timber testing, and wood products. Space is devoted to a collection of manufactured wood products, showing the various uses to which wood may be put, and to a forest museum containing large specimens of all commercial woods of the United States.

The Foundry (1899), a brick structure approximately 40 by 180 feet, houses the foundry, the sheet-metal shop, a cabinet shop for construction and repair service, operated by the Superintendent of Buildings, and the finishing laboratory. The foundry proper, approximately 40 by 85 feet in size, is equipped with a 22-inch cupola, brass-melting furnaces, core ovens, cranes, molding machines, and ladles of ample capacity for commercial pro-

duction. The sheet-metal shop is 40 by 40 feet, with the machines and processing equipment on the main floor and the planning and drafting equipment on a balcony floor. The finishing laboratory is fully equipped with a spray booth and auxiliary apparatus for industrial finishing and for laboratory use.

The Greenhouses, constructed with steel frame and curved eaves, provide approximately 27,000 square feet under glass. This area is divided among the various branches of the work as the needs develop. One house, 33 by 100 feet, is especially designed and equipped for the class work of the different departments in the School of Agriculture. Ample space is used for instruction in vegetable crops and subtropical fruits. Interior glass partitions and a control of heat make it possible to grow any of the crops generally handled by florists and vegetable forcers. In addition, any plant material required by research men can be grown in the spaces assigned to them.

The Heating Plant (1923), 52 by 80 feet in dimensions and one story high, is constructed of brick and concrete, with concrete tunnel and conduits leading to the various buildings of the campus. The plant is equipped with outside coverage for fuel storage and a conveyor system of moving fuel to the three 500-horse-power boilers that are set with dual furnaces permitting the burning of either fuel oil or the Oregon mill refuse known as hogged fuel. The radial brick chimney is 175 feet high and 10 feet inside diameter, having an outside ladder and platforms permitting student work on temperature of flue gases. The present plant, which joins the south end of the Armory, is designed to permit enlargement.

The Home Economics Building (1914, 1920) measures about 215 feet in length and 120 feet in total width. It consists of three stories above a high basement, and is built of brick and terra cotta. Electric elevator, rest rooms, lounges for students and faculty, lockers, and dressing rooms afford comfort and convenience of the young women pursuing work in home economics. Lecture rooms, laboratories, and offices for all phases of home economics are provided in this building. A large auditorium is located on the third floor of the central unit. A number of classrooms and offices are temporarily used by the Department of English.

The Home-Management Houses are campus residences used as laboratories in family living and home-management practice for upper-division and advanced students in home economics. Kent House (purchased 1930) was the residence of the late Frederick Charles Kent, professor of mathematics at the State College from 1917 until his death in 1928. Withycombe House (purchased 1918) was the Corvallis residence of the late Honorable James Withycombe, from 1902 to 1914 director of the Agricultural Experiment Station, and from 1915 until his death in 1919 Governor of Oregon and ex-officio regent of the State College. The third home-management house, Dolan House, is a private dwelling rented by the year and is not on the campus.

The Horticultural Products Building (1919, 1923) houses the work in food industries. The building, constructed of brick, 46 by 72 feet, three stories high, with a one-story wing 46 by 60 feet, contains offices, lecture rooms, and instructional and research laboratories designed and equipped for work in food manufacturing and utilization of by-products from these industries. The building is arranged for experimental research, technical investiga-

tions and instruction in the fields of commercial canning, frozen products, fruit juices, vinegar, carbonated beverages, pickling, dehydration, and other food-manufacturing processes.

The Industrial Arts Building (1908), a well-lighted brick structure, includes a central portion, 52 feet square and two stories high, flanked by a one-story wing on the east, 40 by 220 feet, and a similar wing on the south, 40 by 200 feet. The central portion contains the office and classrooms of the Department of Industrial Arts, a general drafting room, a seminar room, and a recitation room. The south wing contains the main woodworking shop, 40 by 97 feet. The east wing contains the machine shop, 40 by 80 feet, the blacksmith shop, 40 by 100 feet, and a store room.

Kidder Hall (1892), originally known as Cauthorn Hall and used as a hall of residence, first for men and later for women students, has been renovated and remodeled for instructional purposes. The four floors are devoted to studios, classrooms, and offices, affording accommodations for the Federal Rural Rehabilitation Division and Soil Conservation Service, and for the departments of Art and Architecture, History, Journalism, and Modern Languages. The lobby of the building forms an attractive and commodious hall for the exhibition of loan collections, paintings, and other works of art. The building is named in honor of Ida Angeline Kidder, librarian of the State College from 1908 until her death in 1920.

The Library Building (1918), constructed of brick and gray terra cotta, consists of three stories and basement. An electric elevator and a book-lift connect all five decks of the fireproof stack room. The basement, planned for storage of documents, newspapers, unbound periodicals, and duplicates, and for binding preparation and mending, is at present used also to relieve the seriously overcrowded stack room. On this floor 13,225 volumes of regular circulation books are now shelved. On the first floor are the Reserved-Book room, the Periodical Reading room, and the Order and Catalog departments. The second floor houses the main reference room, with seating capacity of three hundred and fifty, a faculty reading room, a map room, and the office of the Director of Libraries. The third floor consists of small rooms designed ultimately for seminar purposes, at present used for offices and laboratories of the Department of Speech and Dramatics. A special room is devoted to the Mary J. L. McDonald collection of rare books.

Margaret Snell Hall (1921), dormitory for women, is 96 by 235 feet in size, built of brick and terra cotta, three stories high above a basement. On the first floor are located the reception rooms and the dining room and kitchens, together with a few student rooms. The laundry and freight room in the basement are connected by elevator with a trunk-storage room on each floor. Seventy rooms, most of them designed to accommodate two students, provide for a total of 141 students. The rooms are equipped with individual closets, running water, steam heat, and electric lights. Compartment bathrooms, with showers in addition, a hair-dressing room, and a clothes-pressing room, are provided on each floor. The building is named in honor of the late Dr. Margaret Comstock Snell, by whom the first work in home economics at the State College was established during the period from 1889 to 1907.

The Memorial Union (1928), center of student and campus life, was financed from funds subscribed by students, alumni, faculty members, and

other friends of the State College as a memorial to the men and women of the institution who gave their lives in service to their country during the Spanish-American and World wars. The cost to date has been $712,005. In addition to accommodating the numerous social events of students and faculty, and institutional affairs, the building affords offices for student publications, honor organizations, the Associated Students, the Associated Women Students, the Alumni Association, accommodations for student religious groups, the Students' Cooperative Bookstore including the campus post office, and the Memorial Union headquarters. Institutional activities accommodated in the building include the offices of the College News Service, the Department of Journalism, the offices of the Student Loan Committee, and the office of the Director of Student Educational Activities and of Intercollegiate Athletics. The College Herbarium has fireproof quarters in the Union. The state administrative and engineering offices of the Federal Agricultural Conservation Program are located in this building. Consolidation of these many activities in the Memorial Union has released space in other buildings much needed for instructional work.

The Men's Dormitory Building (1928), including five halls of residence for men, accommodates 340 students. Built of brick and stone with tile roof, three stories above a basement and with a central tower five stories in height, the building is arranged on the unit plan. Each unit constitutes a separate hall accommodating from 48 to 76 men, with a social room, electric elevator, trunk-storage room, laundry and pressing rooms. Each floor unit, accommodating approximately twenty-four men, has its own telephone booth, tiled lavatory and shower rooms, and sleeping hall. The study rooms, arranged for two men each, average ten by twelve feet in size. Modern heating and lighting are provided, and floors are covered with linoleum. The central hall, Weatherford, faces northeast, with Buxton and Poling extending as wings to the south and Cauthorn and Hawley to the west. At the base of Weatherford tower are a general reception room, guest room, general offices for the manager-hostess, and council room. Four of the halls honor the memory of former regents of the State College: James Knox Weatherford (B.S. 1872, LL.D. 1923, Oregon State), regent from 1885 to 1929; Austin T. Buxton (B.S. 1895, Oregon State), regent from 1905 to 1909; Curtis L. Hawley, regent from 1909 to 1923; and Thomas E. Cauthorn, regent from 1888 to 1893. Poling Hall is named in honor of Dr. D. V. Poling, Y. M. C. A. secretary at Oregon State during the war and post-war period from 1917 to 1920.

The Men's Gymnasium (1915, 1921) provides modern equipment for physical education and recreation. The main, central unit contains locker and shower rooms, lobby and offices, restricted exercise room, and the great gymnasium hall with a floor ninety by one hundred and fifty feet in dimensions, with three basketball courts across the main floor. A balcony encircling the main hall seats nearly a thousand persons. The south unit contains the natatorium, one of the finest on the Coast, with a white-tile pool fifty by one hundred feet in size, and a surrounding gallery seating 1,500 spectators. High and low modern diving boards are part of the equipment. Pressure filters and automatic chlorinators are used in keeping the water sterile. Daily tests for bacteria, residual chlorine, and pH (alkalinity-acidity) values are conducted to determine that the pool water is in a satisfactory condition. The natatorium meets all requirements of the State Board of Health for a Grade A pool. The east wing has an auxiliary gym-

nasium for volleyball and apparatus work. The physical-education offices and lecture rooms are also located in this wing of the building. The west wing contains four handball courts, one wrestling and one boxing room.

The Mines Building (1913), 65 by 81 feet in dimensions, is a four-story building, constructed of brick, trimmed with stone, and similar in type to all the newer buildings on the campus. The basement laboratories are devoted to Physics research and to ore dressing under the Department of Mining Engineering. The latter department also has an Assay Laboratory on the first floor. The major portion of the first floor serves the Department of Mechanical Engineering, with the office of the head of that department, a lecture room, and a laboratory for fuels and lubricants. The second floor contains offices and recitation rooms for the joint use of Engineering and Physics, and the fourth floor houses Aeronautical Engineering offices, class rooms, and a drafting room.

The Museum Building (1899) is 70 by 120 feet in size, constructed of stone and wood. Located on a slope at the southeast corner of the East Quadrangle, the building has direct entrances at two levels. The east entrance admits to the Horner Museum of the Oregon Country. The west entrance admits to Museum Hall, with its adjoining offices and balcony, used for concerts and assemblies, as headquarters for the R. O. T. C. Band and the Oregon State Symphony Orchestra, and for instruction of various kinds.

The Nursery School (1939), located near the Home Economics Building, has large pleasant rooms for play, rest, and other activities of the children in attendance. Special provision has been made for observations by students. Adjoining is a covered play area and an enclosed playground for outdoor activities of the school. The house and yard are equipped with furnishings and play apparatus adapted to the needs of preschool children.

The Pharmacy Building (1924) is a three-story brick structure, 62 by 123 feet. In addition to the regular classrooms and laboratories, special features of the building include a model drug store for instructional work, a drug museum, a sign-card and window trimming department, dark room, fireproof vault, stock rooms, and an amphitheater seating two hundred persons and provided with modern equipment for motion pictures. The Oregon State Board of Pharmacy maintains in this building the State Drug Laboratory with a competent staff for enforcing the pure drug law of Oregon. The lighting, heating, and ventilating systems are all modern.

The Physics Building (1928) is a three-story red brick structure that architecturally forms the east wing of the Mines Building, though the two buildings have no inside connection. The building is somewhat irregular in shape, conforming in part to the Engineering buildings parallel with Monroe Street and in part with the East Quadrangle, upon which the Mines Building faces. The structure has a maximum length of 169 feet north and south and 85 feet east and west, with a total floor area of approximately 32,700 square feet. The ground floor contains two laboratories for courses in general physics, two for advanced courses, and several for research; a main switchboard room, a storage battery and chemical room, a substation, a fan room, and an instrument shop. The second floor contains the photographic laboratories; a suite of rooms for the Department of Surveys, Maps, Roads and Walks, and Fire Protection; the office of the Dean of the

School of Science; the general office of the Department of Physics and the Graduate Division; and a number of classrooms. The third floor provides three lecture rooms, laboratories for instruction in radio, and a suite of rooms for the State-owned broadcasting station KOAC, including the general offices, an operating room, a motor-generator room, a large studio, a small studio, an announcer's room, and a waiting room. The roof of the building is utilized as a special laboratory for the teaching of astronomy.

The Poultry Building (1927) is a modern three-story brick and stone building 53 by 128 feet. Equipped with the necessary laboratories for judging, incubating, fattening, dressing, egg grading and candling, it has excellent facilities for instruction in these poultry subjects. The building has modern cold-storage equipment. In addition to classrooms the building provides laboratories and offices for the departments of Veterinary Medicine and Poultry Husbandry.

President's House. The President's House is a frame residence located midway between Shepard Hall and Withycombe House. The house was purchased by the State College in 1920 and remodeled for use as the official residence of the President.

Shepard Hall (1908-09), so named as a tribute to the memory of Clayborne Shepard, who as a student devoted himself to the cause of the highest Christian living and leadership. The building is owned by the YMCA and YWCA Boards of Trustees and is leased to Oregon State College. It houses the Department of Speech, the office of Student Housing and Employment, and also accommodates an auxiliary library storage room.

The Stables and **Barns** are located in the western part of the campus. All recent barns have been built west of the Mall. The barns and farm service buildings are arranged in seven or eight groups according to their use—horse, beef-cattle, dairy, hog, and sheep barns, veterinary barn, and poultry buildings. Two new barns, located on the farm proper, close to the land that the livestock use, are the new hog barn south and west of the present barn group, and the new dairy barn about a mile west of the campus, close to the irrigated pastures.

The Stadium. The covered stands and bleachers around Bell Field, adjacent to the Men's Gymnasium, seating approximately 20,000 people, have been built from student fees and from the receipts of athletic contests held in the Stadium and elsewhere.

The Stock Judging Pavilion (1912) provides quarters for part of the demonstration work with livestock.

The Student Health Service (1936) is a three-story fireproof brick building, 46 by 127 feet, located directly northwest of Commerce Hall. On the ground floor are the dining room, kitchen, heating plant, and refrigeration plant. On the second floor is the dispensary, including the registration office, waiting room, secretary's office, clinical laboratory, pharmacy, minor surgery, X-ray laboratory, and physicians' consultation and examining rooms. On the third floor there are 30 beds in two-bed and four-bed wards for students requiring confinement for general medical care or isolation for contagious and communicable diseases. At the entrance is a bronze

tablet in memory of the late Dr. Wendell James Phillips, organizer and first director of the Oregon State College Health Service, 1916-1918.

The Veterinary Clinic Building (1918), a frame structure 56 by 65½ feet, formerly used by the Department of Veterinary Medicine, is at present used by the departments of Animal Husbandry and Veterinary Medicine. This building contains four fairly large rooms besides a washroom and a small room. At the present time, the Department of Veterinary Medicine uses one room for dissecting purposes during the second half of the first term and the entire second term. The other rooms are used by the Department of Animal Husbandry.

Waldo Hall (1907), dormitory for women, is constructed with a concrete foundation and basement wall, and a cream-colored, pressed-brick superstructure, three stories high. The building is 96 by 240 feet, contains one hundred and nineteen student rooms, and has accommodations for 252 students. On the entrance floor are the dining rooms and kitchens and a student laundry. On the first floor are reception rooms and a number of student rooms. The upper floors are given up entirely to student rooms. Each room has closets, running water, steam heat, and electric lights. Each floor has a trunk room, baths and showers. The hall is named in honor of the late Dr. Clara Humason Waldo, regent of the State College from 1905 to 1919.

The Women's Building (1926), 150 by 254 feet in dimensions, serves as a campus center for women's interests. The large gymnasium, games room, dance room, two corrective rooms, and the pool provide space for a varied program of physical activities that may be carried on simultaneously. The pool, 35 by 75 feet, meets the requirements of the State Board of Health for a Grade A pool. The facilities of the dressing room and showers are ample to care for large incoming and outgoing classes. Three social rooms and kitchenette, furnished by the Women's Athletic Association and the Physical Education Club, help to meet the social needs of different student groups. The beauty of the building is outstanding and is a source of pride and enjoyment to all who work within its walls.

Library

THE Library, described in detail under BUILDINGS, occupies a central location in the East Quadrangle. The various reading rooms provide seating accommodations for 570 readers.

The main working collection of the Library includes the scientific and technical books provided for the instructional and research activities of the different schools and of the experiment stations. The State College is a designated depository for the publications of the United States government and the Carnegie Institution of Washington, and for official publications of the State of Oregon. The Library contains a practically complete file of the publications of the United States Department of Agriculture and of the agricultural experiment stations of the various states, as well as agricultural literature from foreign governmental and educational institutions. A considerable collection of duplicates is available for lending to

students and faculty. The Library owns a collection of more than 2,000 documents received as a gift of the late U. S. Senator Dolph.

The book collection numbered 168,866 volumes on February 1, 1940. Exclusive of the United States government documents, 1,489 periodicals are currently received, the titles of which include the best scientific and technical magazines, selected on recommendation of the specialists on the campus. Back files of these journals and science proceedings form the background for research and advanced study. Newspapers received by subscription, gift, or exchange total 113. In addition, through unified library administration, all the books (totaling 553,210 on February 1, 1940) in the libraries of the several state institutions of higher education are made available to the students and faculties of all the institutions.

The Library's notable collection of books on the history of horticulture includes rare books of the sixteenth, seventeenth, eighteenth, and nineteenth centuries. The home economics collection is unusually complete, especially in the fields of textiles, costume design, and nutrition. A good foundation has been laid for research work in pathology, entomology, horticultural products, chemistry, pharmacy, and the various fields of science; approximately one-third of the books of the Library are devoted to science and closely related fields. The program for future development calls for emphasis of all fields of science in which graduate work is offered at the State College. The engineering and industrial-arts collection includes 14,222 carefully selected volumes.

Over a period of years the Library has built up a map collection of 4,377 items, which is particularly well adapted to the needs of work in geology, soils, and engineering. During the past year this collection was made more accessible by housing in more ample quarters near the reference room. A collection of 32,833 pictures has been especially selected to meet the needs of classes in art, household arts, and advertising. There is an excellent file of herd-books. A well-balanced collection of dictionaries, encyclopedias, yearbooks, and other standard reference books is found on open shelves in the main reading room. Departmental libraries are at present limited to the few books needed for laboratory purposes.

In addition to professional and technical literature, effort is made to buy some of the best current and standard books for general and recreational reading. Small circulating collections are sent on request to residence halls and organized houses.

The Mary J. L. McDonald collection of fine books numbers 3,036 volumes in fine bindings and special editions. Some of the items, such as a Caxton leaf, a Hebrew scroll, and Antiphonal, and many others, are rare and of unusual interest. The present collection is largely the gift or bequest of the late Mrs. McDonald, but notable gifts from other sources may be added from time to time. Outstanding among recent additions are 14 items of fine printing presented by Dr. John Henry Nash.

Service. The Library is open daily except Sundays from 7:45 a.m. to 10:00 p.m. It is closed during official convocations and lyceum programs, and on legal holidays. The reference room, periodical reading room, and McDonald room are open Sundays from 2 to 5, for reading purposes only.

The circulation desk is in the main reading room. Books may be taken for home use by any one connected with the State College. Students may keep books for two weeks, with privilege of renewal. Officers may borrow

for more extended periods if their work requires it. Graduate students and seniors are admitted to the stacks by permission of the Librarian, on recommendation of their dean or major professor. Tables for these readers are placed on all stack floors. Similarly, a limited number of tables are available for faculty study, in a room adjoining the third floor of the stacks.

A system of interlibrary loans is maintained with other libraries on the Coast, especially within the state. The Library is also able to borrow for advanced students from the United States Department of Agriculture Library and other governmental bureaus, and from certain specialized libraries in the East.

The reference desk is in the main reading room, where technical and general reference questions are handled. The staff is ready to assist students in using books and catalogs, and in identifying references. Any adult is welcome to use the Library for reference purposes. An information desk is maintained at the card catalog forty-four hours a week.

The periodical reading room, opened in the fall of 1937 on the first floor, contains current magazines and newspapers, and unbound numbers of recent general periodicals.

The reserved-book reading room contains the books that have been set aside at the request of the faculty for assigned reading. Although intended for reading in the building, these books may be borrowed for overnight use.

The Mary J. L. McDonald room on the third floor, beautifully furnished in Jacobean style, contains the Mary J. L. McDonald collection of rare books. This room, devoted to leisure-hour reading, is in charge of a member of the library staff, and is open several afternoons and one evening each week.

A debate seminar room is maintained as a workshop for the intercollegiate and interclass debate teams. It is expected that other seminar rooms will be established as soon as space now used for other than library purposes can be released.

Catalogs and Indexes. A general catalog of all library books on the campus, arranged alphabetically by author, title, and subject, is accessible to the public. The library is classified according to the Library of Congress system, except for part of the collection not yet changed from the Dewey Decimal system. There is also a card catalog of the publications of the United States Department of Agriculture arranged in the same manner; and card indexes of essays, plays, and short stories are regularly increased as new volumes are added to the library.. Special indexes are maintained of material of local interest, including various campus publications, the *Oregon Voter*, *Oregon Historical Quarterly*, *Oregon Education Journal*, and faculty publications. At the reference desk is a card list of periodicals and journal holdings, and a subject list of current periodicals received. The current subject list is duplicated in the periodical reading room, with a visible index of all titles in alphabetical order. In the Reference Room are found many standard indexes, including such notable examples as: the *Reader's Guide*, *Chemical Abstracts*, *Engineering Index*, *Biological Abstracts*, *Industrial Arts Index*, and *Education Index*.

Library Fines and Charges. The following regulations govern Library fines and charges:

(1) A fine of 5 cents per day is charged for all overdue books borrowed from the Circulation Department.

(2) All books especially needed for use at the library are subject to recall at any time and should be returned promptly when sent for. Patrons failing to return books promptly when notified to do so are subject to a fine of not more than one dollar for each day of delay.

(3) The following fines are charged for violation of the rules of the Reserve Department: (a) for overdue books, a regular fine of 25 cents for the first hour and 5 cents for each succeeding hour, or fraction thereof, until the book is returned or reported lost (a maximum charge of $1.00 per hour may be made in cases of flagrant violation of the rules); (b) for failure to recheck books at stated times, a fine of 25 cents; (c) for failure to return books to proper department desk, a fine of 25 cents.

(4) A service charge of 10 cents is added to all accounts reported to the Business Office for collection.

(5) If a book, which has been reported lost and has been paid for, is returned within one year, refund will be made after deduction of the accumulated fines, plus 5 per cent of the list price of the book for each month it was missing from the Library.

Unified Facilities. The library facilities of the state institutions of higher education in Oregon are organized into a single unit under the supervision of a director, with a local librarian on each campus. The director is also librarian of the State College at Corvallis, where the central offices of the library system are located.

The collections at the several institutions are developed to meet special needs on each campus; but the book stock of the libraries, as property of the state, circulates freely to permit the fullest use of all books.

A combined author list of all books and periodicals in the State System is maintained in the central office to facilitate a better distribution of the book stock and to eliminate unnecessary duplication of published material. It has also proved most valuable as a checking source for bibliographical resources of the system. An author list of books in the State College Library is maintained at the University Library.

Museums and Collections

MUSEUMS and collections maintained by the State College include scientific, industrial, historical, and art material classified and arranged for effective use.

Horner Museum of the Oregon Country

MARY BOWMAN HULL.....Curator

The Horner Museum of the Oregon Country, located in the Museum Building, displays notable collections of historic, scientific, industrial, and artistic interest. It is the repository of relics, curios, and acquisitions of permanent value. The Museum was formally opened February 20, 1925. In 1933 it was moved to its present quarters, and in 1934 was named for the late Dr. J. B. Horner, for many years Professor of History and Director of Oregon Historical Research. Dr. Horner was active in the early development of the Museum, and served as its first director.

Collections. Among the larger collections are mounted animals and birds; historical and other relics; zoological specimens, geological specimens; articles from prehistoric burial grounds; baskets and other Indian relics; bones of prehistoric animals, including one of the three largest mastodon tusks ever found; historic guns and weapons and World War trophies; war implements of savage tribes of South America, Africa, and the Philippine Islands; marine shells; paintings and sculptures; antiques; a square piano that came around Cape Horn in a sailing vessel and up the Valley by ox team; old-style organs; the famous

Hank Monk stagecoach; and a great many other types of exhibits, all representing about ten thousand articles from more than four hundred donors.

Valuable material is being added from time to time in the way of loans, gifts, or exchange collections that are of particular interest to the College and to the public. Information concerning desirable collections that might be available either as gifts or loans is solicited.

Administration. The Museum is administered by the Curator and a Museum Committee composed of Professors J. Leo Fairbanks, E. V. Vaughn, Ira S. Allison, W. E. Lawrence, Robert H. Dann, R. E. Dimick, and Kenneth L. Gordon.

The Herbarium

HELEN MARGARET GILKEY, Ph.D. ..... Curator
GARLAND MARIE POWELL, M.S. ..... Herbarium Assistant

The flora of Oregon and other parts of the United States and of the world is represented in the Herbarium, which contains approximately 70,000 mounted ferns and flowering plants, and packeted fungi; a seed collection of 1,556 numbers; and 242 photographs of types of Northwestern species. The largest collection of hypogaeous fungi in the United States, both of Basidiomycetes and Ascomycetes, is housed on this campus.

Other Collections

On the State College campus several special museums are maintained, including extensive collections of fauna, economic plants, soils, insects, textiles and embroideries, woods, crude drugs, and geologic specimens. Some of these collections are described in connection with the various departments and schools.

The Entomological Collection contains approximately 55,000 named and an equal number of unnamed specimens of insects, about 90 per cent of which are from Oregon, the remainder being from various regions of this country and about 2,500 from foreign lands. Orders represented are: Coleoptera 15,000; Hymenoptera, 14,000; Diptera 8,000; Lepidoptera 2,500; other orders constituting the remainder. The collection contains nearly 200 types, paratypes and cotypes. Attention is now being paid to obtaining as large a representation as possible of Oregon aquatic insects. A catalog of Oregon insects is in process of preparation. The collection has recently been placed in standard trays and cardboard units. Special cases have been constructed for insects preserved in liquid. The value of this collection is greatly enhanced by the research publications available in the entomological library.

Geological Collections. The geological collections include minerals, ores, rocks, invertebrate fossils, some vertebrate fossils, and a large collection of fossil plants. The mineral collections include more than 700 species arranged according to the Dana classification and at least one specimen, and in some cases several, of nearly all of the minerals listed by Dana. The ore-deposit collection includes one or more samples for each mineral arranged according to the Lindgren classification of ores. In addition, there are 300 hand specimens of rocks representing a wide variety of types taken from the classical localities of the world. This collection is supplemented by 150 samples arranged

according to Harker's book on igneous rocks. There are also on file thin sections of each of these rocks.

Zoological Collections. Minor collections of marine invertebrates, fishes, reptiles and amphibians, and small mammals, and an ornithological collection quite representative of the local bird life comprise the zoological collections.

Official Publications

OFFICIAL publications include those issued directly by the State Board of Higher Education and various institutional publications issued by the State College. The legislative act placing all the state institutions of higher education under the control of one Board provided that all public announcements pertaining to the several institutions "shall emanate from and bear the name of the Department of Higher Education and shall be conducted in such a way as to present to the citizens of the state and prospective students a fair and impartial view of the higher educational facilities provided by the state and the prospects for useful employment in the various fields for which those facilities afford preparation." All publications of the State System are issued under the editorial supervision of the Department of Information, through the central offices of the division or through institutional offices.

System Publications

Announcements emanating directly from the Board are published in a BULLETIN and in a LEAFLET SERIES.

The Bulletin of the Oregon State System of Higher Education, issued monthly, includes announcements of curricula, annual catalogs, information for students, and official reports.

The Leaflet Series of the State System of Higher Education, issued semimonthly, includes special announcements to prospective students and to the general public.

State College Publications

All State College publications that present the results of research and creative scholarship at the State College, except those issued through the Agricultural Experiment Station and the Engineering Experiment Station, are under the general administration of the State College Publications Committee. The committee also has control over any subject-matter periodicals that may be issued by the institution. Members of the committee are E. C. Gilbert, Chairman; Edwin T. Reed, Secretary; R. S. Besse, S. H. Graf, E. L. Packard.

The Oregon State Monographs report the results of research and creative scholarship by members of the State College staff. Manuscripts are selected by the Publications Committee. The monographs are sold at cost.

Agricultural Experiment Station Publications. The Station BULLETINS include reports and monographs on research and experimental investiga-

tions in agronomy, horticulture, drainage, irrigation, dairying, animal husbandry, poultry husbandry, insect pests, plant diseases, home economics, agricultural economics, farm management, marketing, and special subjects of interest to the husbandman, conducted at the central station or at the several branch stations. The Station also issues a series of CIRCULARS, briefer and less technical than the bulletin series, a mimeograph series of CIRCULARS OF INFORMATION, and occasional pamphlets and reports. Single copies of experiment station publications are supplied free to residents of Oregon who request them.

Engineering Experiment Station Publications. These include a series of BULLETINS, CIRCULARS, and REPRINTS, reporting progress in engineering research. The engineering publications are distributed at cost to persons who request them.

Extension Publications. The Federal Cooperative Extension Service publishes a series of BULLETINS written in such style as to be easily understood, thus meeting the demand for scientific knowledge in popular form, especially with reference to its application to everyday life. The subjects covered by these publications include the various phases of agriculture, home economics, engineering and applied science. A series of OUTLOOK CIRCULARS deals from time to time with the agricultural outlook of the state in respect to the major lines of agricultural production. The Extension Service also issues twenty-one different series of 4-H Club CIRCULARS. In addition to its regular series, the Extension Service publishes occasional miscellaneous circulars, posters, and reports. Single copies of extension bulletins are supplied free to residents of Oregon who request them.

Academic Regulations

Admission

IN order to be admitted to the State College a student must be of good moral character and must present evidence of acceptable preparation for work at the college level. The development of character is regarded as a primary aim in education and is emphasized at all the state institutions of higher education.

Every person applying for admission to the regular sessions of the State College must submit complete records of all his high-school and his college work, if any. (These records become the property of the State College.) For failure to submit complete records the State College may cancel the student's registration. All records should be filed with the Registrar of the State College at least two weeks before the applicant expects to enter the State College. If records are filed later, the student's registration may be unavoidably delayed. The Registrar will evaluate the records submitted, and will notify the applicant of his entrance standing.

Admission to First-Year Standing

The requirements for admission to first-year or freshman standing conform to the following uniform entrance requirements adopted by all the institutions of higher education in Oregon:

> Graduation from a standard high school, which in Oregon involves the completion of 16 units, 8 of which shall be required as follows: 3 units in English; 2 units in social science, comprising the state-adopted courses in United States history-civics and socio-economic problems; 1 unit in health and physical education; and 2 units selected from the fields of natural science and mathematics or the field of foreign language. Two units in either natural science or mathematics or 1 unit in each of these subjects will be acceptable; but a minimum of 2 units in a single language will be required if a foreign language is selected. In order to be admitted to any of the four-year curricula in engineering, except industrial arts, a student must present one unit in elementary algebra, one-half unit in higher algebra, and one unit in plane geometry. A student deficient in mathematics may be admitted to a pre-engineering course for the first year, necessitating a five-year program to qualify for graduation.
>
> Graduates from standard out-of-state high schools shall be required to present substantially the same distribution of units. Applicants who are not residents of Oregon may be held for additional requirements demonstrating superior ability.

Evidence of acceptable scholastic preparation may consist of either (1) certificate of preparatory-school record, or (2) statement of standing on College Entrance Board examinations.

Application for admission by certificate is made on the official form, *Application for Admission to Oregon Higher Institutions,* furnished to schools by the State Department of Education. The applicant's scholastic record must be certified by the principal or superintendent of his school.

Students seeking admission by examination should obtain information from the secretary of the College Entrance Examination Board, 431 West 117th Street, New York City.

Admission with Advanced Standing

Advanced standing is granted to students transferring from accredited institutions of collegiate rank. The amount of credit granted depends upon the nature and quality of the applicant's previous work, evaluated according to the academic requirements of the State College.

A student wishing credit for work done elsewhere than at an accredited educational institution must petition the Committee on Academic Requirements for permission to take examinations in specified courses listed in the catalog of the State College. In general, credit by examination is allowed only for work taken in regularly organized courses in nonaccredited institutions of collegiate rank.

Final determination of the amount of credit to be granted may be deferred until after the student has been in attendance for at least three terms.

Admission as Special Student

An applicant for admission as a special student must be not less than 21 years of age, and must file with the Registrar documentary evidence sufficient to prove his special fitness to pursue the subjects desired.

Two classes of special students are recognized: (1) those not qualified for admission as regular students but qualified by maturity and experience to work along special lines; and (2) those qualified for admission as regular students who are not working toward a degree.

A special student may petition for regular standing when he has made up entrance deficiencies or has completed at least 45 term hours in the State College.

Credits earned by a special student will not subsequently be counted toward a degree until the student has completed at least two years of work (93 term hours) as a regular student. In case a regular student changes to special status, work done while classified as a special student will not count toward a degree.

Admission with Graduate Standing

Graduates of accredited colleges and universities are admitted to graduate classification by the Dean of the Graduate Division and the State College Registrar on presentation of an official transcript of their undergraduate work. But admission to candidacy for an advanced degree is determined only after a qualifying examination, given when a student has completed not more than one-third of the work for the degree.

Graduates of nonaccredited universities and colleges are expected to obtain the bachelor's degree from an accredited institution before proceeding to graduate work.

Placement Examinations

TO provide a basis for reliable advice and assistance to students in planning their college programs, the State College requires entering undergraduates to take several examinations.

Psychological Examination. All entering undergraduate students are required to take a psychological examination. This test is considered to some extent a measure of college aptitude, and the results are weighed in arranging the student's program of study. Students who have taken the American Council on Education psychological examination at another institution may be exempt from taking the State College examination on submitting a certified copy of the scores earned.

Examination in English. All students entering as freshmen are required to take a preliminary examination for the purpose of demonstrating their preparation in English. The examination covers the fundamental principles of grammar and tests the student's ability to apply these principles in writing. Students failing to obtain a satisfactory grade in this examination are required to take and pass Corrective English (English K) before registering for work in English Composition.

Physical Examination. All entering undergraduate students are given a complete physical examination. This examination is a safeguard both to the institution and to the student. For the student, it may result in the discovery and correction of defects which, if allowed to continue, might seriously impair his health; for the institution it may result in the prevention of epidemics which might develop from undiagnosed cases of contagious disease. The examination also provides a scientific basis for the adjustment of the student's physical-education program to his individual needs.

Examination in Mathematics. All entering students intending to take mathematics during their freshman year (including students registering in any curriculum in engineering or forestry) are required to take a placement examination in first year high-school algebra, on the basis of which their college work in mathematics is determined.

Degrees and Certificates

THE State College offers curricula leading to certificates on the completion of two years' work, and to baccalaureate and graduate degrees. If changes are made in the requirements for degrees and certificates, special arrangements may be made for students who have taken work under the old requirements. In general, however, a student will be expected to meet the requirements in force at the time he plans to receive a degree or certificate.

Science, *B.A., B.S., M.A., M.S., Ph.D. degrees.*
Agriculture, *B.S., M.S., Ph.D. degrees.*
Education, *B.A., B.S., B.S. in Ed., M.A., M.S., Ed.M., Ed.D. degrees.*
Engineering and Industrial Arts, *B.S., M.S., Ch.E., C.E., E.E., M.E. degrees.*
Forestry, *B.S., M.S., M.F., F.E. degrees.*
Home Economics, *B.A., B.S., M.A., M.S. degrees.*
Pharmacy, *B.S., M.S. degrees.*
Secretarial Science, *B.S.S. degree.*

Work leading to the degree of *Master of Arts (General Studies)* is offered under the direction of the Graduate Division.

Lower-division work leading to certificates *(Junior Certificate, Junior Certificate with Honors Privileges, Lower-Division Certificate)* is offered in liberal arts and sciences, in the professional and technical fields listed above, and in architecture and allied arts, business administration, journalism, music, and physical education. Approved preparation is also offered for the degree curricula in medicine and nursing education at the University of Oregon Medical School in Portland.

The **Junior Certificate** admits to upper-division standing and the opportunity to pursue a major curriculum leading to a degree.* A student is expected to fulfill the requirements for the Junior Certificate during his first two years at the State College. The requirements are as follows:

(1) Term Hours: Minimum, 93.†
(2) Grade-Point Average: Minimum, 2.00.
(3) Written English:
  (a) A general examination in English is required upon entrance. If this examination is not passed, the course designated English K must be taken and passed.
  (b) English Composition: 9 term hours unless excused. Any student whose work meets the standards aimed at may, at the end of any term, with the consent of the head of the Department of English, be excused from further required written English.
(4) Physical Education: 5 terms in activity courses unless excused.
(5) Military Science: 6 terms for men unless excused.
(6) General Hygiene.
(7) Group requirements: A prescribed amount of work selected from three "groups" representing comprehensive fields of knowledge. The three groups are: language and literature, science, social science. The group requirements are as follows:
  (a) For students in liberal arts and sciences—The completion of at least 9 approved term hours in each of the three groups and at least 9 additional approved term hours in courses numbered 200-210 in any one of the same three groups. Courses that satisfy group requirements for students in liberal arts and sciences are numbered from 100 to 110 and from 200 to 210.
  (b) For students in the professional and technical schools—The completion of at least 9 term hours in English literature or upper-division foreign language or social science and at least 9 term hours in science. If a school cannot meet this requirement by the end of the sophomore year, fulfillment may be deferred by agreement between the dean of the school concerned and the Academic Requirements Committee, such agreement to be filed in the Registrar's Office.

The **Junior Certificate with Honors Privileges** admits to upper-division standing and permits the student to work for a bachelor's degree with honors in those colleges and schools providing an honors program. For this certificate the student must have a grade-point average of at least 2.75, in addition to fulfilling all the requirements for the Junior Certificate.

*A student who transfers to the State College after completing the equivalent of the requirements for the Junior Certificate at another institution may be admitted to upper-division standing without the formal granting of the Junior Certificate.

† In schools having a graduation requirement of 204 term hours, students should present 96 hours for the Junior Certificate.

The Lower-Division Certificate recognizes the successful completion of two years of lower-division work. This certificate is granted upon request to students whose desire has been only to round out their general education. It does not require the scholastic average specified for the Junior Certificate, and does not admit to upper-division standing.

The Certificate in Agriculture recognizes the completion of the Two-Year Curriculum offered by the School of Agriculture. For this certificate students must meet requirements (3), (4), (5), and (6) specified for THE JUNIOR CERTIFICATE, must complete 9 term hours of science and 9 term hours of either language and literature or of social science, must complete a minimum of 85 term hours including 43 term hours in agriculture, and must have the dean's recommendation certifying fulfillment of all requirements of the School of Agriculture.

The Bachelor's Degree. When a student has fulfilled all the requirements for a Junior Certificate, he is classified as an upper-division student and may become a candidate for a bachelor's degree in the college or school of his choice. The requirements for a bachelor's degree (including both lower- and upper-division work) are as follows:

(1) Term Hours: Minimum, 192, including—
  (a) Hours in upper-division courses: Minimum 45.
  (b) Hours in the major: Minimum, 36, including at least 24 in upper-division courses.
  (c) Hours after receipt of Junior Certificate: Minimum, 45.

(2) Required distribution of hours for different bachelor's degrees:
  (a) Bachelor of Arts: 36 hours in arts and letters, including two years (normally 24 term hours) of college work in a foreign language.
  (b) Bachelor of Science: 36 hours in science or social science.
  (c) Professional bachelor's degree (B.S. in Ed., B.S.S., etc.): Fulfillment of all major requirements.

(3) Grade-Point Average:
  (a) Minimum 2.00 on all college work.
  (b) Minimum 2.00 on last 45 hours for which registered.

(4) Residence: Minimum, 45 term hours (normally the last 45).

(5) Dean's Recommendation, certifying fulfillment of all requirements of major department or school.

(6) Restrictions:
  (a) Correspondence Study: Maximum, 60 term hours toward any bachelor's degree.
  (b) Law or Medicine: Maximum, 48 term hours toward any degree.
  (c) Applied Music: Maximum, 12 term hours toward any degree.

Senior Honors. Senior honors are conferred each year by the Administrative Council upon those members of the graduating class, candidates for a bachelor's degree, who throughout their entire college course have maintained the highest scholastic standing in their respective schools. A student to be eligible to such honor must have a grade-point average of 3.25 or higher and must have been in attendance at the State College for two regular academic years. Election is limited to ten per cent of the graduating members of a school. Students attaining this honor are listed in the commencement program as Senior Honor Students.

Advanced Degrees. The requirements for advanced degrees are listed on another page under GRADUATE DIVISION.

Academic Procedure

THE regular academic year throughout the State System of Higher Education is divided into three terms of approximately twelve weeks each. The summer sessions supplement the work of the regular year (see special announcements). Students may enter at the beginning of any term but are advised to enter in the fall. It is important that freshmen and transferring students entering in the fall term be present for Freshman Week (see page 84). A detailed calendar for the current year will be found on pages 10-11.

Students are held responsible for familiarity with State College requirements governing such matters as the routine of registration, academic standards, student activities, organizations, etc. Complete academic regulations are published annually in a pamphlet, a copy of which is furnished to each student by the Registrar's Office.

Definitions

A COURSE is a subject, or an instructional subdivision of a subject, offered through a single term.

A YEAR SEQUENCE consists of three closely articulated courses extending through the three terms of the academic year.

A CURRICULUM is an organized program of study arranged to provide integrated cultural or professional preparation.

A TERM HOUR represents three hours of the student's time each week for one term. This time may be assigned to work in classroom or laboratory or to outside preparation. The number of lecture, recitation, laboratory, or other periods per week for any course may be found in the course descriptions in this catalog, or in the separately printed Schedule of Classes.

Course Numbering System

Courses throughout the State System of Higher Education are numbered as follows:

1-99. Courses in the first two years of foreign language, or other courses of similar grade.

100-110, 200-210. Survey or foundation courses that satisfy the lower-division group requirements in the language and literature, science, and social science groups. These numbers may also be used to designate courses in the professional schools of a similar survey or foundation type.

111-199. Other courses offered at first-year level.

211-299. Other courses offered at second-year level.

300-399. Upper-division courses not applicable for graduate credit.

400-499. Upper-division courses primarily for seniors. If approved by the Graduate Council, these courses may be taken for graduate credit. In this catalog, 400-499 courses approved for graduate *major* credit are designated (*G*) following the title. Courses approved for graduate *minor* credit only are designated (*g*).

500-599. Courses primarily for graduate students but to which seniors of superior scholastic achievement may be admitted on approval of instructor and department head concerned.

600-699. Courses that are highly professional or technical in nature and may count toward a professional degree only and cannot apply toward an advanced academic degree such as M.A., M.S., or Ph.D.

Certain numbers are reserved for courses that may be taken through successive terms under the same course number, credit being granted according to the amount of acceptable work done. These course numbers are as follows:

301, 401, 501. Research or other supervised original work.

303, 403, 503. Thesis (reading or research reported in writing).

305, 405, 505. Reading and Conference (independent reading reported orally to instructor).

307, 407, 507. Seminar.

The following plan is followed in numbering summer-session courses:

(1) A summer-session course that is essentially identical with a course offered during the regular year is given the same number.

(2) A summer-session course that is similar to a course offered during the regular year, but differs in some significant respect, is given the same number followed by "s".

(3) A course offered during the summer session which does not parallel any course offered during the regular year is given a distinctive number followed by "s".

Grading System

The quality of student work is measured by a system of grades and grade points.

Grades. The grading system consists of: four passing grades, A, B, C, D; failure, F; incomplete, INC.; withdrawn, W. The grade of A denotes exceptional accomplishment; B, superior; C, average; D, inferior. Students ordinarily receive one of the four passing grades or F, failure. When the quality of the work is satisfactory, but the course has not been completed, for reasons acceptable to the instructor, a report of INC. may be made and additional time granted. Students may withdraw from a course by filing the proper blanks at the Registrar's Office in accordance with State College regulations. A student who discontinues attendance in a course without official withdrawal receives a grade of F in the course.

Points. Grade points are computed on the basis of 4 points for each term hour of A grade, 3 points for each term hour of B, 2 points for each term hour of C, 1 point for each term hour of D, and 0 points for each term

hour of F. Marks of INC. and W are disregarded in the computation of points. The grade-point average (GPA) is the quotient of total points divided by total term hours in which A, B, C, D, and F are received. Grade points are computed on all work which the student does as an undergraduate, including transferred hours, correspondence study, and special examinations.

Scholarship Regulations

The administration of the regulations governing scholarship requirements is vested in the Personnel Committee of the faculty. This committee has discretionary authority in the enforcement of rules governing probation, and also has authority to drop a student from the State College when it appears that his work is of such a character that he cannot continue with profit to himself and with credit to the institution. In general, profitable and creditable work means substantial progress toward meeting graduation requirements.

(1) A lower-division student is automatically placed on probation if his grade-point average for any term is below 1.50. He is not released from probation until his grade-point average for a subsequent term is at least 1.75.

(2) An upper-division student is given written warning if his grade-point average falls below 2.00 in any term. He is automatically placed on probation if his grade-point average for any term falls below 1.75, or his cumulative grade-point average below 2.00. He is not released from probation until he has made a term grade-point average of at least 2.00 and a cumulative grade-point average of at least 2.00.

(3) A certificate of eligibility must be obtained from the Dean of Men or Dean of Women before a student can qualify for an elective or appointive office in any student, extracurricular, or organization activity. Scholastic probation automatically removes a student from any such office, and prevents him from participating in any such activities while he is on probation (except as provided in Paragraph 5 below).

(4) Any student elected or appointed to any official position in any student activity becomes ineligible in any term in which he is not regularly registered for at least twelve hours of academic work, or in which at least ten hours were not completed in the preceding term last in attendance.

(5) No student who has been enrolled for 93 term hours or more is eligible to hold an elective office or to accept an appointment in a student activity unless he has a cumulative grade-point average of at least 2.00.

(6) The rules of the Pacific Coast Intercollegiate Athletic Conference govern in all questions of athletic eligibility.

(7) Students who have been suspended or expelled are denied all the privileges of the institution and of all organizations in any way connected with it, and are not permitted to attend any social gathering of students, or to reside in any fraternity, sorority, or club house, or in any of the halls of residence.

Fees and Deposits

STUDENTS at the State College and at the University pay the same fees. In the fee schedule printed below, *regular fees* are those fees paid by all students under the usual conditions of undergraduate or graduate study. *Special fees* are fees paid under the special conditions indicated.

The institution reserves the right to change the schedule of tuition and fees without notice.

Payment of the stipulated fees entitles all students registered for academic credit (undergraduate and graduate, full-time and part-time) to all services maintained by the State College for the benefit of students. These services include: use of the State College Library; use of laboratory and course equipment and materials in connection with courses for which the student is registered;

medical attention and advice at the Student Health Service; use of gymnasium equipment (including gymnasium suits and laundry service); a subscription to the student daily newspaper; admission to concert and lecture series sponsored by the State College. No reduction of fees is made to students who may not desire to use some of these privileges.

Regular Fees

Undergraduate Students. Undergraduate students enrolled in the State College at Corvallis who are residents of Oregon pay regular fees each term of the regular academic year, as follows: tuition, $10.00; laboratory and course fee, $12.00; incidental fee, $7.00; building fee, $5.00. The total in regular fees, which include all laboratory and other charges in connection with instruction, is $34.00 per term.*†

Undergraduate students who are not residents of Oregon pay the same fees as Oregon residents except that the tuition fee is $50.00 instead of $10.00, making a total of $74.00 per term.

The regular fees for undergraduate students for a term and for a year may be summarized as follows:

Fees	Per term	Per year
Tuition	$ 10.00	$ 30.00
Laboratory and course fee	12.00	36.00
Incidental fee	7.00	21.00
Building fee	5.00	15.00
†Total for Oregon residents	$ 34.00	$102.00
†Total for nonresidents (who pay $50.00 instead of $10.00 tuition)	$ 74.00	$222.00

Regular fees are payable in full at the time of registration.

Graduate Students. All graduate students registered for seven term hours of work or more pay a fee of $32.00 a term. Graduate students do not pay the nonresident fee. Graduate students registered for six hours of work or less pay the regular part-time fee of $3.00 a term hour. Payment of the graduate fee entitles the student to all services maintained by the State College for the benefit of students.

Deposits

Every person who enrolls for academic credit (except staff members) is required to make a deposit of $5.00, payable once each year at the time of first registration. This is required as a protection against loss or damage by the student of institutional property such as: dormitory equipment, laboratory equipment, military uniforms, library books, locker keys. If at any time charges against this deposit become excessive, the student may be called upon to re-establish the original amount.

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* Except special fees for instruction in applied music.

† Undergraduate students registered in the State System of Higher Education for the first time pay a matriculation fee. For students registering at the State College, the University, or the Medical School, this fee is $5.00. For students registering at the colleges of education, the matriculation fee is $2.00. Students transferring from one of the colleges of education to the State College or the University pay an additional matriculation fee of $3.00.

Special Fees

The following fees are paid by students under the conditions indicated:

Matriculation Fee $5.00

Undergraduate students registering in the State System of Higher Education for the first time pay a matriculation fee. For students registering at the State College, the University, or the Medical School, this fee is $5.00. For students registering at the colleges of education, the matriculation fee is $2.00. Students transferring from one of the colleges of education to the State College or the University pay an additional matriculation fee of $3.00.

Part-Time Fee, per term hour $3.00

Any student (undergraduate or graduate) registering for six term hours of work or less pays a fee of $3.00 per term hour, instead of regular registration fees. This fee is payable at the time of registration. Students registered for six term hours of work or less do not pay the nonresident fee. Payment of the part-time fee entitles the student to all services maintained by the State College for the benefit of students. (A similar fee is paid for courses up to six term hours *in absentia.*)

Late-Registration Fee ..... $1.00 to $5.00

Students registering after the scheduled registration dates of any term pay a late-registration fee of $1.00 for the first day and $1.00 for each additional day until a maximum charge of $5.00 is reached. Students registered for six term hours or less, auditors, and staff members are not required to pay the late-registration fee.

Change-of-Program Fee $0.25

The student pays this fee for each change in his official program after the program has been approved and accepted by the Registrar's Office.

Reinstatement Fee $2.00

If for any reason a student has his registration canceled during a term for failure to comply with the regulations of the institution, but is later allowed to continue his work, he must pay the reinstatement fee.

Special-Examination Fees ..... $1.00 to $10.00

A student pays a fee of $1.00 per term hour for the privilege of taking an examination for advanced credit, or any other special examination. A graduate student taking his preliminary or final examination at a time when he is not registered for academic work pays a fee of $10.00 for the privilege of taking the examination. If a graduate student takes his preliminary or final examination while registered for part-time work for which he pays a tuition fee of less than $10.00 a term, he pays, as an examination fee, an amount equal to the difference between his tuition fee and $10.00.

Auditor's Fee, per term hour ..... $1.00 to $3.00

An auditor is a person who has obtained permission to attend classes without receiving academic credit. Auditors pay a fee of $1.00 per term hour for nonlaboratory courses, and $3.00 per term hour for laboratory courses. The auditor's fee is payable at the time of registration and entitles the student to attend classes, but to no other institutional privileges. A student regularly enrolled in the State College may be granted the privileges of an auditor without paying the auditor's fee.

Staff-Member's Fee, per term hour $1.00

Staff members registered in courses for credit pay this fee. Staff members may audit courses without fee payment.

Transcript Fee $1.00

This fee is charged for each transcript of credits issued after the first, which is issued free of charge.

Graduation Fee $6.50

The graduation fee is paid for each degree taken. No person may be recommended for a degree until he has paid all fees and charges due the institution, including the graduation fee. This fee entitles the student to one year's membership in the Alumni Association. When a student receives a certificate at the same time that he receives his degree, an additional fee of $2.50 is charged for the certificate.

Placement-Service Registration Fee $3.00

All students or graduates applying for teaching positions through the State College Placement Service pay this fee. An additional fee of 25 cents is charged when credentials are sent to school officials at the applicant's request.

Special Music-Course Fees ..... See Department of MUSIC

Library Fines and Charges..... See LIBRARY

Refunds

Fee Refunds. Students who withdraw from the State College and who have complied with the regulations governing withdrawals will be entitled to certain refunds of fees paid, depending on the time of withdrawal. The refund schedule has been established by the State Board of Higher Education and is on file in the Registrar's Office. All refunds are subject to the following regulations:

(1) Any claim for refund must be made in writing before the close of the term in which the claim originated.

(2) Refunds in all cases shall be calculated from the date of application for refund and not from the date when the student ceases attending classes, except in unusual cases when formal withdrawal has been delayed through causes largely beyond the control of the student.

Deposit Refunds. The $5.00 deposit, less any deductions which may have been made, is refunded about three weeks after the close of the academic year. Students who discontinue their work at the State College before the end of the year may receive refunds, upon petition to the Business Office, about three weeks after the close of the fall or winter term.

Regulations Governing Nonresident Tuition

The Oregon State Board of Higher Education has defined a nonresident student as a person who comes into Oregon from another state for the purpose of attending one of the institutions under the control of the Board.

In order to draw a clear line between resident and nonresident students the Board has ordered that all students in the institutions under its control who have not been domiciled in Oregon for more than one year immediately preceding the day of their first enrollment in the institution shall be termed nonresident students, with the following exceptions:

(1) Students whose fathers (or mothers, if the father is not living) are domiciled in the state of Oregon.

(2) Children of regular employees of the Federal Government stationed in the state of Oregon.

(3) Students holding bachelor's or higher degrees from higher educational institutions whose work is acceptable as preparation for graduate work.

(4) Students in summer sessions.

Student Life and Welfare

Student Personnel Program

THE personnel program of the State College aims to assist each student to develop a personality of power and influence, to appreciate the joy that may come from accomplishment stimulated by interest and enthusiasm, and to have a keen sense of responsibility for his or her own behavior.

Personnel Committee. The Committee on Student Personnel seeks to promote an efficient personnel service in each school or division of instruction, and to coordinate the various personnel agencies of the institution, including the clinical services. The committee makes available to all students the advisory and guidance services of the entire institution. It makes contacts with individual students, and invites students to come to it as they may desire. It may scrutinize the scholastic record of any student, and it seeks to give particular attention to any student who is not measuring up to his possibilities. When the causes of poor accomplishment can be ascertained, suggestions for improvement are offered. In the case of students who are placed on probation under the regulations governing scholarship, the committee seeks to render all possible aid.

Deans of Students. The Dean of Men and the Dean of Women have general responsibility for student welfare. The deans keep in contact with organized student activities and living groups, and are of assistance to students collectively through these agencies as well as to individuals having special problems. In particular they act as advisers to freshmen, and are concerned with the orientation of new students in college life and work.

Special Committees. The Committee on Student Interests, including student as well as faculty members, assists students with social and living problems. The Committee on Student Housing assists students in making proper adjustments relative to boarding and lodging. The Committee on Health and Sanitation takes initiative in the development and maintenance of high standards of health and sanitation in the various places of student residence. The Committee on Religious Education concerns itself with coordinating the various campus religious agencies, and serves as a connecting link between the religious work on the campus and the various local churches. The Committee on Educational Activities, including both student and faculty members, promotes and supervises the various student educational activities. The student employment service, the student health service, the student loan fund administration, and other agencies of student welfare, are described on later pages.

Placement. In all of the schools the placement of graduates is recognized as an important concern of the faculty generally, and especially of the dean's office. Each school maintains vital contacts with the professional fields for which its curricula give preparation, and is thus enabled to be of greater service both to the profession and to graduates. The demands of the professions and the industries are taken into account in the revision of courses of study. Assistance is regularly given to graduates in finding

work for which they are qualified by personality and training. In the counseling of students special assistance is given to the selection of a program of studies for each student that will develop his particular abilities and at the same time prepare him for some type of service for which there is demand.

The aid given students in obtaining part-time and vacation jobs is described under SELF-SUPPORT (pages 87-88). The Teacher Placement Service is described under SCHOOL OF EDUCATION.

Freshman Week

FRESHMAN WEEK, a program of orientation for entering undergraduate students, is held annually the first week of the fall term. By means of general assemblies, group lectures and discussion, individual conferences, and examinations and tests (see pages 73-74), an effort is made to assist every new student in getting the best possible start in his new work. During Freshman Week new students are made familiar with the aims of higher education, the principles governing the wise use of time and money, methods of study, and the ideals and traditions of the institution. Full directions concerning Freshman Week and registration procedure are sent to each new student who is accepted for admission.

The examinations and tests given entering students during Freshman Week provide the State College faculty with reliable information as a basis for advising and assisting students in planning their college programs. These examinations are scheduled at regular times during the week. Each entering student will receive from the Registrar a detailed program of the Freshman Week activities. The student should follow this schedule faithfully, in order to avoid delay in registration and possible penalty for make-up appointments.

The 1940-41 session of the State College officially opens for new undergraduate students on Monday, September 23, 1940; the first freshman assembly and the first sections of the placement examinations required of entering students are scheduled for this day. New students should arrive on the campus by Sunday, September 22, in order to be ready for the opening of Freshman Week at 8:00 o'clock Monday morning. Rooms in the dormitories will be available Saturday, September 21. Meals will be served beginning Sunday evening.

The State College, recognizing that fraternities and sororities are a part of university life and provide living quarters for a substantial part of the student body, has, with the cooperation of these organizations, made provisions by which they may choose their members in an orderly fashion, with a minimum of interference with fall term registration and the beginning of college work. A definite period has been designated, during which the members of fraternities and sororities and new students interested in fraternity membership may become acquainted.

Student Living

COMFORTABLE, healthful, and congenial living conditions contribute much to the success of college life and work. Living conditions of the right kind not only aid students to do the best in their studies but also through the experiences of group life contribute to the

building of character and personality. Hence the State College is vitally concerned with student housing. Halls of residence are maintained on the campus by the institution, and the living conditions of students residing outside the dormitories are closely supervised.

Many students live in fraternity, sorority, or club houses accommodating groups of from twenty to fifty persons. Admission to these groups is by invitation only. Students also live with relatives near the campus or in private homes or boarding houses. Opportunity for cooperative group living, with a house mother in charge, is available to a limited number of women students who can qualify under certain scholastic and personal requirements. By sharing costs and duties of housekeeping, requiring from 1 to 1½ hours of work per day, the student living in a cooperative house may reduce living expenses from $7 to $10 per month below the regular price of room and board. Applications and requests for information should be addressed to the Dean of Women.

The halls of residence provide comfortable, democratic living conditions favorable to successful work as a student and to participation in the wholesome activities of campus life.

Men's Dormitories. Five halls of residence for men—Buxton, Cauthorn, Hawley, Poling, and Weatherford—are maintained, accommodating a total of 344 students. The five halls are part of a single structure described under BUILDINGS as the "Men's Dormitory Building."

Rooms accommodate two students each and are equipped with study tables, chairs, dressers, and wardrobe facilities. All floors are covered with a good grade of linoleum. Adequate lighting is provided, besides which there are attachments for study lamps. Each floor has lavatory and shower-bath facilities. For each floor common sleeping rooms are provided, equipped with cots, mattresses, mattress-covers, and pillows. Each student furnishes his own study lamp, bedding, towels, and personal furnishings. In each hall a club or social room, comfortably and tastefully furnished, is available for the use of all students in the hall. Telephone service is provided on each floor of each hall, and in the basement of each hall laundry facilities with electric irons and trunk storage accommodations are available. In addition, one of the halls contains a general reception room and guest suite for the entertainment of parents and other guests.

Women's Dormitories. Two halls of residence for women—Margaret Snell and Waldo—are maintained. Both halls are home-like and attractive and are supplied throughout with pure mountain water, electric lights, and steam heat. The rooms are furnished with single beds, mattresses, dressers, tables, and chairs. Other furnishings, including pillows, pillowcases, sheets, blankets, bed spreads, curtains, rugs, and towels, are furnished by the student. The bedrooms average about 12 by 15 feet with one window 3 by 7 feet. Many of the rooms are larger and a few of them have two or three windows. All rooms in Margaret Snell Hall have two or more windows. Each hall contains reception and social rooms for the use of students. Laundry facilities and trunk storage accommodations are also available in each hall. Telephone service is provided.

Dormitory Living Expenses. The charge for rooms in the dormitories is $24.00 per term when the student shares a double room and $36.00 when a single room is occupied. Room rent is payable in two equal installments, the first installment being due at the opening of each term.

The charge for board in the dormitories is $23.00 per calendar month. Payment for board must be made monthly in advance. Students paying board or room charges after the date on which payment is due are charged a late-payment fee of $1.00 for the first day, and $1.00 for each additional day until a maximum charge of $5.00 is reached. If dormitory charges are not paid within ten days after the date due, the student's registration may be canceled.

The charges for rooms cover the period of the school term only.

The right is reserved to increase the charges for room and board should advance in costs require it. The charges will be decreased whenever decreased costs make this possible.

Students should not arrive at halls of residence until the day the halls are officially open, usually one day before the opening of a term.

Dormitory Room Deposit. A deposit of $5.00 must be sent to the Director of Dormitories at the time of application for room. The amount of the deposit will be deducted from the first room-rent installment.

If a student, after making deposit, does not enter the State College, the deposit will be refunded, provided the Director of Dormitories is notified at least one week before the opening day of the term. Rooms will not be held after the first day of registration.

College Tea Room. A tea room in the Memorial Union under the supervision of the Department of Institution Economics in the School of Home Economics serves attractive luncheons during the regular school week. The tea room also makes a specialty of catering for luncheon and dinner parties.

Private Board and Room. Board and room can be obtained in private homes or boarding houses at rates from $24.00 to $35.00 a month. For a room without board the rates are from $10.00 to $20.00 a month for a double room and $6.00 to $15.00 a month for a single room. Board alone can be obtained for from $18.00 to $25.00 a month. The rates for board and room vary according to location and furnishings.

The Housing Committee exercises general supervision over all student living quarters and endeavors to see that all students have comfortable rooms and wholesome living conditions. Students are allowed to live only in rooms approved by the committee.

Housing Regulations. The following regulations govern housing of students, with the provision that when financial reasons make it necessary the housing committee may excuse students from dormitory residence and permit them to live in approved homes when rates for board and room are lower.

All unmarried students are required to live either in private homes, dormitories, or fraternity or sorority houses.

All freshman women at the State College are required to live in the dormitories during the first year.

Women students not living with relatives as residents of Corvallis are required to live in the dormitories, sorority houses, or cooperative houses. Upon application to the Housing Committee permission may be obtained to live in approved homes to work for room and board or some portion thereof.

Upperclass women at the State College may move to the sorority houses at the beginning and end of any term. At the beginning of the term, moving will take place on the second Saturday.

Freshman and sophomore men not living with relatives in Corvallis must live in the dormitories or in the present organized fraternities. Any exemptions from this requirement must be approved by the Housing Committee.

Any student reserving a room in the men's halls must occupy it until the end of the term. If he moves out of the dormitory before the end of the term without proper permission, he must pay his room and board to the dormitory for the remainder of the term or forfeit his registration. A student who pledges to a fraternity may move to a fraternity house at the end of either the first or the second term.

All women students living in the dormitories must take their meals at the dormitories.

All men students living in the dormitories must take their meals in the dining room provided for them in the Memorial Union.

Student Expenses. In thinking of the cost of a year in college, the student usually has in mind the amount which he will spend from the time he leaves home until he returns at the close of the year. Such an estimate would include personal items—clothing, travel, and amusements, items which vary according to the thrift, discrimination, and habits of the individual. The following table gives as nearly as possible the average expenses incurred by a student at the State College during an academic year. Board and room estimates are based on charges in the halls of residence. The incidental item covers miscellaneous personal expenditures which vary greatly with the individual. Cost of clothing is not included. The expenses of the fall term are listed also, since there are expenses during the fall term not incurred during the winter and spring terms.

Fees	Per term	Per year
Fees	$ 34.00	$102.00
Deposits	5.00	5.00
Books, supplies, etc.	20.00	35.00
Board and room	91.00	260.00
Incidentals estimated as explained above	25.00	75.00
	$175.00	$477.00

Note: The foregoing table does not include the matriculation fee of $5.00 paid by undergraduate students registering for the first time.

Self-Support. Many students earn a large part of their expenses by work in the summers and during the academic year. Some students are entirely self-supporting. In some cases students devote an occasional term or two to regular employment in addition to vacation periods, thus taking more than the usual number of years to complete a curriculum.

The work available during the academic year consists of such tasks as janitor work, house cleaning, typewriting, reporting, tutoring, waiting on table, dish washing, clerking, service-station work, service as hotel bell boys, messenger service, caring for children, odd jobs, etc.

Organized effort is made to assist those desiring to find work. The employment bureau for men is conducted in Shepard Hall under the direction of the office of the Dean of Men. The employment bureau for women is conducted by the office of the Dean of Women in Commerce Hall.

Remunerative employment cannot be guaranteed to all who may desire it, and the new student should have sufficient funds to cover the expenses of at least the first term. It is difficult to earn one's way while carrying a program of studies and only capable students of good health should attempt it. The attention of new students who intend to earn all or part of their living is called to the following facts:

(1) Work of any kind is much more readily obtained after the student has had opportunity to familiarize himself with the local conditions.

(2) No student should expect to obtain employment by correspondence. It is helpful to write to the employment office early in July stating the kind of work desired, experience, and the amount of work actually needed. As competition is very keen in all fields of work open to students, it is advisable to come to the campus three or four days before the opening of the term and to be ready to meet with any prospective employers who may have reported to the employment bureau their need for student help. Positions for part-time employment are not listed, as a rule, until about the time the term opens.

(3) No student should come expecting to earn money unless he knows how and is willing to work. Only those students who do their work well can succeed in obtaining sufficient employment to meet their needs. Those who have skill in some field of work usually have greater opportunity and receive better pay.

(4) There is a constant oversupply of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to obtain employment of this type during the first term.

(5) There is a considerable demand for efficient stenographers, but generally there is not sufficient work of this kind to meet the needs of all applicants. There is a considerable demand for radio repair men, printers, licensed electricians, motion-picture operators, high-school and city bus operators, clerks, and barbers.

(6) A limited number of opportunities exist for students who have good health, and who can perform domestic or manual labor well, to earn the equivalent of board and room by working three hours a day for board or three and one-half hours a day for board and room. There are always more applications for this type of employment than there are openings.

During recent years Oregon State College in common with the other institutions of recognized standing throughout the country has received a grant from the Federal Government through the National Youth Administration for the purpose of providing part-time employment for students. The quota allotted the State College has provided employment for approximately 450 students at an average of $12.00 per month. At the time this Catalog went to press it was not known whether the NYA program would be carried on through 1940-41. Students wishing such employment, if the program is continued, should obtain information from the Registrar. Applicants are selected primarily on the basis of their financial need but are required to do a reasonably high grade of scholastic work. For this reason the scholastic record to date must be taken into consideration. NYA employees are assigned work in the various schools and departments or with public service agencies in the community at tasks which offer some opportunity for worthwhile vocational experience.

Student Health Service

THROUGH the Student Health Service the State College does all in its power to safeguard the health of its students. The Health Service accomplishes its ends through health education, complete medical examinations for the detection of remediable defects, constant vigilance against incipient disease, medical treatment of acute diseases, and the maintenance of hygienic student living conditions.

The student health services at the institutions in the Oregon State System of Higher Education are supported by student registration fees. Every student registered for credit is entitled to general medical attention and advice at the Student Health Service during office hours. If his condition

requires hospitalization for general medical attention he is entitled to free care at the Student Health Service for a limited period: for a student in attendance at the State College for three terms, a total of fifteen days during the academic year; for a student in attendance for two terms, a total of ten days during the academic year; for a student in attendance for one term, a total of five days during the term. For longer periods an additional charge is made. When a special nurse is necessary, the expense must be met by the student. All expenses of, or connected with, surgical operations, or specialized service, must be borne by the student. In no case will the Health Service pay a private hospital bill for a student. A student who is ill may, on request, be attended at his rooming place by a health-service physician. For each such call at a student's place of residence an additional fee of $1.00 is charged, which is deducted from the student's deposit by the Business Office. Calls, after health-service hours, should be telephoned to the Student Health Service.

The privileges of the Student Health Service are not available to members of the faculty.

Facilities. All the activities pertaining to the medical examination and care of students are centered in the Student Health Service building. The clinic occupies the entire second floor and includes physicians' offices, examining rooms, X-ray and clinical laboratories, pharmacy, and minor surgery. Patients who are confined to bed are cared for on the third floor.

There are four physicians, seven nurses, a laboratory technician, and an X-ray technician on the staff.

Vaccination. Under ruling of the State Board of Higher Education, students are required, as a condition of entrance to any of the institutions in the State System, to satisfy the institutional physician of immunity to smallpox (by evidence of having had the disease or of successful vaccination). Exception is made, however, for students who decline vaccination because of religious convictions. Such students may be admitted, but only on the condition that they or (in case of minor or dependent students) their parents or guardians agree in writing to assume all expenses incident to their care or quarantine, should they fall ill with smallpox while students at the institution.

Loan Funds

AS AN aid to students in financing a part of their study at the State College a number of loan funds have been established. In addition to the general "Student Loan Fund," to which there are many donors, a number of special loan funds have been established.

The Student Loan Fund

The Student Loan Fund is a perpetual revolving trust fund, established for the purpose of lending money to worthy students attending or who wish to attend Oregon State College. It is administered by the Student Loan Fund of the State College, a membership organization, incorporated under the laws of the State of Oregon, whose members are known and designated as trustees, and are appointed by the President of the State

College. This fund has arisen through the liberality of friends of the institution and through the accumulation of interest on loans.

The purpose, as expressed by one of the donors, is "not to induce students to attend school by providing money that can be easily obtained, but rather to aid those who have determined to secure an education and are paying the cost wholly or in part from their own earnings." Students are eligible to loan aid after they have been in attendance at the State College *at least one term.*

Among the many donors to the Student Loan Fund may be mentioned the following: Hon. R. A. Booth, Dr. Clara Humason Waldo, Mr. Ashby Pierce, Mr. R. M. Johnston, Mr. L. J. Simpson, Mr. Ben Selling, Dr. U. M. Dickey, the College Folk Club, the Agricultural Club, the Oregon Countryman, miscellaneous contributions by Faculty, Professors Paul Petri and Lillian Jeffreys Petri, Winter Short Course Students, the A. Grace Johnson Memorial Fund, the Forestry Fund, the Piano Practice Fund, various Class Donations, the Phi Pi Phi fraternity, Y.M.C.A. Rifle Club, Marguerite MacManus String Quartet, Salem Oregon State Club, Portland Oregon State Club, Oregon State Barometer, Domestic Science Dining Room (Panama-Pacific International Exposition, San Francisco), Waldo Hall Club, Cauthorn Hall Club, Miners' Club, Silverton Rotary Club, Grand Army of the Republic and Women's Relief Corps, Oregon Technical Council Engineers Fund, student chapter of the American Society of Civil Engineers.

A special faculty committee with offices in the Memorial Union is charged with the responsibility of administering the Student Loan Fund and cooperates in the administration of the other loan funds available for students at the State College.

The fundamental principles upon which the Student Loan Fund is administered and upon which the success of the fund has been built are:

(1) Care in the selection of student character as a credit basis.

(2) Detailed budgeting of expenses and receipts to assure that the sums borrowed are not disproportionate with the student's capacity to repay.

(3) Insurance against loss by a "Contract of Guaranty" signed by the parent or guardian.

(4) Effective follow-up system on delinquent loans.

Other Loan Funds

The Crawford Loan Fund. By the wills of the late Edward G. Crawford and his wife Ida M. Crawford a fund has been left in trust with the United States National Bank of Portland to assist worthy young men desiring to educate themselves. Applications for assistance under this will are made through the local loan office. Applicant must be a native-born citizen of the United States, have attended primary school, either public or private, and have shown a desire and ability to help to educate himself. He must be regularly enrolled as a student in the school or college at which the proceeds of the loan will be used. According to the terms of the will, this fund can be used to assist young men who require financial aid in obtaining an education in any of the mechanical arts, trades, or in practical business, or along any particular line of study save and except the professions of medicine, law, theology, pedagogy, and music.

The Federation of Women's Clubs Educational Fund provides loans to women students who are well recommended.

Eastern Star Educational Fund. Loans are available to students who are members or daughters of members of the Order of the Eastern Star. Loans are made upon honor, no security being asked, and will be made by the Trustees of the Grand Chapter on the recommendation of the president of the institution which the student is attending and the approval of the Worthy Matron and Worthy Patron of the chapter of the Order of the Eastern Star located in the same place as the institution of learning.

The J. T. Apperson Educational Fund. By the will of the late Hon. J. T. Apperson, who had been a Regent of the State College from its foundation, a fund amounting to between $55,000 and $75,000 is to be a perpetual endowment, administered by the State Land Board of Oregon, for the assistance of worthy young men and women, "who are actual bona fide residents of the State of Oregon, and who would otherwise be unable to bear the expense of a college course at the Oregon State Agricultural College." The income from this estate is loaned to students. Applicants for loans must be recommended to the State Land Board by the President of the State College and the State Superintendent of Public Instruction. Application is made through the Student Loan Committee.

The Arthur Palmer Tifft Memorial Loan Fund. By the will of the late Mrs. Joan C. Palmer Tifft, practically her entire estate is left as a permanent loan fund for deserving young men needing financial assistance while attending Oregon State College. This fund is left as a memorial to her son, Arthur Palmer Tifft, Portland attorney, who died on January 14, 1919. The fund is irreducible and all interest accruing therefrom is added to the fund.

The Oregon State Pharmaceutical Association Educational Fund, established by the Oregon State Pharmaceutical Association at its thirty-sixth convention held at Corvallis in July 1925, is a fund to be used primarily in making loans to needy and deserving students of Oregon State School of Pharmacy.

The Joseph N. Teal Loan Fund. By bequest the late Joseph N. Teal of Portland gave to the State College the sum of $5,000 "to be administered as a perpetual revolving fund to be loaned . . . to worthy students pursuing courses of instruction in said College."

The Ben Selling Scholarship Loan Fund. By the will of the Honorable Ben Selling of Portland, $100,000 is set aside, from a part of the income of which loans may be made to men and women of the State College. Applicants must be approved by the State College Student Loan Committee.

A. W. S. Emergency Loan Fund for Women Students. The Associated Women Students have set aside a sum of money which is available to women students who are in need of small amounts of money for short periods of time. The fund is administered by the Dean of Women.

Oregon State College Chamber of Commerce Loan Fund. The Oregon State College Chamber of Commerce placed $600 with the Loan Committee for the assistance of worthy students. This money is administered by the Student Loan Committee with special consideration for students interested in the business aspects of their field of specialization.

Scholarships and Fellowships

A NUMBER of scholarships and fellowships have been established largely through the generosity of private donors, providing funds in varying amounts for the encouragement of students of ability and promise. Some of these are general scholarships. Others are limited to special fields.

State Scholarships. A limited number of scholarships are awarded annually to students in the institutions of the Oregon State System of Higher Education. These scholarships cover tuition and laboratory and course fees (a total of $22.00 a term or $66.00 a year for a student attending the State College). Recipients of scholarships must, however, pay the matriculation fee, incidental fee, the building fee, and special fees. At least fifty per cent of the scholarships are awarded to entering freshmen. To be eligible, an entering student must rank in the upper third of his high-school graduating class. Students who have previously attended an institution of higher learning must have a grade-point average of 2.50 (computed according to the grade-point system in use at the Oregon state institutions of higher education). All applicants, to be eligible, must be in need of financial assistance. Application should be made on official blanks to the State College Registrar. All applications must be filed by April 1.

State College Assistantships, Scholarships, and Fellowships. A number of graduate and research assistantships, scholarships, and fellowships are awarded annually by the State College to qualified graduate students in various fields. For stipends and application procedure, see GRADUATE DIVISION.

Bernard Daly Educational Fund. Under terms of the will of the late Dr. Bernard Daly of Lakeview, Oregon, worthy self-supporting young men and women of Lake County, Oregon, may receive a part or all of their necessary college expenses. The terms of the will provide that the income from this fund be used to pay the college expenses of at least fifteen students each year. The fund is administered by the board of trustees, who select candidates annually from a list of applicants recommended by the county judge and county school superintendent of Lake County, following a qualifying examination held in Lake County.

Phi Kappa Phi Exchange Scholarship. To encourage interchange among students of the cultures of this and other countries, the local chapter of Phi Kappa Phi supports, on an annual basis, an international exchange scholarship, under which a foreign student receives tuition and room for one academic year at Oregon State College. The Oregon State student who goes abroad receives similar assistance from the foreign institution; he returns to this campus for the year following the one spent abroad.

The American Association of University Women Graduate Scholarship. Every three years beginning in 1928 the Oregon Division of the American Association of University Women gives a scholarship of $1,200 to a woman who is a resident of Oregon, and who holds at least a bachelor's degree, for advanced study at any American or foreign university.

Standard Oil Company of California Fellowship. A grant of $750 for the year is made by the Standard Oil Company of California for funda-

mental research in branches of pure and applied science on problems which might be of interest in the recovery and the refining of petroleum.

The Mary J. L. McDonald Fellowship in Reforestation. Through the generosity of the late Mrs. Mary J. L. McDonald of San Francisco, a fellowship has been established giving opportunity to do advanced study in problems of reforestation. The fellowship is awarded each year by a committee of the faculty of the Oregon State School of Forestry to a graduate of a recognized school of forestry on the basis of proficiency in forestry studies, personality, and demonstrated ability to do independent work.

Oregon Home Extension Council Scholarship. The Oregon Home Extension Council Scholarship is an award of $25 made annually at the Oregon Conference for the Study of Home Interests to a junior or senior girl who shows sincere interest in and promise of leadership in extension work, who stands high in scholarship, is active in school affairs, and is in need of assistance. The scholarship student is selected by a committee consisting of the Dean of the School of Home Economics, the State Leader of Home Economics Extension, and the President of the State Home Extension Council. The scholarship fund is sponsored by the Oregon Home Economics Extension Council and the extension units in counties having home demonstration agents.

International Friendship Scholarship. The Home Economics Club of the State College on March 2, 1926, established a scholarship of $500 which is awarded annually to a graduate foreign student to study home economics at Oregon State College. The recipient of the scholarship is selected by a committee composed of the executive council of the Home Economics Club, the Dean of the School of Home Economics, and a representative of Omicron Nu.

The A. Grace Johnson Memorial Scholarship is awarded in units of $100 or less to a worthy, needy home economics student who is registered as an upper classman and whose scholastic average is equal to or above that of the student body. The scholarship fund, started in the spring of 1935, is a continually growing one contributed to by former fellow workers, students, friends, and relatives of Miss Johnson, professor of household administration at the State College from 1915 to the time of her death in 1933.

The Leonora Kerr Scholarship is an award of $66.00 made annually to an outstanding woman student, a high-school graduate, selected by the scholarship committee of the College Folk Club. The scholarship was established by the College Folk Club as a tribute to its founder and first president, Mrs. W. J. Kerr.

The Lee Scholarship is awarded each year to a woman student in home economics registered as a junior, who during her career in college has shown improvement in her work, stability and meritorious record in all her activities, and general all-round worthiness. This scholarship provides a sum of money derived from the annual income of a fund of $1,000 bequeathed by Minnie E. Lee as a memorial to her husband J. B. Lee and herself, to be paid to the recipient at the time of her registration in the senior year. The award is not open to any student who has received any other monetary prize.

Rotana Club Scholarship. The Rotana Club of Portland provides a scholarship of $25 awarded each year to a sophomore student in the School of Home Economics on the basis of scholastic promise, qualities of personality, and leadership. In making the selection consideration is given to the need of the student for assistance in financing her education. The recipient of the scholarship is selected by the Dean of the School of Home Economics from nominations made by the school faculty.

Blumauer-Frank Drug Company Scholarship. A scholarship of $50, established 1935, is awarded annually to the junior student in pharmacy who makes the highest average in a competitive examination given to selected members of his class whose records have been outstanding during their three years in college. Should the winner not return the following academic year, the scholarship is awarded to the student making the next highest average. The purpose of the scholarship is to further the advancement of professional pharmacy and to aid a worthy student in completing his senior year. The Blumauer-Frank Drug Company has furnished a heavy bronze plaque upon which is engraved the name of the winner and the year.

Oregon State Pharmaceutical Association Educational Fund Scholarship. The Board of Trustees of the Oregon State Pharmaceutical Association Educational Fund will grant an annual scholarship of $100 to a member of the freshman class of the School of Pharmacy who meets the following requirements: (1) His father or mother must be a member of the Oregon State Pharmaceutical Association. (2) He must rank high in scholarship, character, and effort. (3) He must make application for the scholarship and certify that he will continue his course in pharmacy at Oregon State College until graduation.

The Sears Roebuck and Company Scholarships. A grant of $2,500 for the year 1940-41 is made by Sears Roebuck and Company for twenty-five $100 scholarships in the School of Agriculture of Oregon State College to worthy Oregon farm boys of good character and scholastic attainment, and who have for the past several years, demonstrated leadership ability through participation in 4-H Club, Future Farmers, or agricultural or community activities.

J. A. Hanson Scholarship. The J. A. Hanson Scholarship of $75 is awarded annually to the outstanding junior student majoring in poultry husbandry.

Prizes and Awards

DISTINCTION in scholarship is recognized at the State College by the presentation of Senior Honors at the time of graduation, through election to the various honor societies, and through prizes and awards. A description of requirements for recognition as Senior Honor Students and a list of honor societies will be found elsewhere in this Catalog. There are also essay and oratorical prizes, and awards for proficiency in special fields, and for all-round distinction in student life. The Phi Kappa Phi Freshman Awards recognize each year those students who have made distinguished records in scholarship during their first year in college.

The Clara H. Waldo Prizes, totaling $70 annually, are awarded each spring in the proportions of $25, $20, $15, and $10 respectively to the woman student of highest standing registered as a regular student in the senior, junior, sophomore, and freshman year. The committee having charge of the award of these prizes is guided by the following points: (a) proficiency in scholarship, (b) success in student activities, (c) qualities of womanhood, and (d) qualities of leadership.

The Lipman Wolfe Prizes, totaling $100 annually, are awarded each year in the proportions of $50, $30, and $20 respectively to the man or woman of highest standing registered as a regular student in the senior, junior, and sophomore classes. The committee having charge of the award of these prizes is guided by the following points: (a) proficiency in scholarship, (b) qualities of manhood or womanhood with special emphasis on unselfishness and kindness, (c) qualities of leadership, and (d) contribution to campus welfare.

The Chi Omega Prize. Eta Alpha of Chi Omega offers an annual award of $25 to the senior woman who is adjudged by a college committee on honors and awards to approach most nearly an ideal of intellect and spirituality and to have exerted the most wholesome influence upon her associates.

Phi Sigma Scholarship Award. The Phi Sigma scholarship award is a sterling silver medal awarded annually by the national organization of Phi Sigma, honor society in biological science, to the outstanding senior student at Oregon State College, who has shown creative interest in biology. The purpose of the award is to stimulate interest and application in science, especially in the biological sciences.

The Alpha Zeta Scholarship Cup is awarded during the first term of the sophomore year to the student in agriculture receiving the highest grade average in the freshman class.

The E. D. Ressler Memorial. This award, given by the Oregon State Teachers Association, is presented to the junior preparing to enter the teaching profession who in the judgment of the education faculty, as approved by the committee on honors and awards, has made the best all-round record as an undergraduate.

The Kappa Delta Pi Award of $25 is made annually to the sophomore enrolled in the School of Education who as a freshman in that school made the highest scholastic average.

The American Institute of Electrical Engineers Prize is an associate membership in the institute, awarded annually by the Portland Section for the best paper prepared and delivered by an undergraduate member of the Oregon State College student branch.

The A. S. M. Awards. The American Society of Metals (Oregon Chapter) awards annually three memberships in the society and cash awards of $10 and $5 each for the best papers prepared by student members of the society.

Epsilon Pi Tau Award. A certificate of merit is awarded annually to the sophomore in industrial arts who during his freshman year has made the greatest progress in scholarship and development of fellowship.

The American Society of Civil Engineers Prizes are junior memberships in the society awarded annually for the three best papers prepared and delivered in the student branch of the society.

The American Society of Mechanical Engineers Prizes of $25, $15, and $10 respectively are awarded annually for the three best papers prepared and delivered in the student branch of the society.

Eta Kappa Nu Award. A certificate of merit is awarded annually to the outstanding student in the sophomore electrical engineering class. A permanent record of this award is kept on a bronze plaque in Apperson Hall.

The S.A.E. Awards. The Society of Automotive Engineers (Oregon Section) awards annually three prizes of $25, $15, and $10 for the best papers prepared by student members of the society.

The A. I. Ch. E. Award. The American Institute of Chemical Engineers awards a pin each year to the junior member of the student chapter who made the highest record during his freshman and sophomore years.

Sigma Tau Award. A medal is awarded each year to the sophomore student in engineering who during his freshman year was the most outstanding student.

The Charles Lathrop Pack Forestry Prize. Through the generosity of Mr. Charles Lathrop Pack of New Jersey, a gift of $2,000 has been made to the State College to encourage forestry students to write for publication. The income from the gift is awarded each year to the student in forestry who produces the most interesting, logical, and technically significant paper for publication.

The Xi Sigma Pi Plaque is awarded each year to the student in forestry who has maintained the highest grade average during the sophomore year.

The Omicron Nu Plaque is awarded each year to the senior woman who has best lived the teachings of home economics throughout her college career. Candidates are first selected by a committee of the home economics faculty and their names then submitted to vote of the Home Economics Club, final decision resting with the committee.

Oregon Home Economics Association Award. An award of $25 is made annually by the Oregon Home Economics Association to an Oregon girl majoring in home economics who is a sophomore and needs financial aid to continue her education. The selection is made by a committee made up of the President of the Oregon Home Economics Association, the Dean of the School of Home Economics, and a member of the home economics staff.

The Home Economics Prize of $10 was established (1928) by members of Omicron Nu for the purpose of promoting scholarship and leadership in home economics, the recipient being selected by a joint committee representing Omicron Nu and the faculty in home economics.

The Lamplighter Award of $15 is presented annually by the Lamplighter Club to the senior who during his college career has, in the opinion of the Committee on Honors and Awards, contributed most to the success of THE LAMPLIGHTER magazine.

The Drucilla Shepard Smith Prize. Through the generosity of John E. Smith of the Class of 1902 a sum of $500 has been contributed as a memorial to his mother, the late Drucilla Shepard Smith (Mrs. F. S. Smith) formerly of McCoy, Polk County, Oregon. The income from this gift is awarded annually to the graduate or undergraduate student who during the year has had published the best article or series of articles dealing with practical solutions of problems that confront women in rural homes. These problems may be concerned with club work, education, finance, family government, health and sanitation, marketing, psychology, recreation, social affairs, or any other subject in which difficulties arise for the rural homemaker. The judges determining the award of this prize are appointed by the President of the State College.

The Rho Chi Prize of $10 is awarded annually to the freshman in pharmacy who in the judgment of the Rho Chi society and the faculty in pharmacy has been most outstanding in scholarship and activities.

The Lehn and Fink Medal. A gold medal, appropriately engraved, is awarded each year to the senior student in the School of Pharmacy who has attained the highest scholarship rank, or who in the judgment of the faculty has made the most distinctive contribution to the advancement of science in pharmacy.

Women's Auxiliary to Oregon State Pharmaceutical Association Prize. A cash prize of $25 is awarded annually to the senior woman in pharmacy who in the judgment of the faculty in pharmacy has shown the greatest proficiency in scholarship, qualities of leadership and womanhood, and success in student activities.

The Locey Athletic Award is a medal given annually to the senior man outstanding in athletic participation, citizenship, and sportsmanship, in inspiration and leadership as a member of his team, and in scholarship.

Extracurricular Activities

THE State College recognizes the values of extracurricular student activities as a part of a college education: formation of habits of civic responsibility and leadership through self-government and student clubs and societies; the broadening of outlook and sympathies through varied human associations; cultural development through participation in the intellectual and esthetic life of the campus.

The Memorial Union provides a center for democratic fellowship among all students, faculty, alumni, and friends of the College.

While the building is beautiful in design, construction, and furnishings, it has been planned for practical usefulness and with its social rooms, student bookstore, post office, telegraph office, barber shop, tea room, and other facilities is a busy center of student life throughout each day of the academic year. Students read or converse in the lounges; the business of the student body is transacted in the various student offices; here the student publications are edited and student activities are planned and carried out. In the tea room small and large groups hold social and conference luncheons and dinners. In the ball room are held afternoon or evening dances. In the various committee and assembly rooms meetings of many kinds fill a busy calendar each week.

Here faculty and students meet in many relationships. Alumni, especially at Homecoming, Commencement, and on other similar occasions, use the Union as their campus headquarters. Visitors from within and without the state, parents and friends of students, and notable institutional guests are welcomed in the Union.

Through more than ten years the Union has demonstrated its efficiency as a center of College life on the Oregon State campus. Dedicated in 1928 "to the service and inspiration of the living and to the memory of our immortal dead," it conforms to the standard set by the International War Memorial Association, which determined that all memorials should be, not only commemorative of the dead, but of use to the living. The president of the Memorial Union is a student, and students share actively in the management of the Union. (For description of the building see BUILDINGS.)

The Associated Students. The students of the State College are organized for self-government into the Associated Students of Oregon State College. The A. S. O. S. C. sponsors and manages such activities as intercollegiate athletics, student publications, forensics and dramatics, and concert and lecture series.

The Associated Women Students, a group within the general student body organization, sponsors and supervises activities of women students. The A. W. S. is a chapter of the Intercollegiate Association of Women Students.

Each entering class forms an organization within the A. S. O. S. C. which retains its identity throughout the four undergraduate years at the State College and after graduation. Class reunions are held regularly by alumni. During their undergraduate days students in the different classes uphold various distinctive traditions. Graduating classes usually leave a gift to the State College. Classes returning for their silver anniversary or jubilee also may make gifts as an expression of their loyalty and appreciation toward the institution at which they received their undergraduate education.

Clubs and Associations. A large number of clubs and associations flourish on the State College campus to serve special student interests. Some of these organizations are: American Institute of Agricultural Engineers (Oregon student branch); Agricultural Club; Agriculture Economic Forum; American Institute of Chemical Engineers (Oregon State chapter); American Society of Civil Engineers (Oregon State student chapter); American Society of Mechanical Engineers (Oregon State student branch); American Institute of Electrical Engineers (Oregon State chapter); Artists' Guild; Dairy Club; Daughters of the American Revolution; Ding Darling Wildlife Club; Engineers Student Council; Society of Automotive Engineers (Oregon State student branch); Bernard Daly Club (students holding Daly scholarships); Forestry Club; 4-H Club; Home Economics Club; Industrial Arts Club; Pharmaceutical Association; Society of American Military Engineers (Oregon State student chapter); Round Table, YMCA-YWCA; Temenids (Eastern Star); Women's Athletic Association.

The parents of Oregon State students are organized into two groups, Oregon State Dads and Oregon State Mothers, both active in the support of the State College. Other organizations important in the life of the campus are the Biology Club (faculty); the Faculty Men's Club; the Faculty Women's Club; American Association of University Women (Corvallis branch); College Folk Club (faculty women and wives of staff members);

Oregon State Dames (wives and mothers of students, affiliated with the national organization, University Dames).

Honor Societies. A number of honor societies are maintained on the Oregon State campus for the recognition of general scholarship in particular fields and student leadership. Most of them are national organizations with chapters at the leading colleges and universities of the country. Among these societies are: Phi Kappa Phi (all-college scholastic, men and women); Sigma Xi (research, science; men and women); Alpha Lambda Delta (sophomore women); Alpha Zeta (agriculture, men); Aquabats (swimming, women); Blue Key (senior men); Delta Sigma Rho (forensics, men and women); Eta Kappa Nu (electrical engineering); Euterpe (music, women); Gamma Sigma Delta (agriculture); Kappa Kappa Alpha (art, men and women); Kappa Kappa Psi (band); Mortar Board (senior women); Mu Beta Beta (4-H Clubs, men and women); National Collegiate Players (dramatics, men and women); Omicron Nu (home economics); Orchesis (dancing, women); Parthenia (physical education, women); Phi Lambda Upsilon(chemistry); Phi Sigma (biology, men and women); Rho Chi (pharmacy, men and women); Sigma Pi Sigma (physics, men and women); Sigma Tau (engineering); Tau Beta Pi (engineering); Talons (sophomore women); Thanes; Theta Sigma Phi (journalism, women).

Professional and Departmental Societies. Student societies are maintained in many of the schools and departments for the promotion of high standards of scholarship and professional training. Most of them are national organizations. Among these societies are: Alpha Delta Sigma (advertising, men); Epsilon Pi Tau (industrial arts); Kappa Delta Pi (education, men and women); Kappa Psi (pharmacy, men); Phi Chi Theta (commerce, women); Pi Mu Epsilon (mathematics, men and women); Scabbard and Blade (military); Sigma Delta Chi (journalism, men); Sigma Delta Psi (physical education, men); Sigma Gamma Epsilon (geology and mining); Xi Sigma Pi (forestry).

Athletics and Sports. Oregon State College is a member of the Pacific Coast Intercollegiate Athletic Conference composed of ten leading universities and colleges of the coast region. In addition to intercollegiate athletics a comprehensive program of intramural sports is sponsored by the institution through the Division of Physical Education. The sports program is closely correlated with instruction in physical education. Student organizations encourage sports participation and give recognition for proficiency.

Major intercollegiate sports for men include football, basketball, baseball, and track. Minor intercollegiate sports include skiing, swimming, tennis, golf, wrestling, boxing, and fencing. Intramural sports include speedball, track, basketball, foul throwing, swimming, rowing, touch football, cross country, golf, wrestling, volleyball, handball, tennis, baseball, fencing, and boxing.

Organized sports for women include hiking, volleyball, archery, dancing, hockey, baseball, basketball, swimming, tennis, badminton, deck tennis, horseshoes, golf, fencing, and games of low organization.

The Varsity "O" Association includes men who have been awarded a major-sport letter.

The Minor "O" Association includes all men who have been awarded a letter in any of the minor sports.

The Women's Athletic Association sponsors women's athletic contests and the organization of various sport clubs. As a member of the Athletic Conference of American College Women, it correlates its program with a nationwide effort to maintain women's athletics on a high educational level.

The Orange "O" Association is composed of women holders of the Orange "O," awarded to those who have met the requirements, including the earning of points in interclass athletics.

Lectures. The regular State College curriculum is supplemented by frequent public lectures by faculty members and visiting scholars. Lectures are sponsored by the Committee on Convocations and Lectures, the Faculty Men's Club, the American Association of University Women, the College Folk Club, the Committee on Religious Education, the Associated Students, the Associated Women Students, Phi Kappa Phi, Sigma Xi, and by various schools and departments.

Forensics and Dramatics. Forensics and dramatics are fostered at the State College not only for their value to those participating but also for their intellectual and cultural value for the whole campus community. The State College is a member of the Pacific Forensic League composed of the leading colleges and universities on the coast, and of the Intercollegiate Forensic Association of Oregon composed of ten colleges and universities.

Training and experience in acting, play production, and stage craft are provided by the Speech Department. Each season groups of short plays are given in connection with the instruction in community drama. Three major plays are presented each year by the National Collegiate Players, Workshop Theater Players, or Mask and Dagger, the campus dramatic groups. Special student organizations such as the Wesley Players and the Westminster Players also provide outlets for dramatic talent and opportunities for experience in play production.

The Associated Students sponsor a full schedule of varsity and freshman debate and oratory for both men and women. From 36 to 40 Oregon State teams supporting both negative and affirmative of many questions participate each year in more than 100 intercollegiate debates. Oregon State representatives compete in the old-line State Oratorical Contest, the state Peace oratorical contest, and the state and Pacific Coast extempore-speaking contests. Interclass and interorganization contests are held in debate, oratory, and extempore speaking. Approximately 40 teams participate each year, the winners receiving loving cups.

Art and Music. The State College gives special encouragement to extracurricular activities in art and music. Concerts and recitals sponsored by the Department of Music, the Associated Students, and the several student musical organizations play a central part in the cultural life of the State College community. The Department of Art and Architecture, Kappa Kappa Alpha, and other campus organizations or groups sponsor monthly exhibitions of contemporary art work and loan collections. Several dance recitals are given each year under the auspices of the Department of Physical Education, Orchesis, and other organizations.

The Oregon State Symphony Orchestra is an organization of about fifty student musicians. Two or more major concerts are given each year. The Orchestra plays for Commencement and other important institutional events. In addition to its own concert series, the orchestra cooperates with

the choral organizations in oratorio productions. Any State College student is eligible to try out for the orchestra.

Membership in the 75-piece, uniformed R.O.T.C. Band is open to students passing a satisfactory examination in the elements of music and ability to perform on a band instrument. Individual practice and attendance at rehearsals are required. The Band furnishes basses, baritones, altos, and drums; otherwise, members must furnish their own instruments, which must be in low pitch.

The Glee Club, student men's organization, prepares programs of male choruses, glees, and compositions of a lighter nature. Membership is determined through individual examination of candidates.

The Madrigal Club, student women's organization, studies compositions for women's voices of various types and gives concerts both alone and in conjunction with the Glee Club at various times during the year. Membership is determined through individual examinations of candidates.

The College Chorus is composed of the members of both the Glee and Madrigal clubs. Besides attending regular rehearsals of the club to which they belong, the members are required to attend additional rehearsals of the combined clubs, at which numbers are rehearsed for concerts given at Christmas time, Easter time, and Commencement. Occasionally the two clubs unite in the production of a light opera.

The Educational Activities Board brings artists to the campus for concerts and recitals as part of the annual lyceum series. Free Sunday afternoon concerts are offered to students and the public. Free public recitals by advanced music students are given frequently during the academic year.

Social Organizations. Personal associations with fellow students through social organizations and living groups constitute one of the pleasantest features of campus life. All students have opportunity to belong to some type of social organization.

Students not belonging to fraternities or sororities are organized for social activities. Each residence hall and cooperative house has its own group organization. The men's halls and the women's halls are organized for united activities. Independent women are organized in Phrateres, national society for college women. Independent men maintain a group of clubs. All independent students, including those residing in the dormitories, are represented in the Independent Student Council, which is a member of the Independent Intercollegiate Student Association.

Fraternities on the Oregon State campus are organized into the Interfraternity Council, which is a member of the National Interfraternity Conference. The sororities on the campus are organized into the Panhellenic Council, which is a member of the National Panhellenic Congress

Fraternities at the State College are: Alpha Chi Rho, Alpha Gamma Rho, Alpha Sigma Phi, Alpha Tau Omega, Beta Kappa, Beta Theta Pi, Chi Phi, Delta Chi, Delta Sigma Phi, Delta Tau Delta, Delta Upsilon, Kappa Delta Rho, Kappa Sigma, Lambda Chi Alpha, Phi Delta Theta, Phi Gamma Delta, Phi Sigma Kappa, Pi Kappa Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Sigma Phi Sigma, Sigma Pi, Theta Chi, Theta Xi.

Sororities at the State College are: Alpha Chi Omega, Alpha Delta Pi, Alpha Gamma Delta, Alpha Xi Delta, Beta Phi Alpha, Chi Omega, Delta Delta Delta, Delta Zeta, Gamma Phi Beta, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Pi Beta Phi, Sigma Kappa.

Student Publications. Oregon State College student publications are listed below. The official publications of the State College and of the State System of Higher Education are listed on another page.

THE OREGON STATE BAROMETER is a full-size newspaper, containing campus news and selected general and educational news, issued five days a week during the academic year. It is edited, managed, and financed by students. Any student may qualify for a position on the staff.

THE BEAVER, the year book of the Associated Students, is a substantially bound, pictorial record of student life. The volume is published in May during Junior Week End.

THE AGRICULTURAL JOURNAL, a quarterly magazine published by the Agricultural Club, is devoted to the promotion of agricultural interests.

THE LAMPLIGHTER, a monthly literary magazine written and printed by students, has as its aim to give encouragement to students having talent for writing.

THE OREGON STATE TECHNICAL RECORD, a quarterly magazine (a member of Engineering College Magazines Associated), is devoted to engineering and industry.

THE ANNUAL CRUISE, an illustrated magazine published annually by the Forestry Club, is devoted to scientific forestry and lumbering and to the forestry and lumbering industries.

THE STUDENT DIRECTORY is compiled and published twice a year by the Oregon State chapters of Sigma Delta Chi and Alpha Delta Sigma.

Alumni Association

ALUMNI of Oregon State College include 12,185 graduates and approximately 29,275 former students. The association is governed by a board of eleven directors, some of this number being elected each year at the annual business meeting held at Commencement. Each board member represents a definite section of the state and serves a term of three years. Membership in the association may be obtained by the payment of $3 annual dues or by the payment of $50 that entitles one to a Life Membership. The Life Membership includes a copy of the ORANGE AND BLACK—a 70-year pictorial book of the college published last year by the association. The association maintains its permanent manager and office staff in Room 110, Memorial Union, where complete files are kept of all graduates and former students of the State College. The officers of the association for 1940-41 are as follows:

LOWELL STOCKMAN, '22, Pendleton	President
CHARLES T. PARKER, '08, Portland	Vice President
ARTHUR K. BERMAN, '07, Corvallis	Treasurer
WARREN A. REID, '34, Corvallis	Manager
DR. C. J. BARTLETT, '08, Baker	Director
ROSS CADY, '09, Boise, Idaho	Director
GEORGE A. KNUTSEN, '31, Portland	Director
ALLAN RINEHART, '29, Portland	Director
KENNETH G. DENMAN, '27, Medford	Director
ARTHUR FERTIG, '17, Warrenton	Director
GEORGE CHAMBERS, '16, Salem	Director
CHARLES MACK, '31, Klamath Falls	Director
R. EARL RILEY, '12, Portland	Alumni Members of Memorial Union Board of Governors
ROY R. CLARK, '09, Portland	Alumni Members of Memorial Union Board of Governors
E. E. WILSON, '89, Corvallis	Alumni Members of Memorial Union Board of Governors
F. EARL PRICE, '22, Corvallis	Alumni Members of Memorial Union Board of Governors
J. F. PORTER, '12, Corvallis	Alumni Member, Memorial Union Board of Directors

The Alumni Association publishes a two-page section of alumni news in each Wednesday issue of the OREGON STATE BAROMETER, which is devoted to the upbuilding of the State College and its program of service.

Part III

Resident Instruction

Lower Division

MAHLON ELLWOOD SMITH, Ph.D., Dean and Director of Lower Division, Oregon State System of Higher Education.
GERTRUDE FULKERSON, Secretary to the Dean.

General Statement

FRESHMAN and sophomore work in the liberal arts and sciences is unspecialized. The work is offered through the Lower Division on a parallel basis at the University and the State College and leads to the Junior Certificate. Students completing the work of the Lower Division and fulfilling all requirements for the Junior Certificate may select a major in a specialized field at the close of the sophomore year.

For students who plan to complete work for the bachelor's degree the two lower-division years provide broad general education and a foundation for specialization during the junior and senior years in some major field in the liberal arts and sciences or in a professional or technical curriculum. Lower-division students explore several fields of study with a view to determining special interests and aptitudes.

For students who complete no more than the first two years of college work, the Lower Division aims to afford a balanced cultural program and preparation for intelligent citizenship.

The State Board of Higher Education, in establishing the Lower Division, defined its primary purpose as follows:

(1) Basic Education.
Insuring to all students the elements of a sound general education during their first two years; delaying specialization until the junior and senior years and then encouraging it to a high degree.

(2) Orientation.
Providing students with a period of exploratory contact which will enable the institution to assist them to make a wise selection of specialization on the basis of their abilities and aptitudes.

Lower-Division Groups. For the purpose of adjusting the work to the two-fold objectives of basic education and orientation, lower-division work in the liberal arts and sciences has been arranged in three groups, each representing a comprehensive field of knowledge, as follows: LANGUAGE AND LITERATURE, SCIENCE (including the biological and physical sciences and mathematics), and SOCIAL SCIENCE.

Group Requirements. Students intending to major in the liberal arts and sciences must complete at least 9 approved term hours in each of the three groups and at least 9 additional approved term hours in courses numbered 200-210, or equivalent, in any one of the same three groups. Courses that satisfy group requirements are numbered from 100 to 110 and from 200 to 210. (For group requirements for students in the professional schools see page 75.)

Required Courses. Besides fulfilling group requirements, lower-division students must take required work in English Composition, Hygiene, Physical Education, and Military Science and Tactics, as stated on page 75. Entering students are required to take aptitude and placement examinations, and to make any adjustments indicated as a result of standings achieved in these tests.

Major Requirements and Electives. Students complete their study programs with courses required by major departments or schools or with electives. Students who have decided on a major field take the courses prescribed by the major school or department. Students who are uncertain of their dominant interest or their vocational intentions, or who do not plan to pursue major specialization later, take a program of studies designed to aid them in self-exploration and individual development.

The general distribution of work for lower-division students is shown in the curriculum on page 110.

Lower-Division Advisers. Each entering student is assigned to a Lower-Division adviser, whom the student consults in making out his study program. It is the duty of the adviser to assist the student in building an integrated program, in line with his interests and with institutional and lower-division requirements.

Certificates

STUDENTS who have met the group requirements, and have completed a total of at least 93 term hours of required and elective freshman and sophomore work, qualify for one of three certificates, depending on their objectives and attainments:

The Junior Certificate, which admits to upper-division standing and the opportunity to pursue a major curriculum leading to a degree. It requires a grade-point average of at least 2.00.

The Junior Certificate with Honors Privileges, which admits to the privilege of working for honors in the colleges and schools providing honors work. To receive this certificate the student must have a grade-point average of at least 2.75 in addition to fulfilling all requirements for the Junior Certificate.

The Lower-Division Certificate, which recognizes the successful completion of two years of lower-division work. It is granted upon request to students whose desire has been only to round out their general education. The scholastic average specified for the Junior Certificate is not required. The Lower-Division Certificate does not admit to upper-division standing.

Group Courses

YEAR SEQUENCES applicable in meeting group requirements are listed below. These courses may also be taken as electives. Descriptions of the courses are printed under the several departmental headings.

LANGUAGE AND LITERATURE GROUP

English

Eng 101, 102, 103. Literature Survey, 3 hours each term.
Eng 104, 105, 106. Introduction to Literature, 3 hours each term.
Eng 201, 202, 203. Shakespeare, 3 hours each term.

Germanic Languages

GL 201, 202, 203. German Literature, 3 hours each term.

Romance Languages

FRENCH

RL 201, 202, 203. French Literature, 3 hours each term.

SPANISH

RL 207, 208, 209. Spanish Literature, 3 hours each term.

SCIENCE GROUP

Science Surveys

GS 101, 102, 103. Biological Science Survey, 4 hours each term.
GS 104, 105, 106. Physical Science Survey, 4 hours each term.

Bacteriology

Bac 201, 202, 203. Elementary Bacteriology, 3 hours each term.
Bac 204. General Bacteriology, 3 hours fall or winter term.
Bac 205. General Bacteriology, 3 hours winter or spring term.
Bac 206. General Bacteriology, 3 hours spring term.

Botany

Bot 201, 202, 203. General Botany, 3 hours each term.

Chemistry

Ch 101, 102, 103. Elementary General Chemistry, 3 hours each term.
Ch 201, 202, 203. Principles of Chemistry, 4 hours each term.
Ch 204, 205, 206. General Chemistry, 5 hours each term.
Ch 208, 209. General Chemistry, 5 hours winter and spring terms.

Entomology

Ent 201, 202, 203. General Entomology, 3 hours each term.

Geology

G 201, 202, 203. Geology, 3 hours each term.
G 204, 205, 206. Geology Laboratory, 1 hour each term.

Mathematics

Mth 100. Intermediate Algebra, 4 hours one term.
Mth 101, 102, 103. Elementary Analysis, 4 hours each term.
Mth 106. Trigonometry, 4 hours one term.
Mth 108. Mathematics of Finance, 4 hours one term.
Mth 109. Elements of Statistics, 4 hours one term.
Mth 201, 202, 203. Differential and Integral Calculus, 4 hours each term.

Physics

Ph 201, 202, 203. General Physics, 4 hours each term.
Ph 204, 205, 206. Astronomy and Meteorology, 3 hours each term.

Psychology

Psy 201, 202, 203. Elementary Psychology, 3 hours each term. (Applicable in satisfying group requirements in Science group if accompanied by Psy 204, 205, 206.)
Psy 204, 205, 206. Elementary Psychology Laboratory, 1 hour each term.

Zoology

Z 201, 202, 203. General Zoology, 3 hours each term.
Z 204, 205, 206. Vertebrate Zoology, 4 hours each term.
Z 208, 209, 210. Elementary Human Anatomy, 3 hours each term.

SOCIAL SCIENCE GROUP

General Social Science

SSc 101, 102, 103. Background of Social Science, 3 hours each term.

Economics

Ec 201, 202, 203. Principles of Economics, 3 hours each term.

History

Hst 201, 202, 203. History of Western Civilization, 3 hours each term.
Hst 204. History of the Far East, 3 hours one term.
Hst 207, 208. England and the British Empire, 3 hours fall and winter terms.
Hst 209. The World Since 1914, 3 hours spring term.

} Hst 207, 208, 209 constitute a year sequence.

Political Science
PS 201, 202, 203. Modern Governments, 4 hours each term.

Psychology
Psy 201, 202, 203. Elementary Psychology, 3 hours each term.
Psy 204, 205, 206. Elementary Psychology Laboratory, 1 hour each term.

Sociology
Soc 201, 202, 203. Elements of Sociology, 3 hours each term.

Other Lower-Division Courses

Not satisfying group requirements.

IN addition to the courses applicable in meeting group requirements, the following lower-division courses in liberal arts and sciences are offered at the State College. Descriptions of the courses are printed under the several departmental headings.

LANGUAGE AND LITERATURE

English

LITERATURE

Eng 161. American Literature, 3 hours fall or spring term.
Eng 231. Directed Recreational Reading, 1 or 2 hours any term.
Eng 261, 262. Individual Authors, 3 hours fall term.
Eng 263. Great Books, 3 hours winter term.
Eng 264, 265, 266. Continental European Literature, 3 hours each term.
Eng 271, 272, 273. Contemporary Literature, 3 hours each term.
Eng 274. The Short Story, 3 hours spring term.
Eng 275. The Bible as Literature, 3 hours spring term.
Eng 276. The Novel, 3 hours winter term.

WRITTEN ENGLISH

Eng K. A one-term course for students failing to pass the English Placement examination. One hour fall or winter term.
Eng 111, 112, 113. English Composition, 3 hours each term.
Eng 118. Technical Report Writing, 3 hours spring term.
Eng 211. Essay Writing, 3 hours fall term.
Eng 213, 214, 215. Short Story Writing, 2 hours each term.
Eng 217. Business English, 3 hours any term.
Eng 218. Advanced Composition, 3 hours winter term.

SPEECH

Sp 111, 112, 113. Extempore Speaking, 3 hours each term.
Sp 120. Voice and Diction, 3 hours spring term.
Sp 211, 212, 213. Oratory Squad, 2 hours each term.
Sp 214, 215, 216. Extempore Speaking Squad, 2 hours each term.
Sp 217, 218, 219. Debating, 2 hours each term.
Sp 220. Argumentation, 3 hours fall or spring term.
Sp 221. Speech Composition, 3 hours fall term.
Sp 231. Parliamentary Procedure, 3 hours spring term.
Sp 234, 235, 236. Radio Speaking, 3 hours each term.
Sp 250. Speech Defects, 3 hours spring term.

DRAMA

Sp 121. Interpretation I, 3 hours any term.
Sp 122. Interpretation II, 3 hours any term.
Sp 123. Interpretation III, 3 hours spring term.
Sp 244. Stagecraft and Lighting, 3 hours any term.
Sp 247, 248, 249. Community Drama, 3 hours each term.
Sp 251. Workshop Theater Players, 1 to 3 hours any term.

Modern Languages

GERMAN

GL 1, 2, 3. First-Year German, 4 hours each term.
GL 4, 5, 6. Second-Year German, 4 hours each term.

FRENCH

RL 1, 2, 3. First-Year French, 4 hours each term.
RL 4, 5, 6. Second-Year French, 4 hours each term.
RL 211, 212, 213. Directed Reading in French, 1 hour each term.

SPANISH

RL 11, 12, 13. First-Year Spanish, 4 hours each term.
RL 14, 15, 16. Second-Year Spanish, 4 hours each term.
RL 214, 215, 216. Directed Reading in Spanish, 1 hour each term.

SCIENCE

Bacteriology

Bac 230. Principles of Bacteriology, 3 hours spring term.

Chemistry

Ch 121. Elements of Organic Chemistry, 4 hours spring term.
Ch 130. Descriptive General Chemistry, 3 hours spring term.
Ch 226, 227. Organic Chemistry, 5 hours fall and winter terms.
Ch 231. Qualitative Analysis, 4 or 5 hours fall term.
Ch 232, 233. Advanced Quantitative Analysis, 4 or 5 hours winter and spring terms.
Ch 250. Elements of Biochemistry, 3 hours fall term.
Ch 251, 252. Organic and Agricultural Biochemistry, 5 hours and 3 hours.
Ch 253. Agricultural Biochemistry, 2 hours winter term.

Entomology

Ent 211. Principles of Economic Entomology, 3 hours fall or winter term.
Ent 223. Elementary Entomology, 2 hours winter term.
Ent 235. Practical Bee Culture, 3 hours spring term.

Mathematics

Mth 10. Elementary Algebra, 4 hours one term.
Mth 20. Elementary Geometry, 4 hours one term.
Mth 221, 222. Introduction to Calculus, 4 hours two terms.

Nursing Education

Nur 111, 112, 113. Backgrounds of Nursing, 1 hour each term.
Nur 211, 212, 213. Modern Nursing Problems, 2 hours each term.

Physics

Ph 111, 112, 113. Engineering Physics, 3 hours each term.
Ph 161. Rudiments of Photography, 2 hours any term.
Ph 211, 212. Qualitative Physics, 3 hours fall and winter terms.

Zoology

Z 130. Principles of Zoology, 3 hours spring term.
Z 211. Elementary Human Physiology, 5 hours spring term.

SOCIAL SCIENCE

Economics

Ec 211. Outlines of Economics, 4 hours any term.
Ec 212. Outlines of Economics, 3 hours any term.
Ec 214. Economic Development of the United States, 4 hours spring term.

History

Hst 224, 225, 226. History of American Civilization, 3 hours each term.

Philosophy

Phl 211, 212, 213. Practical Life Philosophies, 2 hours each term.

Political Science

PS 212. American National Government, 3 hours any term.
PS 231, 232, 233. Current Affairs, 2 hours each term.

Psychology

Psy 111. Mental Hygiene, 3 hours any term. (No credit allowed to students who have taken Ed 102.)
Psy 112, 113, 114. Introduction to Reflective Thinking, 3 hours each term.
Psy 211. Outlines of Psychology, 6 hours any term.
Psy 212, 213, 214. Logic, 3 hours each term.

Sociology

Soc 211. General Sociology, 4 hours any term.
Soc 212. General Sociology, 3 hours any term.

Lower-Division Curriculum

Junior Certificate
Junior Certificate with Honors Privileges
Lower-Division Certificate

Freshman Year	Term hours F	W	S
Year sequence in any one of the three groups	3–4	3–4	3–4
Year sequence in another of the three groups (may be deferred until sophomore year)	3–4	3–4	3–4
English Composition (Eng 111, 112, 113)	3	3	3
Military Science and Tactics (men)	1	1	1
[1]Physical Education	1	1	1
[2]Departmental or school requirements or exploratory electives	5–3	5–3	5–3
	16	16	16

Sophomore Year			
Sophomore year sequence in one of the groups begun in the freshman year	3–4	3–4	3–4
Year sequence in a third group	3–4	3–4	3–4
Military Science and Tactics (men)	1	1	1
Physical Education	1	1	1
[2]Departmental or school requirement or exploratory electives	8–6	8–6	8–6
	16	16	16

[1]General Hygiene (PE 150), 2 term hours, must be taken in place of physical education one term of the freshman year. Women take Social Ethics (PE 131) in addition to physical education one term of the freshman year.

[2]Chosen with the approval of the dean of the Lower Division. If one of the year sequences in group requirements is deferred to the sophomore year, the opportunity for school requirements or electives is correspondingly increased. The electives may well be used for fulfilling requirements in a third group.

School of Science

Faculty

FRANCOIS ARCHIBALD GILFILLAN, Ph.D., Dean of the School of Science.
GLADYS LEIBBRAND, Secretary to the Dean.

*General Science**

WILLIAM DONALD WILKINSON, Ph.D., Assistant Professor of Geology.
FRANK HERSCHEL SMITH, Ph.D., Instructor in Botany.
OLOF LARSELL, Ph.D., Sc.D., Lecturer on the History of Science.
CLAIR CALAVAN, B.S., Graduate Assistant in Biological Science.
ELY MARTIN SWISHER, B.A., Graduate Assistant in Biological Science.
ROBERT ELSTONA SHANKLIN, M.S., Graduate Assistant in Physical Science.

Bacteriology

GODFREY VERNON COPSON, M.S., Professor of Bacteriology; Head of Department.
CLAIR VAN NORMAN LANGTON, Dr.P.H., Ed.D., Professor of Hygiene.
JOSEPH ELLSWORTH SIMMONS, M.S., Professor of Bacteriology.
HENRIETTA MORRIS, Sc.D., Associate Professor of Hygiene.
WALTER BENO BOLLEN, Ph.D., Associate Professor of Bacteriology.
CHARLES PAUL HEGARTY, Ph.D., Instructor in Bacteriology.
OWEN BAYWARD WEEKS, B.S., Graduate Assistant in Bacteriology.

Botany

CHARLES ELMER OWENS, Ph.D., Professor of Botany and Plant Pathology; Head of Department.
WINFRED MCKENZIE ATWOOD, Ph.D., Professor of Plant Physiology.
WILLIAM EVANS LAWRENCE, B.S., Associate Professor of Plant Ecology.
HELEN MARGARET GILKEY, Ph.D., Associate Professor of Botany; Curator of Herbarium.
ETHEL IDA SANBORN, Ph.D., Associate Professor of Botany.
DONALD PHILIP ROGERS, Ph.D., Instructor in Botany.
FRANK HERSCHEL SMITH, Ph.D., Instructor in Botany.
HENRY PAUL HANSEN, Ph.D., Instructor in Botany.
GARLAND MARIE POWELL, M.S., Herbarium Assistant.
WALTER THOMAS LUND, M.S., Instructor-Technician in Botany.
CLARA JANE CHAPMAN, B.S., Graduate Assistant in Botany.
MAXWELL STANFORD DOTY, B.S., Graduate Assistant in Botany.
JOHN MERKLE, B.A., Graduate Assistant in Botany.
MARSHALL MINTON ROSS, M.S., Graduate Assistant in Botany.

* The Department of General Science is in general charge of a committee composed of the heads of the departments, with a chairman in immediate charge.

Chemistry

*John Fulton, M.S., Professor of Chemistry; Head of Department.
Earl C Gilbert, Ph.D., Professor of Physical Chemistry.
J Shirley Jones, M.S.A., Professor of Agricultural Chemistry.
Francois Archibald Gilfillan, Ph.D., Professor of Chemistry; Acting Head of Department.
Joseph Shirey Butts, Ph.D., Professor of Biochemistry.
Joseph Parke Mehlig, Ph.D., Associate Professor of Analytical Chemistry.
William Elmer Caldwell, Ph.D., Associate Professor of Chemistry.
Leo Friedman, Ph.D., Assistant Professor of Chemistry.
Charles S Pease, Ph.D., Assistant Professor of Organic Chemistry.
Bert Einar Christensen, Ph.D., Assistant Professor of Chemistry.
James Williams Ferguson, Ph.D., Assistant Professor of Chemistry.
Glen Chase Ware, M.S., Instructor in Chemistry.
Edward Cleveland Callaway, M.S., Instructor in Chemistry.
Jack Glyndon Roof, Ph.D., Instructor in Chemistry.
Lloyd Ellis West, Ph.D., Instructor in Chemistry.
Kenneth Neil McLeod, Ph.D., Graduate Scholar in Chemistry.
Joseph Bernard Spulnik, M.S., Graduate Scholar in Chemistry.
John Benjamin Stark, M.S., Graduate Scholar in Chemistry.
George Francis Davies, M.A., Research Fellow in Chemistry.
Elton Murray Baker, M.S., Graduate Assistant in Chemistry.
Ned Bradbury Baker, B.A., Graduate Assistant in Chemistry.
Charles Alexander Boyd, B.S., Graduate Assistant in Chemistry.
Walter Hayes Collins, B.S., Graduate Assistant in Chemistry.
Clifford James Dernbach, M.S., Graduate Assistant in Chemistry.
Keene Paul Dimick, B.A., Graduate Assistant in Chemistry.
Jean Albert Jack, A.B., Research Assistant in Chemistry.
Gerald Watson Keilholtz, M.A., Graduate Assistant in Chemistry.
Ernest Edward Larkin, Jr., B.S., Graduate Assistant in Chemistry.
Robert Joseph Lovin, B.S., Research Assistant in Chemistry.
Lloyd Drew Pennington, B.S., Graduate Assistant in Chemistry.
Billy Roger Ray, B.S., Graduate Assistant in Chemistry.
Russell Otto Sinnhuber, B.S., Graduate Assistant in Chemistry.
Alva Vance Snider, B.S., Graduate Assistant in Chemistry.
Arthur Bayard Vane, B.S., Graduate Assistant in Chemistry.

Entomology

Don Carlos Mote, Ph.D., Professor of Entomology; Head of Department.
Willard Joseph Chamberlin, Ph.D., Associate Professor of Entomology.
Herman Austin Scullen, Ph.D., Associate Professor of Entomology.
Richard Lewis Post, B.S., Technician in Entomology.
Daniel Ernest Bounell, M.S., Graduate Assistant in Entomology.
John Emerson Davis, B.S., Graduate Assistant in Entomology.

*On leave of absence.

Geology

EARL LEROY PACKARD, Ph.D., Professor of Paleontology; Head of Department of Geology; Director of Research in the Institute of Marine Biology.

EDWIN THOMAS HODGE, Ph.D., Professor of Economic Geology.

IRA SHIMMIN ALLISON, Ph.D., Professor of Geology.

ETHEL IDA SANBORN, Ph.D., Associate Professor of Paleobotany.

WILLIAM DONALD WILKINSON, Ph.D., Assistant Professor of Geology.

WALLACE DEAN LOWRY, B.S., Graduate Research Assistant in Geology.

Mathematics

WILLIAM EDMUND MILNE, Ph.D., Professor of Mathematics; Head of Department.

CHARLES LESLIE JOHNSON, B.S., Professor of Mathematics.

EDWARD HIRAM MCALISTER, A.M., Sc.D., Professor Emeritus of Mathematics.

EDWARD BENJAMIN BEATY, M.A., Professor of Mathematics.

NICHOLAS TARTAR, B.S., Associate Professor Emeritus of Mathematics.

HARRY LYNDEN BEARD, M.A., Assistant Professor of Mathematics.

JOHN ALBERT VAN GROOS, M.S., Associate Professor of Mathematics.

GEORGE ALFRED WILLIAMS, A.M., Associate Professor of Mathematics.

WILLIAM JOHN KIRKHAM, Ph.D., Assistant Professor of Mathematics.

*ORVILLE GOODWIN HARROLD, JR., Ph.D., Instructor in Mathematics.

MURRAY HAROLD PROTTER, M.A., Instructor in Mathematics.

*HENRY SCHEFFÉ, Ph.D., Instructor in Mathematics.

CHARLES BASSEL SMITH, Ph.D., Instructor in Mathematics.

ANDREW SOBCZYK, Ph.D., Instructor in Mathematics.

JAMES FERRIS PRICE, B.A., Graduate Assistant in Mathematics.

WILLIAM MATTHEWSON STONE, B.A., Graduate Assistant in Mathematics.

Nursing Education

†ELNORA ELVIRA THOMSON, R.N., Professor of Nursing Education; Director of Department.

†RUTH VEE WHEELOCK, M.A., R.N., Associate Professor of Nursing Education.

Physics

WILLIBALD WENIGER, Ph.D., Professor of Physics; Head of Department.

WILLIAM PINGRY BOYNTON, Ph.D., Sc.D., Professor Emeritus of Physics.

WILLIAM BALLANTYNE ANDERSON, Ph.D., Professor Emeritus of Physics.

EDWIN ARTHUR YUNKER, Ph.D., Associate Professor of Physics.

JAMES JOSEPH BRADY, Ph.D., Associate Professor of Physics.

FRED BUCKNER MORGAN, M.S., Assistant Professor of Physics.

JOHN CLIFTON GARMAN, Ph.M., Assistant Professor of Physics.

WILLIAM ROY VARNER, E.E., Ph.D., Assistant Professor of Physics.

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*On leave of absence.

† Members of the faculty of the Department of Nursing Education, University of Oregon Medical School, Portland.

William Curtis Reid, M.S., Instructor in Physics.
Harold Roth Vinyard, Ph.D., Instructor in Physics.
Duis Bolinger, B.S., Graduate Fellow in Physics.
Hubert Waterbury Anderson, B.S., Graduate Assistant in Physics.
Chung Kwai Lui, M.S., Graduate Assistant in Physics.
Jamie Lindsay Shumway, B.S., Graduate Assistant in Physics.

Zoology

Nathan Fasten, Ph.D., Professor of Zoology; Head of Department.
Delmar Isaac Allman, Dr.P.H., Associate Professor of Hygiene.
Kenneth Llewellyn Gordon, Ph.D., Assistant Professor of Zoology.
Rosalind Wulzen, Ph.D., Assistant Professor of Zoology.
John Lynn Osborn, Ph.D., Assistant Professor of Zoology.
Grant Alexander Swan, B.S., Assistant Professor of Physical Education.
Alfred Taylor, Ph.D., Instructor in Zoology.
Ernst John Dornfeld, Ph.D., Instructor in Zoology.
Daniel William Slater, B.S., Graduate Assistant in Zoology.

General Statement

ALL major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in the biological and physical sciences and mathematics is centered in the School of Science at the State College.

The School of Science performs a three-fold function:

1. Liberal-arts education with majors in science leading to degrees of Bachelor of Arts or Bachelor of Science.
2. Professional education for students planning to enter some scholarly occupation in the realm of science. Such students take an undergraduate science major and from one to three or more years of graduate study in science.
3. Elective and service courses in science for students majoring in other schools, or for students interested in science who need it as a basis for professional or technical work in other allied schools.

Instruction in science is afforded students preparing for science teaching in secondary schools or in institutions of higher education; for positions in which a knowledge of science is fundamental for research, or for professional work in science or in its many applications in modern civilization.

The instruction in the first two years is made as broad and liberalizing as possible, laying a solid foundation for upper-division and graduate work in the various fields of science and affording preparation in basic sciences underlying the work of professional schools.

Requirements for Admission

STUDENTS entering as freshmen with the definite intention of specializing in science or mathematics or of preparing to enter a medical school, register in the Lower Division for the first two years, designating Science as their "group" of principal interest. The student's aim in the Lower Division is to obtain a broad general education and to determine upon a field in which he desires to major.

Junior Certificate Required for Entrance. Students must obtain a Junior Certificate before admission to the School of Science. The requirements for this certificate may be briefly summarized as follows: The student must complete at least 93 term hours, with a minimum grade-point average of 2.00; must satisfy the English composition, military, and physical-education requirements; and must complete the group requirements in language and literature, social science, and science. A student who has not fulfilled all lower-division requirements but has completed two years of college work (93 term hours or more) may be conditionally admitted to the School of Science, in which case he is responsible to the Lower Division for the completion of the Junior Certificate requirements.

Preparation for Specialization. The science advisers, representing the different departments in which upper-division students may major, help students in the Lower Division in the selection of specific courses prerequisite to major work. In the science curricula (pages 119-127), suggested lower-division programs are included to aid students in meeting the requirements for a Junior Certificate and in the selection of those courses that will best prepare for majoring in a particular science.

Requirements for Graduation

DEGREES are offered by the School of Science in the departments of Bacteriology, Botany, Chemistry, Entomology, Geology, Mathematics, Physics, Zoology, and General Science. A student's major may be in the broad field of one of the departments, or in one of the branches of a science, or in a field involving two or more of the sciences.

Baccalaureate Degrees. A student may be granted the degree of Bachelor of Arts or Bachelor of Science by meeting the institutional requirements for the particular degree and completing 192 term hours, of which 45 must be in upper-division work and of these at least 24 must be in a major department. Curricula have been so planned that students are enabled to follow their own interests outside the School of Science while obtaining adequate preparation in science, including the requirements for entering upon graduate work leading to advanced degrees.

Advanced Degrees. Through the Graduate Division graduate work is offered leading to the degrees of Master of Arts and Master of Science in each of the science departments, and to the degree of Doctor of Philosophy in the departments of Botany, Chemistry, Entomology, Geology, Mathematics, Physics, and Zoology. For the requirements for the M.A., M.S., and Ph.D. degrees see GRADUATE DIVISION.

Facilities

MATERIAL facilities for the work of the School of Science include the various laboratories equipped for instruction and research in science. The biological-science laboratories are located in Agriculture Hall. The Department of Mathematics occupies the third and fourth floors of Education Hall; the Department of Geology occupies the first floor of Education Hall, also the former Health Service Building now known as the Paleontology Laboratory; the Department of Chemistry occupies the new Chemistry Building. The Department of Physics occupies the Physics Building and a part of the Mines Building. Important adjuncts to the instruction in physics are radio station KOAC and the Photographic Service, both located in the Physics Building.

Oregon is a region of almost unlimited opportunities for field studies with plants, animals, and geological materials, thus offering many interesting research problems for advanced and graduate students.

Scientific Collections. In addition to the usual laboratory equipment available in each department, mention should be made of the Herbarium, consisting of 70,000 plants, the Department of Entomology collection of insects numbering more than 80,000 specimens, the Department of Zoology collection of representative birds of Oregon, and the extensive geological collections of invertebrate fossils and igneous rocks of Oregon. See MUSEUMS AND COLLECTIONS.

Oregon Institute of Marine Biology. The Oregon Institute of Marine Biology, established for undergraduate and graduate study and research work in marine biology, is administered under an executive committee of which the Dean of the School of Science is chairman. The marine laboratory is being developed as a significant factor in science instruction and research throughout the State System of Higher Education.

Curricula in Science

AS AN aid to students in meeting the requirements in the various departments and divisions, curricula are outlined for undergraduate students majoring in one of the sciences or in general science and for students preparing to study medicine or nursing. In connection with the various major curricula, programs for the freshman and sophomore years are outlined for students in the Lower Division interested in science. Students' programs of study at the graduate level are worked out in accordance with the regulations of the Graduate Division.

For students not planning to complete a major, curricula are outlined to meet special needs, including preparation for clinical-laboratory-technician schools, dental schools, etc. Preparatory medical and nursing curricula are described below.

Major Curricula

Departmental Majors. The undergraduate curricula indicate the most satisfactory sequence of courses leading to a degree and the minimum courses required for a major in a given department. Each curriculum permits election of at least one-half of a student's work outside of the

School of Science, thus enabling the student to obtain a liberal-arts education even though he may be preparing for specialized work in some field of science. The electives in these curricula should be utilized to meet a definite objective rather than as an easy way of accumulating credit for graduation.

Within or in addition to the undergraduate curricula outlined, the School of Science offers opportunity for specialization in the various branches or divisions of the several biological and physical sciences and mathematics. In certain fields only limited offerings are now listed, but in such cases additional work may be taken by utilization of the 401-407 and 501-507 courses, providing for individual study. Professional specialization in a field requires from one to three or more years of graduate study.

In biology a student may emphasize, for example, anatomy or physiology, ecology or genetics, hygiene or parasitology, morphology or taxonomy, and through advanced study may become an anatomist or physiologist, ecologist or geneticist, sanitarian or parasitologist, morphologist or taxonomist. In the physical sciences a student may emphasize one of the many divisions of chemistry, such as physical chemistry, biochemistry, or industrial chemistry. If more interested in physics, he may perhaps wish to specialize in astronomy, acoustics, cosmogony, electron physics, meteorology, optics, photography, radio, or X-rays. In geology training can be obtained in such specialized fields as petroleum geology, ore deposits, and economic geology. In mathematics he may select such fields as statistics, hydrodynamics, mechanics, and many other specialized fields. Advanced mathematics is an essential element in specialization in certain fields of science.

For students interested in fields involving two or more sciences—as for example, biochemistry, biophysics, geophysics, paleobiology, seismology—special curricula may be outlined and the work supervised jointly by the departments concerned. Where the student's chosen field involves an applied field as well as science, he may elect one or more minors in a professional school.

The undergraduate departmental curricula are printed on pages 121-125.

General Science Major. The general science major has been organized to meet the needs of students of scientific interests whose needs are not met by a major curriculum in one of the special sciences. These students may desire broad general education in science; or plan to be teachers of high-school science, who must be adequately prepared in a considerable range of high-school subjects; or plan to specialize in a border-line field between two or more sciences.

The courses pursued by students are selected on a rather flexible basis from the offerings of the various departments. A special committee administers the general science curriculum and is responsible for the advising of students majoring in this department. The curriculum in General Science is printed on page 120.

Science Teaching. Students preparing to teach science in the secondary schools may major in one of the sciences or in General Science, fulfilling the requirements for a State Teacher's Certificate. Under SCHOOL OF EDUCATION are printed the state certification requirements, together with approved major and minor norms in biological sciences, general science, mathematics, and physical sciences.

Students interested in health education will find courses covering a wide range of fields offered in the School of Science; in the Schools of Agriculture, Education, Engineering, and Home Economics; and in the Di-

vision of Physical Education. A student can utilize such courses in the School of Science toward a degree in General Science, electing from the other schools such work as most closely meets his requirements.

Premedical Curriculum

The University of Oregon Medical School, one of the six units in the State System of Higher Education, is located in Portland. It was established in 1887 and since 1913 has been the sole medical school in the Pacific Northwest. The Medical School, which is rated Class A by the American Medical Association, offers a four-year professional curriculum in medicine (M.D. degree), following a three-year preparatory medical curriculum. The curriculum in medicine thus comprises a total of seven years beyond the high school. The number of students admitted to the Medical School each year is limited. In addition to the work in medicine, the Department of Nursing Education, as an integral part of the Medical School, offers education for the professional field of nursing.

A premedical curriculum is offered at both the State College and the University. At each institution students pursuing this curriculum work under the supervision of a special faculty Advisory Committee to insure a selection of studies which will satisfy the entrance requirements of the University of Oregon Medical School, and the cultural needs of students planning to enter the profession of medicine. At the State College the chairman of this committee is Professor Nathan Fasten.

Courses prescribed by the American Medical Association for entrance to standard medical schools are offered by both the State College and the University. The University of Oregon Medical School requires for admission at least three years of preparatory work. The Medical School recommends that the student, in his preparatory work, plan a balance in elective courses between courses in liberal arts and courses (beyond the minimum requirements) in subjects required for admission to the Medical School.

For entrance to standard medical schools the student must not only complete certain prescribed work but also show an aptitude for medical studies. The medical-aptitude test of the Association of American Medical Colleges is given during the fall term of each year by the Premedical Advisory Committee to all students who expect to apply during the academic year for admission to a medical school. Further knowledge of the student's ability is obtained by frequent conferences between the student and his instructors and authorized advisers.

To meet the requirements for the Junior Certificate and to obtain a bachelor's degree (B.A. or B.S.) at the State College or at the University at the end of the first year at the Medical School, the student should select a major in the School of Science at the State College or in the College of Arts and Letters or the College of Social Science at the University. His choice of a major must be approved by the Advisory Committee. In order to meet the requirements for a bachelor's degree the student must satisfy in the lower-division and junior years all requirements for the degree except those that may be met at the University of Oregon Medical School. The upper-division course requirements for a major must be approved by the Advisory Committee and the student's major dean before he enters the Medical School.

A student may meet the requirements for a major in science in the first year in the University of Oregon Medical School, in which case he may elect a more liberal program in nonscience subjects. At the close of his first

year in Medical School he receives the bachelor's degree from the School of Science.

The Premedical Curriculum, recommended as meeting the needs of the majority of students preparing for entrance to the Medical School, is printed on page 127.

Preparatory Nursing Curriculum

Nursing offers many opportunities for a woman who is well prepared. The Department of Nursing Education of the University of Oregon Medical School offers a five-year curriculum which leads to the Bachelor of Arts degree and to a certificate in a nursing specialty, and prepares for state examinations for nurse registration. The student takes her first two years of work at Oregon State College at Corvallis, or at the University of Oregon at Eugene. This preparatory work is followed by three years in the Department of Nursing Education on the campus of the Medical School in Portland. The work in Portland is coordinated with clinical education in the Multnomah County Hospital School of Nursing and in the Doernbecher Memorial Hospital for Children, both located on the Medical School campus. In the fifth year of the curriculum the student receives training in a nursing specialty. Students in nursing education receive their degrees from the University, with the exception that students who take their first two years at Oregon State College receive their degrees from the latter institution.

The Preparatory Nursing Curriculum is printed on page 128.

Undergraduate Curricula

B.A., B.S. Degrees

Suggested Lower-Division Curriculum
Curriculum in General Science
Curricula in Special Sciences
Preparatory Medical and Nursing Curricula

General Notes

All students in science curricula should observe carefully the following notes:

a. The maximum number of term hours required within the School of Science does not exceed 102 in any major curriculum. The maximum number of hours required for a major in any department is 66. The student thus has liberal opportunity to elect courses in other fields as well as in science.

b. In the freshman year General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education. Women take Social Ethics (PE 131) one term.

c. Students expecting to meet the language requirements for a B.A. degree or to obtain a reading knowledge of German or French in preparation for graduate work may elect a language in the freshman and sophomore years. If two years of German or French are elected in the freshman and sophomore years, the completion of the group requirement in either Language and Literature or Social Science may be postponed until the junior year. Students expecting to major in chemistry or physics may similarly postpone two groups.

d. For state teacher's certificate 6 hours of psychology should be elected in the sophomore year as it is prerequisite to upper-division courses in education. Psy 211 meets this requirement. Psy 201, 202, 203 also meets this requirement as well as the Social Science group requirement.

e. Students wishing to qualify for a state teacher's certificate should elect 12 term hours in prescribed education courses in the junior year, at least 11 term hours in the senior year, and 9 term hours in the first term of the graduate year.

Suggested Curriculum for Lower-Division Students Interested in Science[1]

Freshman Year	Term hours F	W	S
Year sequence in any one of the three groups	3–4	3–4	3–4
Year sequence in another of the three groups (may be deferred until sophomore year) and/or electives	0–3	0–3	0–3
English Composition (Eng 111, 112, 113)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Two courses in Physical or Biological Science or exploratory electives	6–9	6–9	6–9
	14–18	14–18	14–18

Sophomore Year			
Sophomore year sequence in one of the groups begun in the freshman year	3–4	3–4	3–4
Year sequence in a third group and/or electives	3–6	3–6	3–6
Military Science (men)	1	1	1
Physical Education	1	1	1
Two courses in Physical or Biological Science or exploratory electives	6–9	6–9	6–9
	14–18	14–18	14–18

Curriculum in General Science[1]

Lower-Division Curriculum

Freshman Year			
Group requirement in Social Science or Language and Literature	3	3	3
Approved group requirement in Science	3–5	3–5	3–5
English Composition (Eng 111, 112, 113)	3	3	3
Military Science (men)	1	1	1
Elementary Analysis (Mth 101, 102, 103) or approved science elective	4	4	4
Physical Education	1	1	1
	15–17	15–17	15–17

Sophomore Year			
Group requirement in Social Science or Language and Literature	3	3	3
Sophomore Science sequence	3–5	3–5	3–5
Military Science (men)	1	1	1
Physical Education	1	1	1
[2]Approved electives	7	7	7
	15–17	15–17	15–17

Upper-Division Major Curriculum

Junior Year			
[3]Approved upper-division Science	4	4	4
[2]Approved electives	12	12	12
	16	16	16

Senior Year			
[3]Approved upper-division Science	4	4	4
[2]Approved electives	12	12	12
	16	16	16

[1]See General Notes on page 119.

[2]The electives may include courses in health education leading to special training in that field.

[3]These courses should be in fields related to work taken in the Lower Division, and must include one year-sequence. G 330, 331, 332. G 340, 341, 442 apply as either biological or physical science.

Curricula in Special Sciences

Bacteriology *Geology*
Botany *Mathematics*
Chemistry *Physics*
Entomology *Zoology*

BACTERIOLOGY[1]

Lower-Division Curriculum

Freshman Year

	Term hours F	W	S
Group requirement in Social Science or Language and Literature	3	3	3
General Zoology (Z 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
General Chemistry (Ch 204, 205, 206)	5	5	5
Military Science (men)	1	1	1
Physical Education	1	1	1
	16	16	16

Sophomore Year

[2]General Bacteriology (Bac 204, 205, 206)	3	3	3
Group requirement in Language and Literature or Social Science	3	3	3
General Physics (Ph 201, 202, 203)	4	4	4
Organic Chemistry (Ch 226, 227)	5	5	—
Elementary Physical Chemistry (Ch 340)	—	—	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives	—	—	2
	17	17	17

Upper-Division Major Curriculum

Junior Year

Systematic Bacteriology (Bac 321)	3	—	—
Systematic Bacteriology Laboratory (Bac 324)	2	—	—
Physiology of Bacteria (Bac 451, 452)	—	3	3
Physiology of Bacteria Laboratory (Bac 454, 455)	—	2	2
Physiological Chemistry (Ch 330, 331)	—	2	3
Electives	11	9	8
	16	16	16

Senior Year

Bacteriological Technique (Bac 341)	3	—	—
Bacteriological Problems (Bac 432, 433)	—	5	5
Seminar (Bac 407)	1	1	1
Electives	11	9	9
	15	15	15

BOTANY[1]

Lower-Division Curriculum

Freshman Year

Group requirement in Language and Literature or Social Science	3	3	3
General Botany (Bot 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
[3]Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives	3	3	3
	17	17	17

[1]See General Notes on page 119.
[2]Or Bac 204, 332, 333.
[3]Students interested in physiological and chemical aspects of plant life should take Ch 204, 205, 206 and elect Ch 226, 227, and 340, or their equivalent as early as convenient.

Sophomore Year

	Term hours F	W	S
Group requirement in Social Science or Language and Literature	3	3	3
The Lower Plants (Bot 311)	4	---	---
The Higher Plants (Bot 312)	---	4	---
Systematic Botany (Bot 313)	---	---	4
General Zoology (Z 201, 202, 203)	3	3	3
Elementary Analysis (Mth 101, 102, 103)	4	4	4
Military Science (men)	1	1	1
Physical Education	1	1	1
	16	16	16

Upper-Division Major Curriculum

Junior Year

Principles of Plant Pathology (Bot 351)	4	---	---
Principles of Plant Ecology (Bot 341)	---	4	---
Principles of Plant Physiology (Bot 331)	---	---	4
General Physics (Ph 201, 202, 203)	4	4	4
[1]Electives	8	8	8
	16	16	16

Senior Year

Microtechnique (Bot 472)	---	3	---
Seminar (Bot 407)	1	1	1
Geology (G 201, 202, 203)	3	3	3
Electives	11	8	11
	15	15	15

CHEMISTRY[2]

Lower-Division Curriculum

Freshman Year

Group requirement in Language and Literature or Social Science	3	3	3
General Chemistry (Ch 204, 205, 206)	5	5	5
English Composition (Eng 111, 112, 113)	3	3	3
Elementary Analysis (Mth 101, 102, 103)	4	4	4
Military Science (men)	1	1	1
Physical Education	1	1	1
	17	17	17

Sophomore Year

Advanced Qualitative Analysis (Ch 231)	5	---	---
Quantitative Analysis (Ch 232, 233)	---	5	5
Group requirement in Language and Literature or Social Science	3	3	3
General Physics (Ph 201, 202, 203)	4	4	4
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
Military Science (men)	1	1	1
Physical Education	1	1	1
	18	18	18

Upper-Division Major Curriculum

Junior Year

[3]Organic Chemistry (Ch 430, 431, 432)	4	4	4
[3]Physical Chemistry (Ch 440, 441, 442)	4	4	4
[4]Electives	8	8	8
	16	16	16

Senior Year

[5]Approved upper-division Chemistry courses	4	4	4
Electives	9	9	9
	13	13	13

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[1]Students majoring in botany should elect work in bacteriology and entomology and, if possible, advanced work in the botanical field of chief interest. Hrt 311 is advised for second term of junior or senior year.

[2]See General Notes on page 119.

[3]Both of these sequences need not be taken in the junior year.

[4]Students are expected to acquire a reading knowledge of German (or of French) prior to graduation.

[5]Of the 12 upper-division chemistry electives, 6 credits must consist of laboratory work, of which 3 must be in Organic Chemistry.

ENTOMOLOGY[1]

Lower-Division Curriculum[2]

Freshman Year

	Term hours F	W	S
Group requirement in Language and Literature or Social Science	3	3	3
General Entomology (Ent 201, 202, 203)	3	3	3
General Zoology (Z 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
[2]Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
	17	17	17

Sophomore Year

Principles of Economic Entomology (Ent 211)	----	3	----
Practical Bee Culture (Ent 235)	----	----	3
Principles of Forest Entomology (Ent 321)	3	----	----
General Botany (Bot 201, 202, 203)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives or group requirement	9	9	9
	17	17	17

Upper-Division Major Curriculum

Junior Year

Approved upper-division courses in Entomology	6	6	6
Entomological Nomenclature and Literature (Ent 352)	----	3	----
Historical Entomology (Ent 351)	3	----	----
Principles of Plant Pathology (Bot 351)	4	----	----
Elementary Bacteriology (Bac 201)	----	3	----
[3]Electives	2	3	9
	15	15	15

Senior Year

Entomological Field Work (Ent 311, 312, 313)	2	2	2
Seminar (Ent 407)	1	1	1
[3]Electives	12	12	12
	15	15	15

GEOLOGY

Freshman Year

Norm

Group requirement in Language and Literature or Social Science	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
Geology (G 201, 202, 203)	3	3	3
Geology Laboratory (G 204, 205, 206)	1	1	1
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives	4	4	4
	16	16	16

Professional Option

Freshman-Year Norm	12	12	12
Principles of Chemistry (Ch 201, 202, 203)	4	4	4
	16	16	16

Sophomore Year

Norm

Group requirement in Language and Literature or Social Science	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Geology electives	3	3	3
Electives	8	8	8
	16	16	16

[1]See General Notes on page 119.

[2]Students planning to major in Forest Entomology should confer with Dr. W. J. Chamberlin, Forest Entomologist.

[3]Students interested in the statistical phases of applied entomology should elect Elementary Analysis and Statistical Methods. Prospective professional entomologists should elect Ch 121, 250, and 340, or their equivalent as early as convenient. Students majoring in entomology should also elect courses in geology.

Professional Option

	Term hours F	W	S
Sophomore-Year Norm	5	5	5
Stratigraphy (G 323)	4	----	----
Physiography (G 322)	----	4	----
Structural Geology (G 321)	----	----	4
College Algebra (Mth 105)	4	----	----
Trigonometry (Mth 106)	----	4	----
Plane Surveying (CE 226)	----	----	3
Engineering Drawing (GE 111, 112, 113)	2	2	2
Electives	1	1	2
	16	16	16

Paleontological Option

Sophomore-Year Norm	5	5	5
Rocks and Minerals (G 350)	3	----	----
General Zoology (Z 201, 202, 203)	3	3	3
Electives	5	8	8
	16	16	16

Junior Year

Norm

Upper-Division Geology	4	4	4
Electives	12	12	12
	16	16	16

Professional Option

Mineralogy (G 312, 313, 314)	4	4	4
Advanced Qualitative Analysis (Ch 231)	4	----	----
Quantitative Analysis (Ch 232)	----	4	----
Elementary Physical Chemistry (Ch 340) or instead of	----	----	4
Ch 231, 232, 340 General Physics (Ph 201, 202, 203)	(4)	(4)	(4)
Fire Assaying (Met 471, 472)	2	2	----
Mine Surveying (MiE 453)	----	----	3
Ore Dressing (Met 481, 482)	3	3	----
Electives	3	3	5
	16	16	16

Advanced Field Geology (G 380)

Paleontological Option

Invertebrate Paleontology (G 340, 341)	4	4	----
Paleobotany (G 442)	----	----	4
General Botany (Bot 201, 202, 203)	3	3	3
Approved sequence in Zoology	3	3	3
Electives	6	6	6
	16	16	16

Coos Head Biology Camp or Advanced Geology Field Camp.

Senior Year

Norm

Upper-Division Geology	4	4	4
Electives	12	12	12
	16	16	16

Professional Option

Earth Materials (G 412, 413, 414)	4	4	4
Invertebrate Paleontology (G 340, 341)	4	4	----
Paleobotany (G 442)	----	----	4
Approved sequence in Engineering or Physics or Chemistry	4	4	4
Electives	4	4	4
	16	16	16

Paleontological Option

Stratigraphy (G 323)	4	----	----
Approved upper-division sequence in Botany or Zoology	4	4	4
Electives	8	12	12
	16	16	16

MATHEMATICS[1]

Lower-Division Curriculum

Freshman Year

	Term hours F	W	S
Group requirement in Language and Literature or Social Science	3	3	3
Elementary Analysis (Mth 101, 102, 103)	4	4	4
English Composition (Eng 111, 112, 113)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives	4	4	4
	16	16	16

Sophomore Year

Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
Group requirement in Language and Literature or Social Science	3	3	3
Physical or Biological Science	3–4	3–4	3–4
Military Science (men)	1	1	1
Physical Education	1	1	1
Electives	3–4	3–4	3–4
	15–17	15–17	15–17

Upper-Division Major Curriculum

Junior Year

Upper-Division Mathematics	6	6	6
Physical or Biological Science	3–4	3–4	3–4
Electives	7	7	7
	16–17	16–17	16–17

Senior Year

Upper-Divsion Mathematics	3	3	3
[2]Electives	13	13	13
	16	16	16

PHYSICS[1]

Lower-Division Curriculum

Freshman Year

Group requirement in Language and Literature or Social Science	3	3	3
General Physics (Ph 201, 202, 203) *or* Engineering Physics (Ph 111, 112, 113)	4–3	4–3	4–3
Elementary Analysis (Mth 101, 102, 103)	4	4	4
English Composition (Eng 111, 112, 113)	3	3	3
Military Science (men)	1	1	1
Physical Education	1	1	1
	16–15	16–15	16–15

Sophomore Year

Group requirement in Language and Literature or Social Science	3	3	3
Introduction to Modern Physics (Ph 311, 312, 313)	3	3	3
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
General Chemistry (Ch 204, 205, 206) *or* Principles of Chemistry (Ch 201, 202, 203) *or* Elementary General Chemistry (Ch 101, 102, 103)	5–3	5–3	5–3
Military Science (men)	1	1	1
Physical Education	1	1	1
	17–15	17–15	17–15

[1]See General Notes on page 119.
[2]Include supporting science courses for students planning graduate work in mathematics.

Upper-Division Major Curriculum

Senior Year

	Term hours F	W	S
Physical Measurements (Ph 321, 322, 323)	3	3	3
[1]Electives	12–14	12–14	12–14
	15–17	15–17	15–17

Senior Year

Radio Communication (Ph 331, 332, 333)	3	3	3
Photography (Ph 361)	3	....	....
Light (Ph 465, 466)	....	3	3
Electives	11–9	11–9	11–9
	17–15	17–15	17–15

ZOOLOGY[2]

Lower-Division Curriculum

Freshman Year

Group requirement in Language and Literature or Social Science	3	3	3
General Zoology (Z 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
General Chemistry (Ch 204, 205, 206)	5	5	5
Military Science (men)	1	1	1
Physical Education	1	1	1
	16	16	16

Sophomore Year

Group requirement in Language and Literature or Social Science	3	3	3
Vertebrate Zoology (Z 204, 205, 206)	4	4	4
Organic Chemistry (Ch 226, 227)	5	5	....
Military Science (men)	1	1	1
Physical Education	1	1	1
[3]Electives	3	3	8
	17	17	17

Upper-Division Major Curriculum

Junior Year

Evolution and Eugenics (Z 314)	3	....	....
Genetics (Z 315)	....	3	....
Approved upper-division Zoology	3	3	3
General Physics (Ph 201, 202, 203) or suitable science substitute	4	4	4
[4]Electives	5	5	8
	15	15	15

Senior Year

Approved upper-division Zoology	3	3	3
Seminar (Z 407)	1	1	1
Electives	12	12	12
	16	16	16

[1]Suggestions: mathematics, photography, modern languages, physics.
[2]See General Notes on page 119.
[3]Ch 234, and Bot 201, 202, 203 are recommended for those wishing a physiological major.
[4]Ent 471 and G 340, 341 are suggested electives outside the department.

Premedical and Nursing Education Curricula

PREMEDICAL CURRICULUM[1]

Lower-Division Curriculum

Freshman Year	Term hours F	W	S
General Zoology (Z 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
General Chemistry (Ch 204, 205, 206)	5	5	5
Military Science (men)	1	1	1
Physical Education	1	1	1
[2]Electives	4	4	4
	17	17	17

Sophomore Year			
Vertebrate Zoology (Z 204, 205, 206)	4	4	4
Organic Chemistry (Ch 226, 227)	5	5	—
Quantitative Analysis (Ch 234)	—	—	5
German or French	4	4	4
Military Science (men)	1	1	1
Physical Education	1	1	1
[2]Electives	1	1	1
	16	16	16

Upper-Division Major Curriculum

(School of Science and Medical School)

Junior Year			
General Physics (Ph 201, 202, 203)	4	4	4
German or French	4	4	4
[2]Electives	9	9	9
	17	17	17

MAJOR IN SCIENCE AT THE STATE COLLEGE

B.A., B.S. Degrees

The student preparing to enter the Medical School should complete by the end of his junior year an approved major in science and all requirements for a degree except the fourth year of undergraduate residence. The first year at the Medical School may be counted in lieu of the fourth year of undergraduate residence.

MAJOR IN SCIENCE AT THE MEDICAL SCHOOL

B.A., B.S. Degrees

A student who, during his three years in the Premedical Curriculum at the State College, meets all the institutional requirements for graduation except completion of a major and the fourth year of residence may meet the requirements for a major in science in the first year at the Medical School. The following courses in basic sciences that constitute the work of the first year in the University of Oregon Medical School are of upper-division character, and will be accepted, in conjunction with the science work prescribed in the preparatory curriculum, as the full equivalent of a major in general science or zoology. A student counting these courses toward his major receives his degree through the School of Science at the State College.

	Term hours
Anatomy	18
Histology	6
Embryology	4
Bacteriology	6
Biochemistry	11
Physiology	5
Neurology	4
	54

[1]See General Notes on page 119.

[2]Students should confer with their premedical adviser in the selection of all electives. These electives should include the nonscience group requirement in Language and Literature and in Social Science in order to satisfy the requirements for a Junior Certificate.

PREPARATORY NURSING CURRICULUM[1]

FIVE-YEAR DEGREE CURRICULUM

Freshman Year	Term hours F	W	S
Principles of Chemistry (Ch 201, 202, 203)	4	4	4
General Zoology (Z 201, 202, 203)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
Introduction to Literature (Eng 104, 105, 106) or Shakespeare (Eng 201, 202, 203)	3	3	3
Backgrounds of Nursing (Nur 111, 112, 113)	2	2	2
General Hygiene (PE 150)	2	....	....
Physical Education	....	1	1
	17	16	16
Sophomore Year			
Organic Chemistry (Ch 226, 227)	5	5	....
Elementary Human Anatomy (Z 209, 210, 211)	3	3	3
Physiology (Z 306, 307, 308)	3	3	3
Modern Nursing Problems (Nur 211, 212, 213)	1	1	1
Elementary Psychology (Psy 201, 202, 203)	3	3	3
Physical Education	1	1	1
Electives	....	....	5
	16	16	16

General Science

CERTAIN phases of the instructional work of the School of Science are of general character, being broader in scope and objective than any of the departments. The Department of General Science is peculiarly the ally of all of the science departments, with the function of supplementing and correlating the work. The courses aim to give the student a comprehensive view of science as a division of knowledge, and are open, not only to students majoring in science, but also to students in the professional schools. The general-science major provides opportunity for students to pursue a broad program of study in science.

The survey courses in biological and physical science cover the fundamental fields of science rather than the content usually included in the special-science departments. These courses are nontechnical and are designed for the student interested in science more as a cultural subject than for any other specific purpose. The courses may serve as satisfaction of a Lower-Division Science group requirement or as part satisfaction of education norms, but they are not usually considered as prerequisites to further work in science or in the professional schools.

NOTE: *Students who have earned 6 term hours or more in one of the biological sciences prior to taking GS 101, 102, 103 are not allowed to count credit earned in the latter toward graduation except with the approval of the Dean of the School of Science. The same limitation exists regarding GS 104, 105, 106.*

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

GS 101, 102, 103. **Biological Science Survey.** 4 hours each term.
The fundamental principles of biology as they apply to both plants and animals. Not designed as foundational or introductory to subsequent special work in bacteriology, botany, entomology, or zoology; planned rather for general students and those majoring in other fields and designed to acquaint them with the general phenomena of life as concretely illustrated in fields of biology. Dr. Smith.

[1]See GENERAL NOTES on page 119.

GS 104, 105, 106. **Physical Science Survey.** 4 hours each term.
A general introductory study of the field of the physical sciences, embracing cosmic relations, principles of physics and chemistry, geologic processes and man's reaction to them. Special attention is given to the development and application of the scientific method. Not designed as foundational for a major in the physical sciences, but for students majoring in other fields who wish a broad view of the principles of physics, chemistry, and geology. Assistant Professor Wilkinson.

UPPER-DIVISION COURSES

GS 405. **Reading and Conference.** Terms and hours to be arranged.

GS 411, 412, 413. **History of Science.** (G) 2 hours each term.
The development of science from the beginnings, with emphasis on the scientific method and spirit. Illustrated by lantern slides. Prerequisite: eighteen hours of upper-division science, or equivalent. Not offered 1940-41.

GS 421, 422, 423. **Classics of Science.** (G) 2 hours each term.
Works notable in the development of biology, physical science, and mathematics, studied for (1) their significance to science and (2) their form. The biographies of men of science are studied as a background. Students also prepare papers suitable for oral presentation before organized groups, such as section meetings of a scientific society. Prerequisite: eighteen hours of upper-division science, or equivalent. Professor Gilfillan.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

GS 505. **Reading and Conference.** Terms and hours to be arranged.

GS 507. **Seminar.** Terms and hours to be arranged.

Bacteriology

BACTERIOLOGY, especially through its applications in agriculture, sanitation, and medicine, is of great importance in modern civilization. The instruction in bacteriology, hygiene, and related fields is planned to give undergraduates a thorough understanding of the subject and an appreciation of its importance, and to provide an adequate preparation for graduate work in bacteriology in its various branches or for professional training in a field related to bacteriology. As agriculture and allied fields are vital in Oregon industrial life, a very valuable and practical field of research is open to the student taking advanced work in agricultural bacteriology.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Bac 201, 202, 203. **Elementary Bacteriology.** 3 hours each term.
The fundamental principles of the bacteriology of food and water supplies; sanitation and hygiene; infectious disease; sewage disposal,

etc. Designed to meet the needs of students who have had no training in chemistry but who desire a general knowledge of bacteriology. Two lectures; 1 two-hour demonstration period.

Bac 204. **General Bacteriology.** 3 hours each term.
Lectures, recitations, and laboratory experiments to familiarize students with the fundamental principles of bacteriology. Prerequisite: one year of chemistry. Two lectures; 2 two-hour laboratory periods.

Bac 205. **General Bacteriology.** 3 hours winter or spring.
Continuation of Bac 204. Bacteriology of food preservation; principles of sanitation; bacteriological studies of water, milk, and foods of all kinds; common infectious diseases; disinfection; germicides; and preservatives. Prerequisite: Bac 204. Two lectures; 2 two-hour laboratory periods.

Bac 206. **General Bacteriology.** 3 hours spring.
Continuation of Bac 205.

Bac 230. **Principles of Bacteriology.** 3 hours spring.
Lectures and demonstrations in the basic principles of bacteriology as applied to everyday life.

UPPER-DIVISION COURSES

Bac 321. **Systematic Bacteriology.** 3 hours fall.
Taxonomy and nomenclature as applied to bacteriology; history of bacterial classifications; the International Rules of Nomenclature and the Bacteriological Code; evolution and relationships of bacteria; development of a satisfactory classification; review of other organisms closely related to the bacteria. Prerequisite: Bac 206. Associate Professor Bollen.

Bac 324. **Systematic Bacteriology Laboratory.** 2 hours fall.
Optional laboratory studies to accompany Bac 321. Dr. Hegarty.

Bac 332. **Pathogenic Bacteriology.** 3 hours winter.
Confined strictly to the microorganisms associated with disease in man. Prerequisite: Bac 204. Two lectures; 2 two-hour laboratory periods. Professor Simmons.

Bac 333. **Immunity and Serum Therapy.** 3 hours spring.
Theories of immunity and their application to serum therapy; preparation of toxins, antitoxins, vaccines, etc.; study of normal and pathological blood. Prerequisite: Bac 205 or 332. Two lectures; 2 two-hour laboratory periods. Professor Simmons.

Bac 341, 342. **Bacteriological Technique.** 3 hours each term, fall and winter.
Intensive study of the fundamental principles underlying methods used in the study of bacteria. A detailed study of the *Manual of Methods for Pure Culture Study of Bacteria.* Prerequisite: Bac 206. Two lectures; 2 two-hour laboratory periods. Associate Professor Bollen, Dr. Hegarty.

Bac 361. **Forest Sanitation.** 3 hours fall.
The sanitary provisions necessary for forest camps, camp grounds, and summer homes; location and construction of camp facilities. Professor Copson.

Bac 401. **Research.** Terms and hours to be arranged.

Bac 403. **Thesis.** Terms and hours to be arranged.

Bac 405. **Reading and Conference.** Terms and hours to be arranged.

Bac 407. **Seminar.** One hour each term. Professor Copson.

Bac 411. **Dairy Bacteriology.** (g) 3 hours fall.
Application of bacteriology to dairy practice; physiological activities of bacteria underlying bacterial analysis of dairy products; dairy sanitation; bacteriology of diseases of dairy cattle. Prerequisite: Bac 204. Two lectures; 2 two-hour laboratory periods. Professor Simmons.

Bac 412. **Dairy Bacteriology.** (G) 3 hours winter.
Continuation of Bac 411. A more thorough study of specific problems in dairy bacteriology and practice in special technique. Prerequisite: Bac 411. One lecture; 2 two-hour laboratory periods. Professor Simmons.

Bac 413. **Agricultural Bacteriology.** 3 hours spring.
For students in agriculture. Application of bacterial activities to farm practices and to the farm home; rural sanitation, hygiene, control of infectious diseases, fermentation, food preservation, etc. Prerequisite: Bac 204, Ch 250. One lecture; 2 two-hour laboratory periods. Professor Copson.

Bac 421. **Soil Bacteriology.** (g) 4 hours spring.
Microorganisms of the soil and their relation to soil fertility; biochemistry of the decomposition of humus; nitrogen-fixation; ammonification, etc. Prerequisite: Bac 204 or Ch 330. Two lectures; 3 two-hour laboratory periods. Associate Professor Bollen.

Bac 422. **Soil Bacteriology.** (G) 3 hours winter.
Continuation of Bac 421. Review of literature on soil bacteriology. Prerequisite: Bac 421. One lecture; 2 two-hour laboratory periods. Associate Professor Bollen.

Bac 432, 433. **Bacteriological Problems.** (g) 5 hours each term, winter and spring.
For students qualified to study intensively some of the problems concerned with systematic bacteriology and to carry on research studies concerned with the principles underlying some of the physiological activities of bacteria. Prerequisite: Bac 321, 324, or their equivalent. Staff.

Bac 441. **Sanitary Bacteriology.** 3 hours spring.
Lectures, recitations, and laboratory experiments to familiarize the student with the principles of bacteriology as applied to problems of community and municipal sanitation. Prerequisite: Bac 205. Two lectures; 2 two-hour laboratory periods. Professor Copson.

Bac 442. **Microscopy of Waters.** 3 hours spring.
Planned to give a thorough knowledge of the microorganisms found in surface waters; treatment of water by chemicals, aeration, etc. Prerequisite: Bac 441. One lecture; 2 two-hour laboratory periods. Professor Copson.

Bac 445. **Applied Hygiene.** 3 hours winter or spring.
Application of the principles of hygiene to sanitary, statistical, governmental, epidemiological, and sociological problems. Professor Langton.

Bac 451, 452. **Physiology of Bacteria.** (g) 3 hours each term, winter and spring.
Physical and chemical characteristics of bacteria and their environments; influence of physical and chemical factors on changes produced

by microorganisms, enzymes, and fermentation. Prerequisite: Bac 206 or equivalent; organic chemistry. Associate Professor Bollen.

Bac 454, 455. **Physiology of Bacteria Laboratory.** (g) 2 hours each term, winter and spring.
Optional laboratory studies to accompany Bac 451, 452. Dr. Hegarty.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Bac 501. **Research.** Terms and hours to be arranged.

Bac 503. **Thesis.** Terms and hours to be arranged.

Bac 505. **Reading and Conference.** Terms and hours to be arranged.

Bac 507. **Seminar.** Terms and hours to be arranged. Professor Copson.

Bac 551, 552. **Advanced Bacterial Physiology.** 3 hours each term, fall and winter.
Growth, fermentation, and death of microorganisms as effected by chemical and physical agents; emphasis on the morphology, cytology, and microchemistry of the cell. Prerequisite: Bac 451, 452 or equivalent; organic and physical chemistry. Associate Professor Bollen, Dr. Hegarty.

Bac 553. **The Biochemistry of the Bacteria.** 3 hours spring.
Changes that microorganisms induce in the substrate; isolation and identification of the products of fermentation; factors involved in fermentative variability. Prerequisite: Bac 551, 552, and Organic Analysis. Dr. Hegarty.

Botany

THE courses in botany provide comprehensive and advanced training in the various branches of this subject: first, for those who expect to make some field of plant science their major or life work; second, as a foundation for the work of students majoring in such professional schools as Agriculture and Forestry; and third, for those interested largely or entirely in botany from the cultural point of view.

For those having a professional interest in botany (the first two groups), it is proposed to meet the needs of those preparing (1) for professional careers as plant pathologists, plant physiologists, ecologists, taxonomists, or other specialized service at experiment stations, in the United States Department of Agriculture, or in other research institutions, or for botany teaching and research in colleges and universities; (2) for technical positions in which a knowledge of botany is essential, such as in agricultural extension work, plant disease control work, plant quarantine inspection, grazing assistant work, seed testing, food and drug analysis; and (3) for advanced study and research in such fields as horticulture, agronomy, forestry, soil science, biochemistry, and paleobotany.

The herbarium collections are under the care of a curator. They total approximately 70,000 specimens, including 40,000 classified specimen sheets of higher plants, 10,000 unmounted specimens; and 30,000 packets of parasitic fungi.

Excellent greenhouse facilities are available at the State College for botanical instruction and research.

An extensive and diversified research program relating to plant disease is conducted under the Botany Department by a group of State and Federal investigators. This involves the use of modern equipment and technique for laboratory, greenhouse, and field. Students are therefore provided with exceptional opportunities for training in plant pathology and often for part-time employment under able scientists.

Botany students also have a special advantage at this institution since they may elect minor work in the fields of forestry and agriculture, which provide the greatest opportunities for the useful application of plant science.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Bot 201, 202, 203. **General Botany.** 3 hours each term.
Introductory study of plant life. Structure and functions of higher plants; chief groups of plants, principles of reproduction and genetics, practical relationships in everyday life; practice in plant identification. Prerequisite to further work in botany. One lecture; 1 recitation; 2 two-hour laboratory periods. Staff.

UPPER-DIVISION COURSES

Bot 311. **The Lower Plants.** 4 hours fall.
Typical structure and life histories of the algae, fungi, hepatics, and mosses. Prerequisite: Bot 202 or equivalent. Two lectures; 2 three-hour laboratory periods. Associate Professor Sanborn.

Bot 312. **The Higher Plants.** 4 hours winter.
Typical structure and life histories of the ferns, fern allies, gymnosperms, and flowering plants. Prerequisite: Bot 202 or equivalent. Two lectures; 2 three-hour laboratory periods. Associate Professor Sanborn.

Bot 313. **Systematic Botany.** 4 hours spring.
Principles of plant classification; common plant families; collection and identification of Oregon higher plants. Prerequisite: Bot 203. Two lectures; 3 two-hour laboratory periods. Associate Professor Gilkey.

Bot 314. **Range and Pasture Botany.** 3 hours fall.
Taxonomy of grasses; ecology of range plants and their forage value; ecology of the grazing ranges and pastures from the standpoint of their maintenance; methods of grazing study; poisonous plants and methods of preventing stock poisoning. Prerequisite: Bot 201, 202. Two lectures; 2 two-hour laboratory periods. Associate Professor Lawrence.

Bot 315. **Forest Pathology.** 3 hours winter.
Introductory study of the nature, cause, and prevention of tree diseases and timber defects, especially those related to fungal parasites, saprophytes, and symbionts. Prerequisite: Bot 201, 202. One lecture; 2 two-hour laboratory periods. Dr. Rogers.

Bot 321. **Aquatic Plants.** 3 hours spring or fall.
Designed to acquaint the student with the important food plants of wild fowl, with particular reference to the Pacific Coast. Field and laboratory studies

in identification and distribution of species, together with growth-limiting factors. Prerequisite: Bot 203. One lecture; 2 three-hour laboratory periods. Associate Professor Gilkey.

Bot 323. **Seed Taxonomy.** 3 hours spring.
Seed characteristics and methods used in their identification, with special reference to botanical taxonomic principles; laboratory and greenhouse observations supplemented by field work. Of special interest to students majoring in systematic botany and to students preparing for government or commercial positions in seed analysis. Prerequisite: Bot 203, 313. One lecture; 3 two-hour laboratory periods. Associate Professor Gilkey.

Bot 331. **Principles of Plant Physiology.** 4 hours spring.
Introductory study of the physiology of living plants with the aid of laboratory and greenhouse experiments of special interest in agriculture and forestry. Prerequisite: Bot 201, 202, or equivalent, and at least one year of chemistry. Two lectures; 3 two-hour laboratory periods. Professor Atwood.

Bot 341. **Principles of Plant Ecology.** 4 hours winter.
Principles governing the interrelations of plants and environment; influence of living agencies and of light, heat, and other atmospheric and soil factors on the native vegetation and cultivated crops. Of particular interest to students in forestry and agriculture. Not open to freshmen or sophomores. Prerequisite: Bot 201, 202. Two lectures; 2 two-hour laboratory periods. Associate Professor Lawrence.

Bot 351. **Principles of Plant Pathology.** 4 hours fall.
Causes, symptoms, effects, methods of spread and principles of control of plant diseases with laboratory examination of typical specimens. Prerequisite: Bot 201, 202. Two recitations; 3 two-hour laboratory periods. Professor Owens.

Bot 401. **Research.** Terms and hours to be arranged.

Bot 403. **Thesis.** Terms and hours to be arranged.

Bot 405. **Reading and Conference.** Terms and hours to be arranged.

Bot 407. **Seminar.** One hour each term.

Bot 411, 412, 413. **Comparative Morphology.** (G) 3 hours each term.
Comparative structure and life history of the chief plant groups with evolutionary trends and the basic principles of phylogeny and classification; Algae; Bryophytes; Pteridophytes and Spermatophytes, with evolution of stele and strobilus from Pteridophytes. Prerequisite: Bot 311, 312, or equivalent. One lecture; 2 three-hour laboratory periods. Offered alternate years. Not offered 1940-41. Associate Professors Lawrence and Sanborn.

Bot 414. **Advanced Range and Pasture Ecology.** (g) 3 hours winter.
Continuation and advanced consideration of the problem of plant successions on the range, methods of vegetation analysis, ecology of range species and poisonous plants, the identification of grasses, rushes, and sedges. Prerequisite: Bot 314, 341. Two lectures; 2 two-hour laboratory periods. Associate Professor Lawrence.

Bot 421, 422, 423. **Advanced Systematic Botany.** (G) 3 hours each term.
Advanced studies of higher plants. Prerequisite: Bot 313. One lecture; 2 three-hour laboratory periods. Associate Professor Gilkey.

Bot 431, 432, 433. **Advanced Plant Physiology.** (G) 3 hours each term.
Physiological processes and relations of plants, with reviews of literature. Prerequisite: Bot 331 and organic chemistry. One lecture; 2 three-hour laboratory periods. Offered alternate years. Offered 1940-41. Professor Atwood.

Bot 441, 442, 443. **Advanced Plant Ecology.** (G) 3 hours each term.
Measurement of environmental factors and their relation to field practice, with special reference to forest, grazing, and agricultural ecology; structure of the plant community, including plant succession and methods in vegetation analysis. Each term may be taken separately. Prerequisite: Bot 341, or equivalent. Two lectures; 1 three-hour laboratory period. Associate Professor Lawrence.

Bot 451. **Plant Pathological Technique.** (g) 3 hours fall.
Methods used in the isolation, culture, inoculation, and study of organisms causing plant diseases. Prerequisite: Bot 351 or equivalent. One lecture; 2 three-hour laboratory periods. Dr. Rogers.

Bot 452. **Field and Truck Crop Diseases.** (G) 3 hours winter.
Chief diseases of field crops and vegetables and the principles of control. Especially for students in farm crops, vegetable crops, and plant pathology. Prerequisite: Bot 351 or equivalent. Three two-hour periods. Professor Owens.

Bot 453. **Fruit Diseases.** (G) 3 hours spring.
Chief diseases of fruits and their control. Especially for students in horticulture and plant pathology. Prerequisite: Bot 351 or equivalent. Three two-hour periods. Professor Owens.

Bot 461, 462, 463. **Mycology.** (G) 3 hours each term.
Mushrooms, smuts, rusts, and other Basidiomycetes; Ascomycetes and imperfect fungi; Myxomycetes and Phycomycetes. Prerequisite: Bot 311 or equivalent. One lecture; 2 three-hour laboratory periods. Dr. Rogers.

Bot 471. **Plant Anatomy.** (G) 3 hours fall.
Microscopic anatomy and development of plant tissues. One lecture; 2 three-hour laboratory periods. Dr. Smith.

Bot 472. **Microtechnique.** (g) 3 hours winter.
Principles and practice in fixing, embedding, sectioning, staining, and mounting plant tissues for permanent study. One lecture; 2 three-hour laboratory periods. Dr. Smith.

Bot 473. **Plant Cytology.** (G) 3 hours spring.
The various components of cells, nuclear and cell division, meiosis and fertilization. Prerequisite: Bot 472 or equivalent. Two lectures; 2 two-hour laboratory periods. Dr. Smith.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Bot 501. **Research.** Terms and hours to be arranged.

Bot 503. **Thesis.** Terms and hours to be arranged.

Bot 505. **Reading and Conference.** Terms and hours to be arranged.

Bot 507. **Seminar.** Terms and hours to be arranged.

Bot 541. **Plant Formations.** 3 hours fall.
Classification of vegetation areas of the world, floristic plant geography, especially with reference to North America. Prerequisite: Bot 341, 441. Two lectures; 1 three-hour laboratory period. Associate Professor Lawrence.

Bot 542. **Structural and Experimental Ecology.** 3 hours winter.
Special adaptations of plant species with reference to their ecological relations. Prerequisite: Bot 313, 331, 341, 442, 472. One lecture; 2 three-hour laboratory periods. Associate Professor Lawrence.

Bot 543. **Field Ecological Methods.** 3 hours spring.
Field practice in the use of ecological instruments and methods of studying vegetation. Prerequisite: Bot 341, 443. One lecture; 2 three-hour laboratory periods. Associate Professor Lawrence.

Bot 573. **Cytogenetics.** 3 hours winter.
The cytological basis of inheritance; heredity in plants and animals considered from the point of view of chromosome behavior; emphasis on chromosome behavior in forms that do not show typical Mendelian inheritance. Prerequisite: Bot 473 or Z 537; AI 315, FC 415, or Z 315. Two lectures; 1 two-hour laboratory and discussion period. Dr. Smith.

Chemistry

THE Department of Chemistry aims to prepare its students for (1) governmental service; (2) teaching positions in colleges, universities, junior colleges, and secondary schools; (3) positions as chemists and technical experts in commercial laboratories of all sorts, having to do with all types of manufactured articles; (4) positions as chemists in various food industries, in dairying, at experiment stations.

For the better positions in any of these fields the Ph.D. degree is almost universally necessary for younger men. Research or original investigation plays a very important part in these better positions whether the work is that of governmental chemist, university professor, or industrial chemist. A strong fundamental training in all the main branches of chemistry is therefore essential. Specialization can come only after a very substantial amount of fundamental work is covered.

Positions for which the full training of the doctorate degree may not be required include junior chemists in the government service, teachers in secondary schools, holders of minor positions in colleges, analysts, and control chemists in various branches of industry.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Ch 101, 102, 103. **Elementary General Chemistry.** 3 hours each term.
Designed for students desiring an introduction to the general field. Required in certain curricula in agriculture, engineering, and home economics. One lecture; 1 recitation; 1 three-hour laboratory period.

Ch 121. **Elements of Organic Chemistry.** 4 hours spring.
A laboratory and class study of the more common compounds of the aliphatic series. Required in home economics. Prerequisite: Ch 101, 102. Two lectures; 2 three-hour laboratory periods.

Ch 130. **Descriptive General Chemistry.** 3 hours spring.
A nonlaboratory course for students desiring a general knowledge of chemistry as an aid to better understanding of the numerous developments in the commercial and industrial world today; particularly for forestry students. Not accepted as a substitute for other chemistry courses.

Ch 201, 202, 203. **Principles of Chemistry.** 4 hours each term.
A year sequence for students in chemical engineering and nursing education. Two lectures; 2 three-hour laboratory periods. Lectures for chemical-engineering students concurrent with lecture of Ch 204, 205, 206. Lectures for nursing-education students concurrent with lectures for Ch 101, 102, 103.

Ch 204, 205, 206. **General Chemistry.** 5 hours each term.
For students planning to major in chemistry and for other students requiring extensive knowledge of the subject. Laboratory work in Ch 206 includes elementary qualitative analysis. Two lectures; 1 recitation; and 2 three-hour laboratory periods.

Ch 208, 209. **General Chemistry.** 5 hours each term, winter and spring.
Designed to cover in two terms the same material as Ch 101, 102, 103, for students starting at the beginning of the winter term. Two lectures; 1 recitation; 2 three-hour laboratory periods.

Ch 226, 227. **Organic Chemistry.** 5 hours each term, fall and winter.
A substantial two-term sequence in the chemistry of the carbon compounds; the aliphatics, aromatics, and derivatives. Prerequisite: Ch 206. Two lectures; 1 recitation; 2 three-hour laboratory periods.

Ch 231. **Advanced Qualitative Analysis.** 4 or 5 hours fall.
Advanced theory of qualitative analysis and examination of commercial products. Prerequisite: Ch 206. Two lectures; 2 or 3 three-hour laboratory periods.

Ch 232, 233. **Quantitative Analysis.** 4 or 5 hours each term, winter and spring.
Principles of quantitative analysis, including electrometric analysis and hydrogen-ion concentration. Credit 4 hours each term for chemical-engineering students, 5 hours each term for students majoring in chemistry. Prerequisite: Ch 206. Two lectures; 2 or 3 three-hour laboratory periods.

Ch 234. **Quantitative Analysis.** 5 hours spring.
Principles of gravimetric analysis, volumetric analysis, and H-ion concentration. Designed for pharmacy and premedical students. Prerequisite: Ch 103. Two lectures; 3 three-hour laboratory periods.

Ch 250. **Elements of Biochemistry.** 4 hours fall.
A laboratory study of proteins, carbohydrates, fats, and other compounds having biochemical significance; fundamentals of analysis as applied in this work. Prerequisite: Ch 121 or equivalent. Two lectures; 2 three-hour laboratory periods.

Ch 251, 252. **Organic and Agricultural Biochemistry.** 5 hours fall, 3 hours winter.
Fundamental principles of organic and biochemistry, with applications in agriculture and related industries. Prerequisite: Ch 103. Three lectures, 2 three-hour laboratory periods, fall; 3 lectures, winter.

Ch 253. **Agricultural Biochemistry.** 2 hours winter.
Biochemical laboratory work to accompany Ch 252. Two three-hour laboratory periods.

Ch 254. **Quantitative Analysis for Agricultural Students.** 3 hours spring.
Fundamental training in quantitative procedure necessary for laboratory work in any phase of agricultural technology. Prerequisite: Ch 103. One lecture; 2 three-hour laboratory periods.

UPPER-DIVISION COURSES

Ch 321, 322, 323. **Metallurgical Chemistry.** 3 hours each term.
Analysis of limestone, iron ores, phosphorus in iron ores, determination of manganese, sulphur, copper, arsenic, etc. Prerequisite: Ch 233 or equivalent. Professor Fulton.

Ch 330, 331. **Physiological Chemistry.** 2 hours winter, 3 hours spring.
Designed for students in home economics, pharmacy, and bacteriology. Prerequisite: Ch 251 or 227. One lecture-recitation period and 1 three-hour laboratory winter term; 2 lecture-recitation and 1 three-hour laboratory periods spring term. Assistant Professor Pease.

Ch 340. **Elementary Physical Chemistry.** 3 hours.
A nonmathematical course designed for those who desire a knowledge of the elements of physical chemistry. Kinetic theory, atomic structure, molecular weights, classification of elements, solubility, ionization, colloids, hydrogen-ion measurements, and electrochemistry. Prerequisite: Ch 203 or equivalent. Three lectures. Mr. Ware.

Ch 351, 352. **Agricultural Chemical Technology.** 3 hours each term.
Students in this sequence are expected to have some special interest, as in fertilizers, insecticides and fungicides, feeding stuffs, creamery products, horticultural products, irrigation and drainage waters. Intensive reading is required in addition to laboratory work on principles involved in manufacturing and utilization. Prerequisite: Ch 233. Three three-hour laboratory periods. Professor Jones.

Ch 353. **Dairy Chemistry.** 3 hours.
The chemistry of organic acids, fats, proteins, amino acids, carbohydrates, and vitamins as applied to creamery products. Prerequisite: Ch 251, 254. Two four-hour laboratory periods. Professor Jones.

Ch 370, 371, 372. **Glass Blowing.** 1 hour each term.
Practice in the manipulation of glass and assembling setups. Two two-hour laboratory periods. Professor Fulton.

Ch 401. **Research.** Terms and hours to be arranged.

Ch 403. **Thesis.** Terms and hours to be arranged.

Ch 405. **Reading and Conference.** Terms and hours to be arranged.

Ch 407. **Seminar.** One hour each term.

Ch 411, 412, 413. **Advanced Inorganic Chemistry.** (g) 2 hours each term.
Radioactivity, modern periodic table, atomic structure, inorganic isomerism, complex compounds, elementary metallurgy, and geochemistry; the chemical elements, their practical and theoretical importance. Prerequisite: Ch 206, 233, or equivalent. Offered alternately with Ch 511, 512, 513. Associate Professor Caldwell.

Ch 414, 415. **Inorganic Preparations.** (g) Terms and hours to be arranged.
Preparation and purification of typical inorganic compounds. Prerequisite: Ch 232, 233, or their equivalent. Dr. West.

Ch 418. **History of Chemistry.** (G) 3 hours.
Rise and development of chemical theories and laws. Prerequisite: three years of chemistry. Assistant Professor Friedman.

Ch 420, 421, 422. **Advanced Quantitative Analysis.** (g) 3 hours each term.
Laboratory study acquainting the student with special analytical procedure such as those of electroanalysis, fuel analysis, analysis of nonferrous alloys, water, iron and steel, etc. Prerequisite: Ch 231-233. One lecture; 2 three-hour laboratory periods. Associate Professor Mehlig.

Ch 423. **Microchemical Analysis.** (g) 3 hours fall.
Quantitative analysis by micro and semimicro methods. Prerequisite: Ch 231. One lecture; 2 three-hour laboratory periods. Assistant Professor Christensen.

Ch 424. **Advanced Laboratory Methods.** (G) 3 hours winter.
Instruction and practice in manipulation of optical and electrical instruments, high vacuum, high and low temperature control. Prerequisite: Ch 231, Ph 311. One lecture, 2 three-hour laboratory periods. Assistant Professor Christensen.

Ch 425. **Chemical Microscopy.** (g) 3 hours spring.
Microscopic, qualitative, inorganic analysis. Prerequisite: Ch 232. One lecture; 2 three-hour laboratory periods. Assistant Professor Christensen.

Ch 426. **Gas, Oil, and Fuel Analysis.** (g) 3 hours.
Analysis of natural, artificial, and flue gases and gas calorimetry; the analysis and calorimetry of coal, and analysis and physical testing of oils. Prerequisite: Ch 231. One lecture; 2 three-hour laboratory periods. Assistant Professor Christensen.

Ch 427, 428. **Physiochemical Methods of Analysis.** (G) 3 hours each term.
Designed to familiarize the student with special analytical apparatus and methods. Work with nephelometer, colorimeter, refractometer, centrifuge, indicators, electrometric methods of determining pH, electrolytic separation of metals, and electrometric titration methods, including the use of various types of electrodes and conductivity methods. Prerequisite: Ch 231-233, Ch 440-442. One lecture; 2 laboratory periods. Assistant Professor Christensen.

Ch 430, 431, 432. **Organic Chemistry.** (g) 4 hours each term.
Chemistry of the compounds of carbon; compounds important from the theoretical, technical, and biological standpoints; aliphatic compounds; aromatic series. Prerequisite: two years of college chemistry. Three lectures; 1 laboratory period. Assistant Professor Ferguson.

Ch 433. **Organic Combustion Analysis.** (G) 3 hours any term.
Quantitative analysis of organic compounds. Prerequisite: Ch 227, 233, 432. Three three-hour laboratory periods. Assistant Professor Pease.

Ch 434, 435, 436. **Organic Preparations.** (G) 2 hours each term.
The more important methods of synthesis, such as Grignard, Friedel-Craft's, Perkin's reaction, and others. Prerequisite: Ch 432. Two three-hour laboratory periods. Assistant Professor Pease.

Ch 437, 438. **Organic Chemistry.** (G) 2 hours each term, fall and winter.
Continuation of Ch 430, 431, 432. Emphasis on the methods of synthesis, interpretation of reactions, and structure of organic compounds. Two lectures. Assistant Professors Pease and Ferguson.

Ch 440, 441, 442. **Physical Chemistry.** (g) 4 hours each term.
The more important principles of physical and electrochemistry; laboratory work in molecular-weight determinations, properties of liquids, conductance of solutions, velocity of reactions, and electrochemical measurements. Prerequisite: knowledge of analytical chemistry. Two lectures; 2 three-hour laboratory periods. Professor Gilbert.

Ch 443. **Chemical Literature.** (G) 1 hour fall.
Designed to train the advanced student in the use of the chemical literature and to instruct him in the character of various chemical journals, dictionaries, reference books, and other sources of information pertaining to chemistry and related fields. Prerequisite: senior or graduate standing. Professor Gilbert.

Ch 445, 446. **Chemical Thermodynamics.** (G) 3 hours each term.
Application of the principles of thermodynamics to chemical phenomena; heat of reaction, free energy, activity, fungacity of gases, chemical equilibrium, entropy. Prerequisite: Ch 442. Professor Gilbert.

Ch 447. **Electrochemistry.** (G) 3 hours.
A lecture course dealing with theoretical and applied electrochemistry. A knowledge of thermodynamics is desirable preparation. Professor Gilbert.

Ch 448, 449. **Colloidal Chemistry.** (G) 3 hours each term.
A study of the properties and preparation of substances in the colloidal state. Laboratory courses Ch 467 and 468 accompany this course. Prerequisite: three years of college chemistry. Three lectures. Assistant Professor Friedman.

Ch 450, 451. **Biochemistry.** (G) 3 to 5 hours each term, fall and winter.
Chemistry of both plant and animal organisms, their tissue constituents, nutrition and metabolism. Prerequisite: organic chemistry. Professor Butts.

Ch 452. **Animal Physiological Chemistry.** (G) 3 to 5 hours spring.
Prerequisite: Ch 451. Professor Jones.

Ch 453. **Plant Physiological Chemistry.** (G) 5 hours spring.
Prerequisite: Ch 451. Professor Jones.

Ch 454, 455, 456. **Agricultural Biochemical Methods.** (G) Hours to be arranged.
Offered as an aid to students planning to enter research in plant or animal industries. Laboratory methods in Ch 454 are general in scope and application; those in Ch 455 and Ch 456 are specific in application to groups of plant and animal compounds and to enzymes that accomplish transformations in living bodies. Prerequisite: suitable preparation in quantitative analysis and organic chemistry. Professor Jones.

Ch 460, 461, 462. **Pulp and Paper Chemistry.** (G) 3 hours each term.
Chemistry of cellulose; fundamental chemical processes of the pulp and paper industry. Prerequisite: analytical and organic chemistry. Three lectures. Assistant Professor Friedman.

Ch 465. **Applied Electrochemistry.** (G) 3 hours fall.
Testing and use of coulometers; the characteristics of primary and secondary cells; the application of electrodeposition to electroanalysis and electroplating. One conference; 2 three-hour laboratory periods. Prerequisite: Ch 442. Mr. Ware.

Ch 466. **Advanced Electrochemistry and Electrometallurgy.** (G) Terms and hours to be arranged.
A laboratory course dealing with electrolytic preparation of chemical compounds and practice in electrometallurgy, and special problems in these fields. Prerequisite: Ch 442. Mr. Ware.

Ch 467, 468. **Colloidal Chemistry Laboratory.** (G) 1 hour each term.
Assistant Professor Friedman.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Ch 501. **Research.** Terms and hours to be arranged.

Ch 503. **Thesis.** Terms and hours to be arranged.
Qualified students will have all the facilities of the laboratory at their disposal and will receive the advice and assistance of the department.

Ch 505. **Reading and Conference.** Terms and hours to be arranged.

Ch 507. **Seminar.** 1 hour each term.
A reading knowledge of German and French is expected.

Ch 511, 512, 513. **Advanced General Chemistry.** 2 hours each term.
Theory and application of general chemistry; inorganic catalysts, double and complex compounds, geochemistry, metallurgical chemistry, and flotation of nonmetallics. Offered alternately with Ch 411, 412, 413. Associate Professor Caldwell.

Ch 520, 521, 522. **Advanced Analytical Chemistry.** 3 hours each term.
Special analytical procedures adapted to those enrolling. Prerequisite: Ch 231, 232, 233. Associate Professor Mehlig.

Ch 530, 531, 532. **Advanced Organic Chemistry.** 2 hours each term.
The theoretical aspects of the subject emphasized by discussion of theories of valence, chemical reactivity, catalysis, etc., as these are related to particular groups of compounds. Topics vary in alternate years. Prerequisite: Ch 432. Offered alternate years. Not offered 1940-41. Assistant Professor Pease.

Ch 533, 534, 535. **Advanced Organic Chemistry.** 2 hours each term.
Molecular rearrangement, isomerism of cyclic compounds, dye intermediates, dyes and free radicals; theoretical aspects emphasized by discussions of the mechanism of reaction, chemical reactivity, industrial importance, etc., as related to this particular group of compounds. Prerequisite: Ch 432 or equivalent. Offered alternate years. Offered 1940-41. Assistant Professor Ferguson.

Ch 536, 537. **Organic Analysis.** 2 hours winter, 3 hours spring.
Qualitative tests and analysis of organic compounds and mixtures. One lecture, 1 three-hour laboratory period, winter term; 1 lecture, 2 three-hour laboratory periods spring term. Prerequisite: Ch 232, 432. Assistant Professor Pease.

Ch 540, 541, 542. **Advanced Physical Chemistry.** 2 hours each term.
Atomic structure from the chemical standpoint; kinetic theory of gases; newer theories of solutions; phase rule and its applications. Prerequisite: Ch 442. Offered alternate years. Not offered 1940-41.

Ch 543, 544, 545. **Advanced Physical Chemistry.** 2 hours each term.
Solubility; properties of liquids, surface tension, dielectric constant, vapor pressure, and other topics; kinetics of chemical reactions; newer theories of valence; photochemistry. Prerequisite: Ch 442. Offered alternate years. Offered 1940-41. Professor Gilbert.

Entomology

ENTOMOLOGY courses are planned to acquaint the student with the proper relationship of entomology to general agriculture and forestry, to train students for commercial honey production, to prepare students for state and Federal service in economic entomology, and to meet the needs of students from other departments who desire work in entomology. Advanced work is offered in three fields: applied entomology, bee culture, and forest entomology.

Advanced courses are planned to equip students specializing in entomology with a fundamental ground work in the science sufficient to prepare them for effective service in applied entomology and to fit them for advanced research study.

The student who intends to engage in research work or college teaching should clearly appreciate the fact that the four-year curriculum does not give him adequate preparation for a career in these fields. Additional study at the graduate level of from one to three years is essential. Certain types of commercial and inspection work may not require more training than is represented by the bachelor's degree.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Ent 201, 202, 203. **General Entomology.** 3 hours each term.
Designed as basic instruction for students planning to take a major or a minor in entomology. Elementary work in morphology, taxonomy, physiology, general technique, and biology of insects. Two lectures; 1 three-hour laboratory period.

Ent 211. **Principles of Economic Entomology.** 3 hours fall or winter.
Designed primarily for agriculture students. Typical economic insect forms in the principal orders and more important families; principles of insect-pest control. Two recitations; 1 three-hour laboratory period.

Ent 223. **Elementary Entomology.** 3 hours winter.
A nontechnical cultural course designed primarily for prospective teachers of high-school biology and others interested in insects and their habits. In-

sects in their relation to human welfare, their collection, preservation, classification, and the rearing of living forms. Two lectures, 1 three-hour laboratory period.

Ent 235. **Practical Bee Culture.** 3 hours spring.
A practical course dealing with the habits and life history of the honey bee, the management of bees for honey production and the pollination of fruit and seed crops. Two lectures, 1 three-hour laboratory period.

UPPER-DIVISION COURSES

Ent 311, 312, 313. **Entomological Field Work.** Terms and hours to be arranged.
Field work, performed between sophomore and junior years or between junior and senior years, in connection with some state or Federal service; a written report based on an approved outline. Spring, summer, or fall; for summer work registration should be made and fee paid before close of spring term. Prerequisite: permission of instructor. Staff.

Ent 321. **Principles of Forest Entomology.** 3 hours fall or spring.
A general introduction to entomology for forestry students. A survey of the forest losses due to insects, the groups responsible, and a consideration of typical examples of the various groups and methods of prevention and control. Two lectures; 1 two-hour laboratory period. Associate Professor Chamberlin.

Ent 322, 323. **Forest Entomology.** 3 hours each term, winter and spring.
Intensive study of insects injurious to forests and forest products, forest-insect surveys, and the principles of forest-insect control. Prerequisite: Ent 321. Two lectures; 1 two-hour laboratory period. Associate Professor Chamberlin.

Ent 341. **Aquatic Entomology.** 4 hours spring.
Classification of aquatic insects, their ecologies, life histories, and economic importance as food of game fishes; emphasis on the techniques of conducting lake and stream surveys. One lecture or recitation; 2 three-hour laboratory periods or field work. Professor Mote.

Ent 351. **Historical Entomology.** 3 hours fall.
Insects of the ancients; early works on entomology; beginnings in America; early entomological workers in America; introduced pests; development of the Bureau of Entomology; early work in Oregon. Associate Professor Chamberlin.

Ent 352. **Entomological Nomenclature and Literature.** 3 hours winter.
Rules, regulations, and practices in entomological nomenclature; the International Code; sources of entomological literature; Bureau of Entomology; periodicals and books; bibliographies. Associate Professor Chamberlin.

Ent 373. **Entomological Technique.** 3 hours spring.
Designed to acquaint the student with methods of rearing living insects, collecting and preserving insects and the preparation of insect material for study. For major students in entomology and for prospective teachers of biology. The laboratory work is adapted to the needs of the student. Prerequisite: Ent 201, 211, or 223. One lecture; 2 three-hour laboratory periods. Associate Professor Scullen.

Ent 401. **Research.** Terms and hours to be arranged.

Ent 403. **Thesis.** Terms and hours to be arranged.

Ent 405. **Reading and Conference.** Terms and hours to be arranged.

Ent 407. **Seminar.** 1 hour each term.
Reading, discussing, and abstracting of the leading articles on entomological topics as they appear in current scientific literature.

Ent 411. **Fruit Insects.** (G) 3 hours fall.
Major fruit insects and their control. Especially for students in horticulture and entomology. Prerequisite: Ent 211 or equivalent. Three two-hour laboratory periods. Professor Mote.

Ent 412. **Medical Entomology.** (G) 3 hours winter.
Brief consideration of the men instrumental in the study that gave rise to medical entomology; ways in which disease is transmitted by insects; insects responsible for diseases of man; more common disease parasites, their carriers, and possible means of prevention and control. Two lectures; 1 three-hour laboratory period. Associate Professor Chamberlin.

Ent 413. **Field and Truck-Crop Insects.** (G) 3 hours spring.
Major field and truck-crop insects and their control. Especially for students in farm crops, vegetable crops, and entomology. Prerequisite: Ent 211 or equivalent. Three two-hour laboratory periods. Professor Mote.

Ent 415. **Principles of Insect Control.** (G) 3 hours winter.
Pests of special groups, such as fruit insects, truck-crop insects, insects affecting man and animals, greenhouse and field-crop insects; control measures and principles. Prerequisite: Ent 211 or equivalent. Two lectures, 1 laboratory period. Professor Mote.

Ent 423. **Advanced Forest Entomology.** (G) 4 hours.
An intensive study of the bark beetles injurious to forest trees. Prerequisite: Ent 323 or equivalent. Two lectures; 1 laboratory period. Associate Professor Chamberlin.

Ent 431. **Biological Control.** (G) 3 hours spring.
Brief history of those who started this work, its possibilities and limitations; groups of insects that lend themselves to artificial propagation, examples of successes and failures, study of typical species in the various groups. Two lectures; 1 three-hour laboratory period. Associate Professor Chamberlin.

Ent 451, 452, 453. **Insect Taxonomy.** (G) 3 hours each term.
The classification of insects of the several orders; intensive study of insects of selected groups; attention to phylogenetic relationships and distribution. Prerequisite: Ent 203 or equivalent. Two recitations; 1 three-hour laboratory period. Associate Professor Chamberlin.

Ent 471. **Insect Morphology.** (G) 5 hours fall.
Fundamentals of external and internal morphology and the adaptation of parts to their functions; histology, embryology, post-embryonic development and wing venation. Prerequisite: Ent 201, 202, 203. Three lectures; 2 three-hour laboratory periods. Associate Professor Scullen.

Ent 472. **Insect Physiology.** (G) 5 hours winter.
Life processes of insects, including nutrition, respiration, circulation, excretion, and reproduction. Prerequisite: Ent 471 and General Physiology. Three lectures; 3 two-hour laboratory periods. Associate Professor Scullen.

Ent 473. **Insect Ecology.** (G) 5 hours spring.
Environmental factors and their influence on insect development, distribution and behavior. Prerequisite: Ent 203; plant ecology desirable. Three lectures; 2 three-hour laboratory periods. Associate Professor Scullen.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Ent 501. **Research.** Terms and hours to be arranged.

Ent 503. **Thesis.** Terms and hours to be arranged.

Ent 505. **Reading and Conference.** Terms and hours to be arranged.

Ent 507. **Seminar.** Terms and hours to be arranged.

Geology

AN appreciation of the significance of geology in our civilization is important in an undergraduate education. The undergraduate courses serve also as a foundation for graduate work leading to the advanced degrees. Oregon affords unusually rich fields for the graduate student working in many phases of physiographical, geological, or paleontological sciences. The department is equipped for graduate work in these fields.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

G 201, 202, 203. **Geology.** 3 hours each term.
Introductory year sequence dealing with those processes of nature by which the surface of the earth has been built up, deformed, and torn down; the natural history and the occurrence of the common rocks and useful minerals; outline of the history of the earth and significant events in the history of life. Professor Allison.

G 204, 205, 206. **Geology Laboratory.** 1 hour each term.
Laboratory and field work to accompany G 201, 202, 203 for all students desiring a more intimate knowledge of geology.

UPPER-DIVISION COURSES

G 312, 313, 314. **Mineralogy.** 4 hours each term.
Physical and chemical methods useful in the recognition of materials of which the earth is composed. Crystallography and physical mineralogy; petrographic methods, emphasizing optical microphysical and microchemical techniques; descriptive mineralogy; special attention to application of methods of identification. Prerequisite: chemistry. Two lectures; 2 laboratory periods. Assistant Professor Wilkinson.

G 321. **Structural Geology.** 4 hours spring.
Study of origin, interpretation and mapping of minor rock structures and joints, faults, and folds. Prerequisite: G 201, 202. Three lectures; 1 laboratory or field period. Professor Allison.

G 322. **Physiography.** 4 hours winter.
Principles of geomorphology or the development of the surface features of the earth by erosion, deposition, earth movements and volcanism. Three lectures; 1 laboratory or field period. Professor Allison.

G 323. **Stratigraphy.** 4 hours fall.
Genesis and subsequent history of stratified rocks, including a study of the geologic processes concerned with sedimentation and cementation. Prerequisite: G 201, 202, 203. Three lectures; 1 laboratory or field period. Professor Allison.

G 324. **Engineering Geology.** 3 hours winter.
The general field from the engineering standpoint. Open to other than engineering students. Professor Hodge.

G 330. **Life of the Past.** 3 hours fall.
General principles of the history of life as recorded in the fossil record; several groups of invertebrates studied as illustrations of biological principles and for their relationships to higher animals. Professor Packard.

G 331. **Geologic History of Vertebrates.** 3 hours winter.
Brief consideration of the rise and development of the vertebrates with special attention to certain groups of ancient animals that once lived on the Pacific Coast. Professor Packard.

G 332. **Geologic History of Man.** 3 hours spring.
Physical and cultural development of the ancient types of men, as shown by their fossil remains, their implements and art. Professor Packard.

G 340, 341. **Invertebrate Paleontology.** 4 hours each term.
Major groups of fossil invertebrates and the characteristics of important West Coast genera. Two class periods and 2 laboratory periods a week. (The third term of the year sequence is G 442.) Professor Packard.

G 350. **Rocks and Minerals.** 3 hours fall.
This course gives the student having a general interest in geology the opportunity to become acquainted with rocks and minerals without having to meet the requirements of the more technical courses. Can be combined with term courses in physiography and Oregon geology to form a junior sequence. Of interest to a student majoring in general science and especially useful to one expecting to teach general science. Assistant Professor Wilkinson.

G 352. **Geology of Oregon.** 3 hours spring.
Affords opportunity to obtain a general knowledge of the geology of the state without having to meet the technical requirements imposed for a professional geology major. Can be combined with term courses in rocks and minerals and physiography to form a sequence. Of interest to a student majoring in general science and especially useful to one expecting to teach general science. Professor Hodge.

G 355. **Geological Resources.** 3 hours fall.
The natural resources of the world and their relationship to the geological and topographical background; the industries arising from such mineral resources. Professor Hodge.

G 380. **Advanced Field Geology.** 9 hours.
A general course in geologic mapping and surveying methods and an intensive study of a small area so chosen as to include a wide range of special problems. Conducted in a summer camp of four weeks; may be taken with full credit for a series of summers, as different area is studied each season.

G 401. **Research.** Terms and hours to be arranged.

G 403. **Thesis.** Terms and hours to be arranged.

G 405. **Reading and Conference.** Terms and hours to be arranged.

G 407. **Seminar.** Any term, 1 hour each term.

G 412, 413, 414. **Earth Materials.** (g) 4 hours each term.
Attention to the identification, geologic occurrence, and use of the rock-forming economic and rare minerals; ore deposits, with emphasis on the classification, origin, and occurrence of ore deposits; petrography and petrogensis of igneous rocks; megascopic and microscopic study of typical rocks from classical localities. Prerequisite: G 312, 313, 314. Professor Hodge.

G 424. **Advanced Paleontology.** (G) Term and hours to be arranged.
Special work assigned to meet the requirements of the advanced student. Prerequisite: G 340, 341. Professor Packard.

G 431. **Geologic History of North America.** (G) 4 hours.
The geologic development of the North American continent. Prerequisite: stratigraphy. Professor Allison.

G 432. **Geologic History of the Pacific Coast.** (G) 4 hours.
The geologic history of the Pacific Coast of North America. Prerequisite: stratigraphy and paleontology. Professor Allison.

G 442. **Paleobotany.** (g) 4 hours spring.
Plants that are important from a paleobotanical standpoint; floras from the Devonian to the Pleistocene, with special reference to the Tertiary floras of Oregon. Two lectures; 2 three-hour laboratory periods. Associate Professor Sanborn.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

G 501. **Research.** Terms and hours to be arranged.

G 503. **Thesis.** Terms and hours to be arranged.

G 505. **Reading and Conference.** Terms and hours to be arranged.

G 507. **Seminar.** Terms and hours to be arranged.

G 512, 513, 514. **Microscopy.** Hours to be arranged.
Use and theory of the microscope in the recognition and determination of the properties of organic and inorganic materials. Professor Hodge.

G 520. **Advanced Economic Geology.** Terms and hours to be arranged.
Special work assigned to meet the requirements of advanced students in metallic and nonmetallic mineral deposits. Professor Hodge.

G 580. **Graduate Field Geology.** Terms and hours to be arranged.
Advanced field problems assigned to meet the requirements of the graduate student. Staff.

Mathematics

THE courses in mathematics are designed to provide for the general student the training in rigorous thinking and analytical processes which is a fundamental part of a well-balanced education; to supply the mathematical preparation desirable for students in professional schools; to prepare prospective teachers; and finally to give advanced and graduate work for those who specialize in mathematics or science.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Mth 10. **Elementary Algebra.** 4 hours.

Mth 20. **Elementary Geometry.** 4 hours.

Mth 100. **Intermediate Algebra.** 4 hours.

Mth 101, 102, 103. **Elementary Analysis.** 4 hours each term.
Trigonometry, graphs, algebra, elements of calculus, and analytic geometry.

Mth 105. **College Algebra.** 4 hours.

Mth 106. **Trigonometry.** 4 hours.

Mth 108. **Mathematics of Finance.** 4 hours.
Courses Mth 100, 108, 109, or Mth 105, 108, 109 form a year sequence for students planning to major in business administration.

Mth 109. **Elements of Statistics.** 4 hours.
Mth 100, 106, 109, or Mth 105, 106, 109 form a year sequence for forestry freshmen.

Mth 201, 202, 203. **Differential and Integral Calculus.** 4 hours each term.
Prerequisite: Elementary Analysis or equivalent.

Mth 221, 222. **Introduction to Calculus.** 4 hours each term.
A brief course in differential and integral calculus primarily for engineering students. Prerequisite: Elementary Analysis or equivalent.

UPPER-DIVISION COURSES

Mth 311. **History of Mathematics.** 3 hours.
Brief history of our oldest science; its beginnings in relation to social problems; reciprocal effect of mathematics on society. For students preparing to teach, this course should suggest lively approaches in presenting the subject and give a sense of the importance of mathematics for modern civilization. Professor Beaty.

Mth 316. **Projective Geometry.** 3 hours.
Synthetic projective geometry, useful for prospective teachers of mathematics. Prerequisite: Elementary Analysis or equivalent. Assistant Professor Williams.

Mth 331. **Applied Mathematics.** 3 hours.
Problem course in applications of the calculus, including applications of hyperbolic functions; special attention to the mathematical formulation of practical problems. Prerequisite: calculus. Professor Beaty.

Mth 341, 342. **Applied Statistics.** 3 hours each term.
For students in biological sciences and agriculture who lack the prerequisites for Mth 109. Not open to students having credit in Mth 109. Assistant Professor Kirkham.

Mth 405. **Reading and Conference.** Terms and hours to be arranged.
Professor Milne.

Mth 411. **Theory of Equations and Determinants.** (G) 3 hours.
Properties and methods of solution of algebraic equations; brief study of determinants and their applications. Prerequisite: caluclus. Assistant Professor Williams.

Mth 412. **Higher Algebra.** (G) 3 hours.
Determinants, linear dependence, matrices, linear transformations, invariants, and quadratic forms. Prerequisite: calculus. Assistant Professor Williams.

Mth 413. **Advanced Plane Analytic Geometry.** (g) 3 hours.
A more advanced treatment, intended for students of fair mathematical maturity. Prerequisite: calculus. Assistant Professor Williams.

Mth 414. **Solid Analytic Geometry.** (G) 3 hours.
Prerequisite: calculus. Assistant Professor Williams.

Mth 415. **Advanced Geometry.** (G) 3 hours.
Euclidean geometry from a modern point of view. Prerequisite: calculus. Assistant Professor Williams.

Mth 416. **Projective Geometry.** (G) 3 hours.
Introduction to analytic and synthetic projective geometry. Prerequisite: calculus. Assistant Professor Williams.

Mth 421, 422. **Differential Equations.** (G) 3 hours each term.
Practical study of the solution of ordinary and partial differential equations. Prerequisite: calculus. Professors Milne and Beaty.

Mth 424. **Theory of Measurements.** (g) 3 hours.
Theory of errors, methods of least squares, and adjustment of observations. Prerequisite: calculus. Assistant Professor Kirkham.

Mth 425. **Vector Analysis.** (G) 3 hours.
Prerequisite: calculus. Dr. Scheffé.

Mth 426. **Mathematical Theory of Probability.** (G) 3 hours.
Methods of calculating probabilities with applications to scientific problems. Prerequisite: calculus. Assistant Professor Kirkham.

Mth 431, 432, 433. **Advanced Calculus.** (G) 3 hours each term.
The aim is twofold: (1) to examine critically some of the results of the calculus, (2) to study the calculus of several variables. Partial derivatives; gradient, change of variables, Jacobians, line integral, multiple integral, Green's Theorem, Gamma and Beta functions, development in series of orthogonal functions. Prerequisite: elementary calculus. Dr. Harrold.

Mth 435. **Numerical Calculus.** (G) 3 hours.
Finite differences, interpolation, numerical differentiation and integration, and numerical solution of differential equations. Prerequisite: differential equations. Professor Milne.

Mth 441, 442, 443. **Mathematical Theory of Statistics.** (G) 3 hours each term.
Statistical constants; simple and multiple correlations; theory of sampling; frequency curves; significance tests. Prerequisite: calculus. Assistant Professor Kirkham.

Mth 451, 452, 453. **Analytical Mechanics.** (G) 3 hours each term.
Statics, kinetics, dynamics of particles and rigid bodies. Prerequisite: calculus. Dr. Scheffé.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Mth 501. **Research.** Terms and hours to be arranged.

Mth 503. **Thesis.** Terms and hours to be arranged.

Mth 505. **Reading and Conference.** Terms and hours to be arranged.

Mth 507. **Seminar.** Terms and hours to be arranged.

Mth 511, 512, 513. **Functions of a Complex Variable.** 3 hours each term.
Introduction to analytic functions, fundamental for advanced study in mathematics. Professor Milne.

Mth 514. **Calculus of Variations.** 3 hours. Professor Milne.

Mth 516. **Potential Theory.** 3 hours.
A study of the Newtonian and other potential functions. Dr. Scheffé.

Mth 521, 522, 523. **Differential Equations of Mathematical Physics.** 3 hours each term.
Ordinary and partial linear differential equations and boundary value problems, with applications. Professor Milne.

Mth 531, 532, 533. **Advanced Analytical Mechanics.** 3 hours each term.
Generalized coordinates, Lagrange's equations, Hamilton's principle, Hamilton's canonical equations, contact transformations; such topics as special relativity, tensor analysis, statistical mechanics, the theory of the top. Prerequisite: Mth 451, 452, 453, or equivalent. Dr. Smith.

Mth 541, 542. **Theory of Elasticity.** 3 hours each term.
Mathematical formulation of the problem of stress, strain, and deformation in elastic solids, with solutions in some cases of practical interest. Dr Scheffé.

Mth 544, 545. **Hydrodynamics.** 3 hours each term.
The mechanics of fluids, with special reference to liquids, but including also some applications to air and other gases. Dr. Scheffé.

Nursing Education

WHILE the first two years of the Nursing Education Degree Curriculum as given at the State College are devoted chiefly to general and basic subjects in preparation for professional work at the Medical School and in hospitals, a year sequence is required during the freshman year in the backgrounds of the nursing profession. The instruction is given by a member of the nursing-education faculty of the University of Oregon Medical School.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Nur 111, 112, 113. **Backgrounds of Nursing.** 2 hours each term.
The historical backgrounds of modern social and health movements, the relation of these to the evolution of nursing as a profession, and present aims and problems in nursing at home and abroad. Associate Professor Wheelock.

Nur 211, 212, 213. **Modern Problems of Nursing.** 1 hour each term.
Continuation of Nur 111, 112, 113.

Physics

STUDENTS planning to major in physics should offer a maximum of high-school mathematics and physics for entrance. The lower-division program should include mathematics through the calculus, general chemistry, and ordinarily two years of physics. Those planning for graduate study and research should also lay the foundations of a reading knowledge of German or French, or both. In special cases courses in closely related departments, involving considerable study of physical principles, may be accepted as part of a major in physics.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Ph 111, 112, 113. **Engineering Physics.** 3 hours each term.
Studies in general physics adapted to students in engineering. This sequence is started fall term and also winter term. One lecture; 2 recitations; 2 one-hour laboratory periods. Professor Weniger and others.

Ph 161. **Rudiments of Photography.** 2 hours any term.
A manipulation course intended for students not having the science prerequisites for Ph 361. Completion of this course does not admit to

Ph 362. One lecture; 1 two-hour laboratory period. Assistant Professor Garman and others.

Ph 201, 202, 203. **General Physics.** 4 hours each term.
Mechanics, sound, heat, light, electricity, and an introduction to modern physics. Two lectures; 2 recitations; 1 two-hour laboratory period. Associate Professor Yunker.

Ph 204, 205, 206. **Astronomy and Meteorology.** 3 hours each term.
Descriptive rather than mathematical. Solar system; meteorology and the physics of the atmosphere (during winter when weather not suitable for astronomical observations); types and groupings of stars. Students may enter any term. Professor Anderson.

Ph 211, 212. **Qualitative Physics.** 3 hours each term, fall and winter.
The "how" and "why" of the most important applications of mechanics heat, sound, light, and electricity and magnetism. Five periods a week devoted to demonstration lectures or informal discussions. Mr. Reid.

UPPER-DIVISION COURSES

Ph 311, 312, 313. **Introduction to Modern Physics.** 3 hours each term.
A continuation of General (or Engineering) Physics. Chief discoveries since the closing years of the last century, together with the necessary introductory material thereto; kinetic theory, the electron, radiation, radioactivity; photoelectricity, thermionic emission, X-rays, modern applications of electronic devices; conduction of electricity through gases, artificial transmutation, cosmic rays. A student may enter any term. Two lectures; 1 two-hour laboratory period. Associate Professor Brady.

Ph 321, 322, 323. **Physical Measurements.** 3 hours each term.
Fall term: electrical measurements. One lecture; 2 two-hour laboratory periods. Winter term: two lectures; 1 two-hour laboratory period. Spring term: heat, including high temperature, measurements. Two lectures; 1 two-hour laboratory period. A student may enter the fall or spring term. Prerequisite: calculus. Assistant Professor Varner.

Ph 330. **Fundamentals of Radio.** 3 hours spring.
The underlying physical principles; present-day radio circuits; construction and use of transmitting and receiving equipment. One lecture; 2 two-hour laboratory periods. Associate Professor Yunker.

Ph 331, 332, 333. **Radio Communication.** 3 hours each term.
Theory of radio transmission and reception; vacuum tubes; radio and audio frequency measurements; special problems. Students desiring a course in high-frequency measurements may register for Ph 332 only; a special laboratory section will be provided. Prerequisite: one year of college physics and consent of instructor. Two lectures or recitations; 1 two-hour laboratory period. Associate Professor Yunker.

Ph 343. **Acoustics.** 3 hours.
The acoustics of buildings. Three lectures; occasional laboratory. Assistant Professor Morgan.

Ph 361. **Photography.** 3 hours any term.
Theoretical and practical photography for the beginner; the hand camera, negative making, developing and printing, toning, enlarging,

lantern slides. Prerequisite: college chemistry or physics or previous photographic experience, with consent of instructor. One lecture; 2 two-hour laboratory periods. Assistant Professor Garman and others.

Ph 362. **Photography.** 3 hours winter.
Commercial phases of photography: view cameras, copying, flashlights, indoor lighting, color correction, distant views, etc. Prerequisite: Ph 361. One lecture; 2 two-hour laboratory periods. Assistant Professor Garman.

Ph 363. **Photography.** 3 hours spring.
The making of pleasing pictures: composition, carbon and carbro printing, paper negatives, diffusion, enlarging negatives, etc. Prerequisite: Ph 361. One lecture; 2 two-hour laboratory periods. Assistant Professor Garman.

Ph 380. **Laboratory Arts.** Terms and hours to be arranged.
Construction, repair, and adjustment of physical apparatus; if desired, the study of the administration of the physical laboratory and points regarding home-made apparatus for high schools. Lectures, assigned readings, and laboratory. Professor Weniger and others.

Ph 396. **Practical Astronomy.** 3 hours.
Determination of time, latitude, longitude, and azimuth by astronomical methods. Prerequisite: Ph 206 and trigonometry. One lecture; 2 observation periods. Professor Anderson.

Ph 401. **Research.** Terms and hours to be arranged.

Ph 403. **Thesis.** Terms and hours to be arranged.

Ph 405. **Reading and Conference.** Terms and hours to be arranged.

Ph 407. **Seminar.** One hour each term.

Ph 461, 462, 463. **Advanced Photography.** (G) 3 hours each term.
Work in special fields such as color photography, photomicrography, microscopic motion pictures, miniature camera technique, etc. A student may enter any term. Prerequisite: Ph 362. One lecture; 2 two-hour laboratory periods. Assistant Professor Garman.

Ph 464. **The Physics of Light Production.** (g) 3 hours.
Radiation and the development of modern illuminants. Two lectures; 1 two-hour laboratory period. Professor Weniger.

Ph 465, 466. **Light.** 3 hours winter and spring.
Geometric and physical optics. Prerequisite: calculus. Two lectures; 1 two-hour laboratory period. Professor Weniger.

GRADUATE COURSES

Courses at the graduate level are given when warranted by demand. An appended date indicates that the course is offered only in alternate years.

Ph 501. **Research.** Terms and hours to be arranged.

Ph 503. **Thesis.** Terms and hours to be arranged.

Ph 505. **Reading and Conference.** Terms and hours to be arranged.

Ph 507. **Seminar.** Terms and hours to be arranged.

Ph 521, 522, 523. **Introduction to Theoretical Physics.** 3 hours each term. A mathematical treatment of the theories of classical physics. Required of all physics majors for the master's degree. Three lectures. Associate Professor Brady.

Ph 524, 525, 526. **Advanced Mathematical Physics.** Hours to be arranged. Lectures and assigned readings. The topics treated are varied from year to year to suit the needs of the students. Assistant Professor Morgan.

Ph 531, 532, 533. **Advanced Electrical Theory.** 3 hours each term. A mathematical discussion of the classical and modern theories of electricity. Offered 1940-41. Assistant Professor Varner.

Ph 537, 538, 539. **Conduction of Electricity through Gases.** 3 hours each term.
Processes taking place at the electrodes, in the gas, and at the walls of the tube; glow, arc, and spark discharges. Prerequisite: Ph 311, 312, 313, 332, or equivalent. Two lectures; 1 three-hour laboratory period. Offered 1941-42. Associate Professor Brady.

Ph 551, 552, 553. **Theory of Heat.** 3 hours each term.
Thermodynamics and the kinetic theory. Especially for students in physics and physical chemistry and those interested in industrial applications. Three lectures. Offered 1941-42. Assistant Professor Varner.

Ph 561, 562, 563. **Optics.** 3 hours each term.
Physical optics; theory of optical instruments; spectroscopy. Prerequisite: Ph. 466. Two lectures; 1 three-hour laboratory period. Offered 1940-41. Professor Weniger.

Ph 571, 572, 573. **Modern Physical Theories.** 3 hours each term.
Electron theory, relativity, the quantum theory, wave mechanics. Three lectures. Prerequisite: Ph 523. Offered 1940-41. Assistant Professor Morgan.

Ph 576. **Quantum Mechanics.** 3 hours.
Modern theories based on matrices, tensors, Schroedinger's equation, Heisenberg's principle, and Dirac's transformation theory. Three lectures. Prerequisite: Ph 573. Assistant Professor Morgan.

Ph 582. **History and Philosophy of Physics.** 3 hours winter.
Prerequisite: four years of physics. Physics staff.

Ph 591, 592. **Cosmic Physics.** 3 hours each term.
Physical characteristics and behavior of the stellar universe with special emphasis on the problems of the earth and the solar system. Three lectures. Offered 1941-42. Professor Anderson.

Ph 593. **Geophysics.** 3 hours.
Prerequisite: G 321, and differential equations. Three lectures. Offered 1941-42. Professor Weniger.

Zoology

IN the lower-division courses the purpose is to furnish the student with effective grounding in the principles of animal biology and in laboratory methods. These courses also form the basis for professional work

in the applied fields of zoology. The upper-division courses provide for training in the special fields of the science, particularly the general and experimental phases of anatomy, physiology, parasitology, and pathology. Advanced study courses and seminars introduce the student to research and give opportunity for advanced work in selected subjects. For the master's degree, a summer at the Institute of Marine Biology is recommended, and for the doctor's degree it is required.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Z 130. **Principles of Zoology.** 3 hours spring.
Distribution, habits, and functions of animals with reference to their economic importance. Two lectures; 1 three-hour laboratory period. Professor Fasten and staff.

Z 201, 202, 203. **General Zoology.** 3 hours each term.
Introductory study dealing with principles of animal biology. For premedical students, pharmacy, physical education, psychology, fish and game management students, and others desiring a fundamental course in general zoology. Two lectures; 1 three-hour laboratory period. Professor Fasten and staff.

Z 204, 205, 206. **Vertebrate Zoology.** 4 hours each term.
Elements of comparative anatomy, gross and microscopic, and of vertebrate embryology. Two lectures; 6 hours laboratory. Assistant Professor Osborn.

Z 208, 209, 210. **Elementary Human Anatomy.** 3 hours each term.
For students in physical education and others desiring a course dealing with the organization of the human body. In the spring term applied phases of anatomy are considered. Two lectures; 1 laboratory period. Dr. Taylor, Assistant Professor Swan.

Z 211. **Elementary Human Physiology.** 5 hours spring.
For students in home economics, physical education, prenursing, and others desiring a general course in the principles of human physiology. Three lectures; 2 laboratory periods. Assistant Professor Wulzen.

UPPER-DIVISION COURSES

Z 306, 307, 308. **Physiology.** 3 hours each term.
Functions of the various systems of the human body. In the spring term applied phases of physiology are considered. Prerequisite: general zoology or equivalent and consent of instructor. Two lectures; 1 laboratory period. Assistant Professor Wulzen, Associate Professor Allman.

Z 313. **Field Zoology.** 3 hours spring.
The local vertebrates, their taxonomic arrangement, habits, and distribution. Two lectures; 3 hours of laboratory or field work. Assistant Professor Gordon.

Z 314. **Evolution and Eugenics.** 3 hours fall.
The various ideas concerning the origin, development, and relation of organisms, with emphasis on human welfare. Prerequisite: Z 201, 202, 203, or consent of instructor. Professor Fasten.

Z 315. **Genetics.** 3 hours winter.
Heredity and variation in plants and animals; special emphasis on such topics as heredity versus environment, inheritance of acquired characteristics, the glands of internal secretion and development, Mendelian principles of heredity, newer developments in heredity, and heredity in man. Prerequisite: Z 201, 202, 203, or consent of instructor. Professor Fasten.

Z 321. **Economic Ornithology.** 3 hours fall.
Habits, life histories and economic importance of northwestern birds with special reference to game and predatory birds. Prerequisite: Z 201, 202, 203, or consent of instructor. Two lectures; 1 three-hour laboratory period. Assistant Professor Gordon.

Z 322. **Economic Mammalogy.** 3 hours winter.
Classification, distribution, life histories and economic relationships of game, fur-bearing and destructive mammals. Prerequisite: Z 201, 202, 203. Two lectures; 1 laboratory period. Assistant Professor Gordon.

Z 323. **Biology of Fishes.** 3 hours spring.
Brief consideration of the game and commercial fishes, especially of Oregon; classification, life histories, habits; problems associated with the propagation and utilization of fishes. Prerequisite: Z 201, 202, 203. Two lectures; 1 laboratory period. Dr. Taylor.

Z 401. **Research.** Terms and hours to be arranged.

Z 403. **Thesis.** Terms and hours to be arranged.

Z 405. **Reading and Conference.** Terms and hours to be arranged.
Readings and reports on special topics.

Z 407. **Seminar.** Any term, 1 hour each term. Professor Fasten.

Z 410. **Animal Ecology.** (g) 3 hours spring.
Animal associations and habitats; succession of animal communities; environmental factors; variation and regulation of animal numbers; movements of animals; social organization and behavior. Prerequisite: two years of biology, or consent of instructor. Two lectures; 1 laboratory period. Assistant Professor Gordon.

Z 411, 412, 413. **General Physiology.** (G) 3 hours each term.
The principles of physiology and their application to life processes in animals. Prerequisite: general zoology, general chemistry, and organic chemistry. Two lectures; 1 three-hour laboratory period. Assistant Professor Wulzen.

Z 414. **Endocrinology.** (g) 3 hours fall.
Physiology of the glands of internal secretion in health and disease. Prerequisite: General Zoology and Organic Chemistry. Dr. Taylor.

Z 431, 432. **Invertebrate Zoology.** (G) 4 hours each term, fall and winter.
The structure, classification, distribution, and life histories of the invertebrates. Two lectures; 2 laboratory periods. Prerequisite: two years of zoology. Dr. Dornfeld.

Z 475. **Histology.** (G) 3 hours fall.
Comparative study of the tissues of vertebrates. Prerequisite: Z 204, 205, 206, or consent of instructor. One lecture; 6 hours laboratory. Dr. Dornfeld.

Z 476. **Microtechnique.** (g) 3 hours winter.
Study and practice in the principal methods of preparing animal tissues for microscopic study. Prerequisite: two years of biology. One lecture; 6 hours laboratory. Dr. Dornfeld.

Z 477. **Experimental Embryology.** (G) 3 hours spring.
Fundamental nature and causes of development. Prerequisite: Z 204, 205, 206, or consent of instructor. One lecture; 6 hours laboratory work. Dr. Dornfeld.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Z 501. **Research.** Terms and hours to be arranged.

Z 503. **Thesis.** Terms and hours to be arranged.

Z 505. **Reading and Conference.** Terms and hours to be arranged.

Z 507. **Seminar.** Terms and hours to be arranged. Professor Fasten.

Z 536. **Parasitology.** 3 hours.
The role played by animals in the production of disease. Assistant Professor Gordon.

Z 537. **Cytology.** 3 hours.
Structure and function of the cell with special reference to the behavior and distribution of chromosomes. Dr. Dornfeld.

SCIENCE AT THE UNIVERSITY

By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in biological science, physical science, and mathematics was confined to the School of Science at the State College, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the State College and the University.

The lower-division work in botany, chemistry, geology, mathematics, physics, and zoology is essentially the same at both institutions. While it is recommended that students intending to major in these sciences enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the University, and transfer to the State College for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in science, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the University offers upper-division service courses in science for students in other fields.

The following lower-division and service courses in science are available at the University:

GENERAL SCIENCE

LOWER-DIVISION COURSES

BiS 101, 102, 103. Biological-Science Survey. Three terms, 4 hours each term.
PhS 101, 102, 103. Physical-Science Survey. Three terms, 4 hours each term.

BOTANY

LOWER-DIVISION COURSES

Bot 101, 102, 103. General Botany. Three terms, 3 hours each term.
Bot 204. The Lower Plants. Fall term, 4 hours.
Bot 205. The Higher Plants. Winter term, 4 hours.
Bot 206. Systematic Botany. Spring term, 4 hours.
Bot 217. Autumn Plant Life. Fall term, 3 hours.
Bot 218. Trees and Shrubs in Winter. Winter term, 3 hours.
Bot 219. Economic Plants. Spring term, 3 hours.

CHEMISTRY

LOWER-DIVISION COURSES

Ch 104, 105, 106. General Chemistry. Three terms, 4 hours each term.
Ch 204, 205, 206. Analytical and Theoretical Chemistry. Three terms, 4 or 5 hours each term.
Ch 220. Analytical Chemistry. Fall term, 4 hours.
Ch 223. Elementary Biochemistry. Spring term, 4 hours.
Ch 226, 227, 228. Organic Chemistry. Three terms, 4 hours each term.
Ch 231. Qualitative Analysis. Spring term, 4 hours.
Ch 232. Quantitative Analysis. Fall or spring term, 3 to 5 hours each term.
Ch 233. Quantitative Analysis. Winter term, 3 to 5 hours.

UPPER-DIVISION SERVICE COURSE

Ch 340. Physical Chemistry. Spring term, 3 hours.

GEOLOGY

LOWER-DIVISION COURSES

G 101, 102, 103. General Geology. Three terms, 3 hours each term.
G 104, 105, 106. General Geology Laboratory. Three terms, 1 hour each term.
G 201, 202, 203. Introduction to Field Geology. Three terms, 1 to 3 hours each term.
G 283, 284. Introduction to the Study of Fossils. Winter and spring terms, 3 hours each term.
G 290. Introduction to the Geology of Oregon. 3 hours.
G 293. Stratigraphy. One term, 2 or 3 hours.

MATHEMATICS

LOWER-DIVISION COURSES

Mth 10. Elements of Algebra. One term, 4 hours.
Mth 100. Intermediate Algebra. One term, 4 hours.
Mth 101, 102, 103. Elementary Analysis I, II, III. Three terms, 4 hours each term.
Mth 105. College Algebra. One term, 4 hours.
Mth 106. Plane Trigonometry. One term, 4 hours.
Mth 108. Mathematics of Finance. One term, 4 hours.
Mth 111, 112, 113. Introduction to Analysis. Three terms, 2 hours each term.
Mth 200. Analytical Geometry. 4 hours.
Mth 201, 202, 203. Differential and Integral Calculus. Three terms, 4 hours each term.
Mth 205, 206. Calculus. Two terms, 4 hours each term.
Mth 209. Mathematics of Life Insurance. One term, 3 or 4 hours.
Mth 215. Analytical Trigonometry. One term, 3 hours.

UPPER-DIVISION SERVICE COURSES

Mth 311. History of Elementary Mathematics. One term, 3 hours.
Mth 314. Higher Algebra. One term, 3 hours.
Mth 316. Elements of Projective Geometry. One term, 3 hours.
Mth 325, 326. Foundations of Mathematical Statistics. Two terms, 3 hours each term.
Mth 337. Elements of Statistics. 3 or 4 hours.
Mth 411. Theory of Equations. (g) One term, 3 hours.
Mth 415. Advanced Euclidean Geometry. (g) One term, 3 hours.
Mth 448. Advanced Statistical Method. (g) 3 hours.

NURSING EDUCATION

LOWER-DIVISION COURSES

Nur 111, 112, 113. Backgrounds of Nursing. Three terms, 2 hours each term.
Nur 211, 212, 213. Modern Nursing Problems. Three terms, 1 hour each term.

PHYSICS

LOWER-DIVISION COURSES

Ph 101, 102, 103. Essentials of Physics. Three terms, 2 hours each term.
Ph 104, 105, 106. Essentials of Physics Laboratory. Three terms, 1 hour each term.
Ph 161. Rudiments of Photography. 2 hours.
Ph 201, 202, 203. General Physics. Three terms, 4 or 5 hours each term.
Ph 207, 208, 209. Descriptive Astronomy. Three terms, 3 hours each term.
Ph 211, 212, 213. Advanced General Physics. Three terms, 3 hours each term.
Ph 214. Household Physics. 3 hours.
Ph 296. Practical Astronomy. 3 hours.

UPPER-DIVISION SERVICE COURSES

Ph 346. Sound. Winter term, 3 hours.
Ph 369, 370, 371. Architectural Physics. 3 hours each term.

ZOOLOGY

LOWER-DIVISION COURSES

Z 5. Elementary Problems in Zoology. Terms and hours to be arranged.
Z 104, 105, 106. General Zoology. Three terms, 3 hours each term.
Z 111, 112, 113. Human Growth and Development. Three terms, 3 hours each term.
Z 204, 205, 206. Vertebrate Zoology. Three terms, 4 hours each term.
Z 211, 212, 213. Elementary Human Physiology. Three terms, 3 hours each term.
Z 214. Field Zoology. Spring term, 3 hours.
Z 250. Microtechnique. Winter or spring term, 2 hours.

UPPER-DIVISION SERVICE COURSES

Z 311, 312, 313. Elementary Human Physiology. Three terms, 3 hours each term.
Z 314. Evolution. Fall term, 2 hours.
Z 315. Heredity. Winter term, 2 hours.
Z 316. Eugenics. Spring term, 2 hours.
Z 451, 452, 453. Anatomy and Physiology of Exercise. (g) 3 hours each term.

Lower Division and Service Departments

Faculty

MAHLON ELLWOOD SMITH, Ph.D., Dean of Lower Division and Service Departments.

GERTRUDE FULKERSON, Secretary to the Dean.

ARTS AND LETTERS

English

SIGURD HARLAN PETERSON, Ph.D., Professor of English; Head of Department.

FREDERICK BERCHTOLD, A.M., Litt.D., Professor Emeritus of English.

MAHLON ELLWOOD SMITH, Ph.D., Professor of English.

JOHN M KIERZEK, Ph.D., Professor of English.

DANIEL THOMAS ORDEMAN, Ph.D., Associate Professor of English.

RALPH COLBY, Ph.D., Associate Professor of English.

GERTRUDE ELIZABETH MCELFRESH, A.M., Assistant Professor of English.

LAURIN BURTON BALDWIN, A.M., D.D., Assistant Professor of English.

*HERBERT BENJAMIN NELSON, M.A., Assistant Professor of English.

HERBERT ELLSWORTH CHILDS, Ph.D., Assistant Professor of English.

ELEANOR CALDWELL INGALLS, M.A., Instructor in English.

ROBERT RAY REICHART, M.S., Instructor in English.

BEATRICE BUTLER BEEBE, M.A., Instructor in English.

CLARK MIXON EMERY, Ph.D., Instructor in English.

GAINEFORD J HALL, M.A., Instructor in English.

KARL GEORGE PETERSON, B.S., Instructor in English.

ORLIN CHALMER SPICER, A.M., Instructor in English.

KENNETH MUNFORD, B.S., Instructor in English.

AUDRED ROBERTS, A.B., Assistant in English.

Modern Languages

MELISSA MARGARET MARTIN, A.M., Professor of Modern Languages; Chairman of Department.

EDITH CARTER KUNEY, A.M., Associate Professor of Modern Languages.

MARY EUNICE LEWIS, Ph.D., Associate Professor of Modern Languages.

Speech

CHARLES BUREN MITCHELL, M.A., Professor of Speech; Head of Department.

EARL WILLIAM WELLS, M.A., J.D., Professor of Speech.

ELIZABETH MARIA BARNES, B.L.I., Associate Professor of Speech.

PAUL XENOPHON KNOLL, M.S., Assistant Professor of Speech.

DELOSS PALMER YOUNG, B.S., Assistant Professor of Speech and Dramatics.

CARLYN REO WINGER, M.A., Assistant Professor of Speech.

BENJAMIN MAXWELL MARSHALL, M.S., Instructor in Speech.

*On leave of absence 1939-40.

SOCIAL SCIENCE

Economics

~~MILTON NELS NELSON, Ph.D.~~, Professor of Economics; Head of Department.

WILLIAM HENRY DREESEN, Ph.D., Professor of Economics.

ROBERT HORNIMAN DANN, M.A., Associate Professor of Economics.

BAYARD O WHEELER, M.A., Assistant Professor of Economics.

PAUL LINCOLN KLEINSORGE, Ph.D., Instructor in Economics.

History

EARNEST VANCOURT VAUGHN, Ph.D., Professor of History; In Charge of Department.

JOSEPH WALDO ELLISON, Ph.D., Professor of History.

Philosophy

ERNEST WILLIAM WARRINGTON, M.A., Professor of Philosophy; Head of Department.

Political Science

ULYSSES GRANT DUBACH, Ph.D., Professor of Political Science; Head of Department.

FRANK ABBOTT MAGRUDER, Ph.D., Professor of Political Science.

DAN WILLIAMS POLING, M.S., Assistant Professor of Political Science.

Psychology

OTHNIEL ROBERT CHAMBERS, Ph.D., Professor of Psychology; In Charge of Department.

JESSE FRANKLIN BRUMBAUGH, A.M., Professor Emeritus of Psychology.

JAMES WILSON SHERBURNE, Ph.D., Assistant Professor of Psychology.

~~NATHAN MACCOBY~~, M.A., Instructor in Psychology.

Sociology

GLENN ALMER BAKKUM, Ph.D., Professor of Sociology; Chairman of Department.

ROBERT HORNIMAN DANN, M.A., Associate Professor of Sociology.

ARCHITECTURE AND ALLIED ARTS

Art and Architecture

JOHN LEO FAIRBANKS, Professor of Art and Architecture; Head of Department.

HERBERT REEVES SINNARD, M.S., R.A., Associate Professor of Architecture.

IDA MARTHA MATSEN, A.M., Associate Professor of Art.

DOROTHY MAY BOURKE, B.A., Assistant Professor of Art.

THERON HARMS EGBERT, B.Arch., Instructor in Art and Architecture.

A'LEEN ELIZABETH RUNKLE, B.S., Instructor in Art.

Landscape Architecture

ARTHUR LEE PECK, B.S., B.A., Professor of Landscape Architecture; Head of Department.

FREDERICK ALEXANDER CUTHBERT, A.B., M.L.D., Associate Professor of Landscape Architecture.

WILLIAM DORR LEGG, A.B., B.M., M.L.D., Assistant Professor of Landscape Architecture.

BUSINESS ADMINISTRATION

~~Milton Nels Nelson~~, Ph.D., Professor of Economics; Acting Head of Department.

Curtis Kelley, M.B.A., Associate Professor of Business Administration.

Frank Leslie Robinson, M.Acct., Associate Professor of Accounting.

Jerome Lloyd LeMaster, M.A., Associate Professor of Business Administration.

Bayard O Wheeler, M.A., Assistant Professor of Business Administration.

Willard Maxson Craig, M.B.A., LL.B., Assistant Professor of Business Administration.

~~Robert Adolph Steiner~~, M.B.A., Instructor in Business Administration.

Gilbert Lee Gifford, M.B.A., Instructor in Business Administration.

Paul Lincoln Kleinsorge, Ph.D., Instructor in Business Administration.

JOURNALISM

Fred Muriel Shideler, B.S., Associate Professor of Journalism; In Charge of Department.

*Charles Jarvis McIntosh, ~~B.S.~~, B.S.D., Professor of Industrial Editing.

Tracy Worden Johnson, M.S., Assistant Professor of Journalism.

MUSIC

Paul Petri, Director of Music; Professor of Singing and Conductor of Choruses; Head of Department.

Harry Lynden Beard, M.A., Professor of Music; Conductor of R.O.T.C. Band.

Lillian Jeffreys Petri, Professor of Piano and Music Theory.

Delbert Warren Moore, B.A., Professor of Stringed Instruments; Conductor of Orchestras.

Florence Bowden, B.A., Instructor in Cello, Violin, and Fretted Instruments; Conductor of Mandolin and Guitar Club.

Iris Gray, B.Mus., Instructor in Piano.

RELIGION

Ernest William Warrington, M.A., Professor of Religion; Head of Department.

General Statement

ALL departments of instruction at the State College not included in the major departments and schools, except the departments of Military Science and Tactics and Physical Education, are administered under the Dean of Lower Division and Service Departments. In this administrative unit are the several departments of arts and letters and social science, architecture and allied arts, business administration, journalism, music, and religion.

Under the plan adopted for the Oregon State System of Higher Education, major work in these fields is confined to the University. The work at the State College in these fields parallels the lower-division work at the University. Similarly, lower-division work is offered at the University in

*Will teach part time 1940-41.

the following fields in which major work is confined to the State College: the biological and physical sciences (including mathematics) and home economics. At each institution, in addition to the lower-division work, upper-division service courses are offered in the nonmajor departments for students in other fields.

A student can complete the first two years of work in any of these fields at the nonmajor institution, and transfer to the major institution at the beginning of the junior year with fundamental requirements for upper-division work fully met.

In the organization and administration of the instruction in the nonmajor departments at the two institutions, the deans of the major schools serve as advisers to the end that the offerings shall bear a proper relation to the work of the major school. The deans of major schools at the University who thus serve in an advisory relation to lower-division and service work at the State College are the following:

CLARENCE VALENTINE BOYER, Ph.D., Dean and Director of Arts and Letters.

JAMES HENRY GILBERT, Ph.D., Dean and Director of Social Science.

ELLIS FULLER LAWRENCE, M.S., F.A.I.A., Dean and Director of Architecture and Allied Arts.

VICTOR PIERPONT MORRIS, Ph.D., Dean and Director of Business Administration.

ERIC WILLIAM ALLEN, A.B., Dean and Director of Journalism.

THEODORE KRATT, Mus.M., Mus.D., Dean and Director of Music.

RALPH WALDO LEIGHTON, Ph.D., Dean and Director of Physical Education.

Arts and Letters

LOWER-division and service courses in arts and letters are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in arts and letters was confined to the College of Arts and Letters at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

The lower-division work in English, German, French, and Spanish is essentially the same at both institutions. While it is recommended that students intending to major in these fields enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in arts and letters, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in arts and letters for students in other fields.

English

THE lower-division courses in English are intended to supply the training in writing necessary to every educated man, to afford a cultural background for those students who are limited to two years of work in the field of English, and to present the necessary foundation work for the continuation of English as a major at the University.

Literature. The study of English literature begins with an introduction in the form of either a historical presentation of the tradition of English literature or an examination of the motives and ideas of literature. This is followed by a more detailed study of periods, epochs, and centuries of English literary movements; a careful analysis of the chief literary forms such as the novel, drama, and poetry; and a more intensive study of the major authors.

Written English. The purpose of the study and practice of written English is technical accuracy in the fundamental forms of composition, the development of the power of expression, and the survey of special art forms such as versification, play writing, the essay, and short story.

English K. All entering students are required to take an examination in English. Those who fail in this examination are enrolled in a writing course called English K, the object of which is the diagnosis and correction of defects manifested in the placement examination. Those who pass the examination enter the regular freshman course (Eng 111, 112, 113).

COURSES IN LITERATURE

LOWER-DIVISION COURSES

*Eng 101, 102, 103. **Literature Survey.** 3 hours each term.
History of English literature in general outline. Fall term: nineteenth century. Winter term: from the beginnings to the seventeenth century. Spring term: seventeenth and eighteenth centuries. Associate Professor Ordeman.

*Eng 104, 105, 106. **Introduction to Literature.** 3 hours each term.
Aim is to stimulate appreciation and criticism of literature. Study of prose in the first term, prose and some poetry in the second, and poetry in the third. The selections used, especially early in the year, are mostly contemporary or modern. The emphasis throughout is on ideas and motives. Professors Peterson and Kierzek, Associate Professors Ordeman and Colby, Assistant Professor Childs.

*Students intending to major in English should take either Eng 101-103 or Eng 104-106.

Eng 161. **American Literature.** 3 hours fall or spring.
American literature from its beginnings to the present day. Professor Peterson, Associate Professor Ordeman, Assistant Professor Childs.

Eng 201, 202, 203. **Shakespeare.** 3 hours each term.
The important historical plays, comedies, and tragedies. Courses in sequence but may be taken separately. Prescribed for major. Professor Smith.

Eng 231. **Directed Recreational Reading.** 1 or 2 hours.
Fiction, travel, adventure, biography, etc.; readings and discussions based on the principle of interest. Aims to serve as a guide to leisure reading. Intended for students in professional schools and for other students who have not taken and do not plan to take other courses in literature. Does not satisfy group requirements. Prerequisite: consent of instructor. Assistant Professor Childs.

Eng 261, 262. **Individual Authors.** 3 hours fall.
Each term devoted to the study of a single author—Tennyson 1940-41. (Eng 261, Browning; 262, another author—only one course given each year.) Professor Smith.

Eng 263. **Great Books.** 3 hours winter.
Some of the world's great books, including the *Bible*, the *Odyssey*, *Arabian Nights*, *Divine Comedy*, *Autobiography of Benvenuto Cellini*, *Don Quixote*, *Pilgrim's Progress*, *Gulliver's Travels*, and *Faust;* emphasis on the contribution each has made to western culture—that is, on elements of enduring greatness. Professor Smith.

Eng 264, 265, 266. **Continental European Literature.** 3 hours each term.
Continental European literature in approved translations—fall term, Romance literature; winter term, Germanic; spring term, Slavic. Lectures and reports. Associate Professor Colby.

Eng 271, 272, 273. **Contemporary Literature.** 3 hours each term.
The contemporary American novel; modern drama; American poetry. Professor Kierzek.

Eng 274. **The Short Story.** 3 hours spring.
The development of the American short story; analysis of recognized masterpieces as well as of the best present-day magazine stories, with the idea of developing critical taste in reading. Professor Peterson.

Eng 275. **The Bible as Literature.** 3 hours spring.
Designed to stimulate and enlarge appreciation of the art and beauty of the literature of the Bible. Questions of theology and dogmas of religion are avoided. Assignments include passages that fall under the chief literary types, such as folklore, storytelling, history, poetry, drama, wisdom literature, oratory, and the essay. Assistant Professor Baldwin.

Eng 276. **The Novel.** 3 hours winter.
A rapid survey of the development of the English novel. Through lectures and assigned readings, the aim is to enrich the student's background of knowledge in the field of the novel and thus to prepare him for critical appreciation of fiction. Professor Peterson.

COURSES IN WRITTEN ENGLISH

LOWER-DIVISION COURSES

English K. 1 hour fall or winter.
A one-term course in the mechanics of composition for those who fail to pass the English placement examination. The student must pass the English placement examination or English K before he is permitted to register for any other written English course. Three recitations.

Eng 111, 112, 113. **English Composition.** 3 hours each term.
The fundamentals of English composition and rhetoric, with frequent written themes in the various forms of discourse; special attention to correctness in fundamentals and to the organization of papers. Prerequisite: English placement examination. Professor Kierzek and Staff.

Eng 118. **Technical Report Writing.** 3 hours fall or spring.
Study of a variety of technical reports with practice in writing them. As far as possible definite application of principles learned is made to specific needs and interests of students having papers in progress during the term. Prerequisite: Eng 111, 112, 113, or equivalent. Associate Professor Ordeman.

Eng 211. **Essay Writing.** 3 hours winter.
Advanced course in composition; study and perfection of style; the various forms and models of the essay. Prerequisite: Eng 111, 112, 113. Associate Professor Ordeman.

Eng 213, 214, 215. **Short Story Writing.** 2 hours each term.
Designed to develop proficiency in the art of writing the short story. Courses in sequence but may be taken separately. Prerequisite: consent of instructor. Professor Peterson.

Eng 217. **Business English.** 3 hours any term.
A complete review and study of modern practices in business correspondence, organized primarily for students preparing for a business career; attention to the analysis and to the writing of all types of correspondence. Prerequisite: Eng 111, 112, 113. Assistant Professor Nelson.

Eng 218. **Advanced Composition.** 3 hours winter.
Advanced composition for those interested in the problems of creative expression and prose style. Prerequisite: Eng 111, 112, 113.

UPPER-DIVISION SERVICE COURSE

Eng 324. **English Composition for Teachers.** 3 hours spring.
For students expecting to teach English in high schools. Practice in writing and a review of the rules of composition. Prerequisite: Eng 111, 112, 113. Assistant Professor Nelson.

Modern Languages

IN THE Department of Modern Languages instruction is offered in French, German, and Spanish. The lower-division and service courses in these languages are intended to meet not only the cultural needs of all students but also the foreign language requirements found in scientific

and technical curricula and needed in connection with various vocations. The student will find at the State College all courses needed in preparing for major work in the languages as offered at the University.

Students who enter with one unit of high-school French, German, or Spanish and wish to continue the study of the language should register for First-Year French, First-Year German, or First-Year Spanish. Those entering with two units of entrance credit in a language should register for the second-year college course; those with three or more entrance units should register for the course in the literature of the language. Students having other preparation and students entering from colleges offering more or fewer hours per week in a course should confer with the instructor.

COURSES IN GERMAN

LOWER-DIVISION COURSES

GL 1, 2, 3. **First-Year German.** 4 hours each term.*
Rudiments of the language; oral and written exercises; reading and translation of easy prose and poetry. Professor Martin and Associate Professor Lewis.

GL 4, 5, 6. **Second-Year German.** 4 hours each term.
Grammar, composition, and conversation; translation of standard German authors. Prerequisite: GL 1, 2, 3 or one year of college or two years of high-school German. Associate Professor Lewis.

GL 201, 202, 203. **German Literature.** 3 hours each term.
(Third-year German.) Advanced texts are used. Prerequisite: GL 4, 5, 6 or equivalent. Associate Professor Lewis.

UPPER-DIVISION SERVICE COURSES

(Courses 300-399 are open to lower-division students.)

GL 311, 312, 313. **German Literature.** 3 hours each term.
Advanced texts are used. Prerequisite: GL 4, 5, 6, or equivalent. Not open to students who have taken GL 201-203. Associate Professor Lewis.

GL 320, 321, 322. **Scientific German.** 3 hours each term.
Recommended to students interested in science or medicine. Articles on chemistry, physics, biology, anatomy, embryology, comparative anatomy, surgery, and the history of medicine are read, as well as current clinical literature. Prerequisite: consent of instructor. Associate Professor Lewis.

COURSES IN ROMANCE LANGUAGES: FRENCH

LOWER-DIVISION COURSES

RL 1, 2, 3. **First-Year French.** 4 hours each term.
Grammar, pronunciation, composition, conversation; translation of easy French prose and poetry. Associate Professor Kuney.

RL 4, 5, 6. **Second-Year French.** 4 hours each term.
Review of grammar; composition; conversation; reading of modern French authors. Prerequisite: RL 1, 2, 3 or one year of college or two years of high-school French or equivalent. Associate Professor Kuney.

*A special section of GL 1, 2, 3 for engineering students is offered for 3 hours each term.

RL 201, 202, 203. **French Literature.** 3 hours each term.
(Third-year French.) Reading of masterpieces of various periods; general survey of French literature. Prerequisite: two years of college French or the equivalent. Associate Professor Kuney.

RL 211, 212, 213. **Directed Reading in French.** 1 hour each term.
Reading in French in the field of the student's major. Open to students who have had the equivalent of second-year college French, and in approved cases to students majoring in science, after one year of college French. Enrollment limited. Associate Professor Kuney.

UPPER-DIVISION SERVICE COURSES

RL 311, 312, 313. **French Literature.** 3 hours each term.
(Third-year French.) Reading of masterpieces of various periods; general survey of French literature. Prerequisite: two years of college French or the equivalent. Not open to students who have taken RL 201-203. Associate Professor Kuney.

COURSES IN ROMANCE LANGUAGES: SPANISH

LOWER-DIVISION COURSES

RL 11, 12, 13. **First-Year Spanish.** 4 hours each term.
Grammar; composition; conversation; translation of easy prose. Professor Martin.

RL 14, 15, 16. **Second-Year Spanish.** 4 hours each term.
Review of grammar; composition; conversation; reading of modern Spanish authors. Prerequisite: RL 11, 12, 13 or one year of college or two years of high-school Spanish. Professor Martin.

RL 207, 208, 209. **Spanish Literature.** 3 hours each term.
(Third-year Spanish.) Reading of masterpieces of various periods; general survey of Spanish literature. Prerequisite: two years of college Spanish or the equivalent. Professor Martin.

RL 214, 215, 216. **Directed Reading in Spanish.** 1 hour each term.
Reading in Spanish in the field of the student's major. Open to students who have had the equivalent of second-year college Spanish. Enrollment limited. Professor Martin.

UPPER-DIVISION SERVICE COURSES

RL 341, 342, 343. **Spanish Literature.** 3 hours each term.
(Third-year Spanish.) Reading of masterpieces of various periods; general survey of Spanish literature. Prerequisite: two years of college Spanish or the equivalent. Not open to students who have taken RL 207-209. Professor Martin.

Speech

INSTRUCTION in speech has for its purpose to build strength of personality by aiding students in the development of clear, original thinking, and by giving training in the correlation, organization, and presentation of knowledge gained through study and experience. Much drill

and criticism are given on organization of material, on platform work, and on the principles that underlie effective reading and speaking. The training goes far in helping to overcome self-consciousness and other emotional inhibitions, and in aiding to build up a strong personal address.

Courses in interpretation and community drama are conducted not only as a means of rounding out the speech training, but also as an aid to prospective teachers and other community leaders in the directing of plays and in the making of stage settings, costumes, and other necessary equipment.

Courses in speech are required in a number of professional curricula. Such training is regarded as of great value to all students preparing for leadership in any field, including prospective teachers of vocational subjects, agricultural agents, home demonstration agents, club leaders, homemakers, and others.

Many plays, intramural and intercollegiate debates, extempore speaking and oratorical contests take place on the campus each year, and much individual attention is given to students who wish to prepare for such work.

Speech Correction. A clinic is maintained by the department for those who are handicapped with the various speech impediments, such as stammering, lisping, nasality, and the like. Advice and treatment are given for both organic and functional difficulties. An attempt is made to understand the factors in the life of the individual which have caused any emotional difficulties, and when they are located an attempt is made to eradicate them. For each student wishing to take this work individual conferences are given during which his speech difficulties receive special consideration.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Sp 111, 112, 113. **Extempore Speaking.** 3 hours each term.

Practice in the development and presentation of original speeches on topics of special interest to the students; vocabulary building and pronunciation; some study of voice, gesture, bearing, and other elements of effectiveness in presentation; criticism on organization of material; organization is stressed. Practice in the construction and presentation of original speeches; study of techniques in the use of body and voice as elements of effectiveness in delivery; criticism on organization and presentation; delivery is stressed. Intensive drill in the technique of delivery, with a consideration of speeches for special occasions. Professors Mitchell and Wells, Assistant Professors Knoll and Winger, Mr. Marshall.

Sp 120. **Voice and Diction.** 3 hours spring.

Proper use of the vocal mechanism; tone production and the production of elemental speech sounds; phonetics as a basis for pronunciation and distinctness of utterance; vocabulary building; individual practice employing basic principles that underlie good speech for social, business, platform, and radio use. Associate Professor Barnes.

Sp 121. **Interpretation I.** 3 hours any term.

Analysis of material for thought content and purposes; study and application of principles involving emotional reactions which give color and interest to speech; expressive voice; correction of erroneous habits

of speech; overcoming artificiality, affectation, and self-consciousness; development of poise and bodily release. Associate Professor Barnes, Assistant Professor Young.

Sp 122. **Interpretation II.** 3 hours any term.
Impersonation in its various forms; character analysis and characterization stressed through the study of the monolog and other forms of dramatic literature including short plays. Prerequisite: Sp 121. Associate Professor Barnes, Assistant Professor Young.

Sp 123. **Interpretation III.** 3 hours spring.
Interpretation of poetry; psychology of audience reaction to material presented; the speech chorus; advanced work in expressive voice. Prerequisite: Sp 120. Associate Professor Barnes.

Sp 211, 212, 213. **Oratory Squad.** 2 hours each term.
Preparation and delivery of original manuscript speeches. Consent of instructor must be obtained before registration. Credit in only one of these courses may be earned in any academic year. These courses are used as a means of preparation for intercollegiate competition. Prerequisite: Sp 111, 221. Professors Mitchell and Wells.

Sp 214, 215, 216. **Extempore Speaking Squad.** 2 hours each term.
Intensive drill in extempore speaking in preparation for intercollegiate competition. Consent of instructor must be obtained before registration. Credit in only one of these courses may be earned in any academic year. Prerequisite: Sp 111, 112. Professor Mitchell, Assistant Professor Winger.

Sp 217, 218, 219. **Debating.** 2 hours each term.
Application of the principles of argumentation to debating; analysis and brief-drawing. Each student participates in several debates. Criticism on delivery and on the selection and handling of evidence in both constructive argument and refutation. Assigned readings. Credit in only one of these courses may be earned in any one year. Prerequisite: Sp 111, 220, and consent of instructor. Professor Mitchell, Assistant Professor Knoll.

Sp 220. **Argumentation.** 3 hours fall or spring.
The theory of argumentation; practical work in brief-drawing, collection and handling of evidence, construction of argumentative speeches. Each student works out several briefs and delivers several speeches. Criticism on presentation and construction. Prerequisite: Sp 111. Assistant Professor Knoll.

Sp 221. **Speech Composition.** 3 hours fall.
Textbook work, study of models, lectures, composition exercises, the writing of a term speech. This course is maintained as an aid to a mastery of effective style in speaking. Prerequisite: Sp 111. Professor Wells.

Sp 231. **Parliamentary Procedure.** 3 hours spring.
Principles of parliamentary usage applied in deliberative assembly, conference, symposium and panel discussion; assigned readings. Each student has opportunity to serve as chairman and secretary of several meetings during the term. Much practice is afforded in the conducting of various types of group discussions, in the presentation of motions,

and impromptu speaking under the supervision of a critic. Assistant Professor Winger.

Sp 234, 235, 236. **Radio Speaking.** 3 hours each term.
Voice and diction as they pertain to speaking over the radio; study of the special techniques of radio; preparation of radio speeches and continuity; program building; practice before the microphone and in the broadcasting of dramatic and other types of material over KOAC. Prerequisite: Sp 111, 120, or consent of instructor. Professor Mitchell.

Sp 244. **Stagecraft and Lighting.** 3 hours any term.
The problems involved in the construction of scenery and stage properties; lighting and lighting equipment; practical experience in lighting, stage management, and the construction of different types of settings, including the realistic and the suggestive. Assistant Professor Young.

Sp 247, 248, 249. **Community Drama.** 3 hours each term.
Designed to meet the needs of community leaders. The community-drama idea; plays suitable for use in school or community; the staff; make-up; stage setting and costumes; modern tendencies in stage setting and costuming; directing and play production; laboratory work in conducting rehearsals and producing plays. Students are given actual experience in producing plays effectively at little expense. Groups of one-act plays are produced at the end of each of the first two terms. Prerequisite: consent of instructor. Associate Professor Barnes.

Sp 250. **Speech Defects.** 3 hours spring.
Survey of the various speech defects, their causes and methods of cure. Intended primarily for students in home economics, especially those in the nursery school; for teachers, and others whose careers necessitate an intelligent understanding of the speech problems of the child. Designed also to give a background of understanding to those who have special defects. Offered alternate years. Offered 1940-41. Professor Wells.

Sp 251. **Workship Theater Players.** 1 to 3 hours any term.
Credit is given for actual participation in campus production upon recommendation of the instructor in charge. Total credit not to exceed 6 hours. Professor Mitchell, Associate Professor Barnes, Assistant Professor Young, Mr. Marshall.

Social Science

LOWER-division and service courses in social science are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in social science was confined to the College of Social Science at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

The lower-division work in economics, history, political science, psychology, and sociology is essentially the same at both institutions. While it is recommended that students intending to major in these fields enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in social science, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in the social sciences for students in other fields.

General Social Science

CERTAIN phases of the instructional work in social science are of general character, being broader in scope and objectives than any of the departments. Instruction of this type is given through the survey for freshmen and sophomores, which aims to give the student a comprehensive view of social science as a division of knowledge. The subject matter is nontechnical and is adapted to the student interested in social science more as a cultural subject than for any other specific purpose. The survey may serve as satisfaction of a Lower-Division Social-Science group requirement but is not usually considered as prerequisite to advanced courses in specialized social sciences.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

SSc 101, 102, 103. **Background of Social Science.** 3 hours each term.
The factors and forces that constitute the make-up of society; the validity of the thought process and opinions of the students with respect to social phenomena are challenged; analysis of scientific methods and the possibilities and limitations of application in the social sciences. Attempt is made to acquaint the student with the findings of psychology in regard to bias and prejudices, egoism of the crowd, habit responses, complexes, and factors of wise thinking. Insight, rather than mere information, is the aim. Associate Professor Dann.

Economics

ECONOMICS instruction at the State College, including lower-division and service courses, is intended to meet the cultural and informational needs of all students interested in economic problems in relation to citizenship, and to supply a lower-division foundation for law, business, or public service, or for majoring in economics at the University. The courses are also selected with a view to meeting the prescriptions found in technical curricula and needed in connection with various vocational lines.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Ec 201, 202, 203. **Principles of Economics.** 3 hours each term.
The principles that underlie production, exchange, and distribution; practical problems, such as monetary and banking reform, trade regulations, taxation, labor movements, regulation of railways and public utilities.

Ec 211. **Outlines of Economics.** 4 hours any term.
Economic institutions and their relation to individual and group conduct; analysis of income flow and of the production, distribution and exchange of wealth; their impact upon the consumer under varying political-economic systems; brief survey of marketing, the pricing process, money, tariff, farm problems, labor, and business cycles. Recommended for students majoring in home economics. Not open to students planning to major in business administration. Assistant Professor Wheeler.

Ec 212. **Outlines of Economics.** 3 hours any term.
An abridgment of Ec 201, 202, 203. A rapid survey of the principles of economics and of economic institutions with special reference to the interests of students in the professional schools. Restricted to science and upper-division professional school students. Associate Professor Dann.

Ec 214. **Economic Development of the United State.** 4 hours spring.
Origin and development of economic institutions including industry, agriculture, commerce, transportation, labor, and finance. Analyzes the economic progress of the United States. Open to students who have completed a course in introductory economics. Four lectures.

UPPER-DIVISION SERVICE COURSES

Prescribed in major curricula in degree-granting schools at the State College and also available as electives to students majoring in such schools.

Ec 413. **Money and Banking.** (g) 4 hours spring.
Money: the nature and functions of money; the factors affecting price, and their relation to business conditions; brief history of the various forms of money; present problems and conditions. Banking: functions of banks; history of banking, including our national banking system, with emphasis on the Federal Reserve Bank Act; comparison of our banking system with those of foreign countries. Open to students who have completed a course in introductory economics. Professor Dreesen.

Ec 418. **Public Finance.** (g) 4 hours winter.
Public expenditures, local, state, and national; brief history of reforms calculated to secure efficiency in these expenditures; forms of taxes, customs, and fees whereby revenues are raised; present systems of land taxation studied in the light of proposed reforms; special attention to war finance; bonds versus taxes in public finance; management of national and local debts. Open to students who have completed a course in introductory economics. Professor Dreesen.

Ec 425. **Labor Problems.** (g) 4 hours spring.
The conditions under which laborers have worked since the advent of the industrial revolution. Topics especially emphasized are: trade

union policies; strikes and lockouts; trade agreements; conciliation and arbitration; immigration; unemployment; women and children in industry; prison labor; industrial education, etc. Open to students who have completed introductory course in economics or sociology. Associate Professor Dann.

Ec 435. **Transportation.** (g) 4 hours winter.
Brief historical review of the development of systems of transportation; organization and financing of different systems; effect of competition in the railroad business; freight classification and the making of rates and fares; the necessity of government control and attempts at regulation by state and Federal governments. Open to students who have completed a course in introductory economics. Professor Dreesen.

Ec 440. **International Trade.** (g) 4 hours fall.
The theory of international trade; nature and effects of government interference in the form of bounties, subsidies, import and export duties; the commercial policies of the more important nations; consular service; foreign exchange and international banking systems; ocean routes and carriers; foreign trade organizations. Prerequisite: Ec 201, 202, 203, or Ec 211. Professor Dreesen.

Ec 475, 476, 477. **Current Economic Theory and Problems.** (g) 3 hours each term.
Economic theories and their application to current economic problems; the economics of recent developments in relation to selected topics such as value, price, distribution, money and credit, public credit and finance, foreign trade and exchange, international and intercommunity debtor-creditor problems, tariffs, imperialism, international and domestic cartels and trusts, marketing and transportation, and others. Open to students who have completed a course in introductory economics. Dr. Kleinsorge.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

History

HISTORY courses are intended to supply the necessary background for intelligent citizenship. The aim of the several courses is to afford an opportunity for a survey of world history and the development of western civilization together with a more detailed study of the English people, the British Empire, and the history of America from the earliest period to the present. The courses also prepare students to major in history at the University.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Hst 201, 202, 203. **History of Western Civilization.** 3 hours each term.
Survey of the origins and development of western civilization from early times to the present; particular attention to social, economic, and

political factors, and the relation of the past to contemporary civilization. Professors Vaughn and Ellison.

Hst 204. **History of the Far East.** 3 hours.
The aim is to introduce students to the history, civilization, and political, economic, cultural, and social problems of the Far East. Professor Ellison.

Hst 207, 208. **England and the British Empire.** 3 hours each term fall and winter.
The constitutional and political history of England; the expansion and present position of the British Empire. Hst 207, 208 when followed by Hst 209 satisfy group requirement in Social Science. Professor Vaughn.

Hst 209. **The World Since 1914.** 3 hours spring.
The war and the problems of reconstruction in the light of their historical antecedents and causes studied with reference to evaluation of current events and sources. With Hst 207, 208, satisfies sophomore social-science group requirement. Professor Vaughn.

Hst 224, 225, 226. **History of American Civilization.** 3 hours each term.
The rise and development of American civilization from the beginning to the present; special attention to economic, social, and cultural life, political changes, and international relations. Professor Ellison.

UPPER-DIVISION SERVICE COURSE

Hst 377. **History of Oregon.** 3 hours winter or spring.
Aims to present a fairly detailed survey of the political, economic, social, and cultural development of Oregon and the Pacific Northwest from the beginning to the present. Lectures, readings, reports. Professor Ellison.

Philosophy

LOWER-division instruction in philosophy is intended both for students who anticipate more advanced study of philosophy and for those who desire a brief introductory study only.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Phl 211, 212, 213. **Practical Life Philosophies.** 2 hours each term.
Intended to develop in the student the habit of reflective thinking. The student is expected to examine his own evaluations of life and his judgments of human society. The starting point and constant reference of the instruction is to actual practical "life philosophies". The course examines and critically evaluates the American gospel according to Benjamin Franklin and Abraham Lincoln; contrasts the modern idealogies of the Nietzschean Superman or Dictator; Marxist socialism and Christian democracy; compares the fundamentals of Plato with the thinking of a present-day leader like Kagawa. Professor Warrington.

Political Science

THE courses in political science are designed primarily for a training in intelligent citizenship and effective participation in public affairs. They aim to give the student an active interest in the structure of political life, the operation of governments, and an understanding of current political questions. Graduates of professional and technical schools are expected to take an active part in the affairs of government and through courses in political science are trained for the responsibilities of public life. The courses also prepare students to major in political science at the University.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

PS 201, 202, 203. **Modern Governments.** 4 hours each term.
(1) American National Government with special attention to contemporary reforms; (2) State and Local Governments with attention to practical operation and contemporary reforms in Oregon; (3) European Governments, a comparative study of the principal European countries with particular attention to England, France, and Germany. Professor Magruder and Associate Professor LeMaster.

PS 212. **American National Government.** 3 hours any term.
An abridgment of PS 201. Restricted to professional-school students. Professors Dubach, Magruder, Associate Professor LeMaster, Assistant Professor Poling.

PS 231, 232, 233. **Current Affairs.** 2 hours each term.
The story of man's activities as told in the press and by telegraph, cable, and radio; major emphasis given to political and economic questions; outstanding developments in science, arts, and related fields. Individual current happenings are in every instance related to established principles and existing organizations. Professor Dubach and Assistant Professor Poling.

UPPER-DIVISION SERVICE COURSES

Prescribed in major curricula in degree-granting schools at the State College and also available as electives to students majoring in such schools.

PS 415. **Municipal Government.** (g) 3 hours spring.
The organization, functions, and present-day problems of city and town government; the cities of the Northwest. Professor Magruder.

PS 417. **International Relations.** (g) 3 hours fall.
Nature and history of international relations; the League of Nations and the World Court; political and economic realities affecting international interdependence; how the United States conducts her foreign affairs; how she deals with her protectorates; causes of international wars; general survey of contemporary world conditions. Professor Magruder.

PS 418. **Latin-American Relations.** (g) 3 hours winter.
Critical study of resources, population, social and political movements; form of government, particularly emphasizing the effects on inter-American relationships. Professor Dubach.

PS 419. **Pacific Area Relations.** (g) 3 hours spring.
Races; trade conditions; Chinese-Japanese relations; Russo-Japanese affairs; the possessions of the United States in the Pacific. Professor Dubach.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Psychology

PSYCHOLOGY courses are intended to meet the needs of students desiring a knowledge of psychology as part of their general education or as a foundation for work in education or in child development; to prepare students to major in psychology at the University; and to meet the service needs of various schools and departments that require psychology as a part of their program of training.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Psy 111. **Mental Hygiene.** 3 hours any term.
The conditions of healthy mental development and normal reactions to life and the college environment; the habits, attitudes, and reactions of the normal mind. No credit is given to students who have taken Ed 102. Professor Chambers, Assistant Professor Sherburne.

Psy 112, 113, 114. **Introduction to Reflective Thinking.** 3 hours each term.
Intended to develop in the student the habit of reflective thinking by self-examination and through the interpretation of fact, conduct, and experience. The student is asked to apply the processes of critical thinking to his habitual judgments and valuations of life, the world, himself, and human society. Professor Brumbaugh.

Psy 201, 202, 203. **Elementary Psychology.** 3 hours each term.
An introductory study of the material of general experimental psychology, learning, memory, perception, imagination, sensation, attention, reasoning, instinct, emotion, will, etc. Professor Chambers, Assistant Professor Sherburne, Mr. Maccoby.

Psy 204, 205, 206. **Elementary Psychology Laboratory.** 1 hour each term.
An introduction to laboratory experimental methods. Operated in coordination with Psy 201, 202, 203, which must be taken at the same time. One three-hour laboratory period each week. Professor Chambers, Assistant Professor Sherburne, Mr. Macoby.

Psy 211. **Outlines of Psychology.** 6 hours any term.
A study of the fundamental facts of human equipment and behavior; instinct, emotion, sensation, feeling, memory, imagination, suggestions, will, reason, and personality. Professor Chambers, Assistant Professor Sherburne, Mr. Maccoby.

Psy 212, 213, 214. **Logic.** 3 hours each term.
The forms and methods of knowledge; the general nature of scientific method; the function and limits of human understanding; the organiza-

tion of knowledge for effective presentation; the problems of inference and the nature of evidence. Professor Brumbaugh.

UPPER-DIVISION SERVICE COURSES

Psy 471, 472, 473. **Individual Differences.** (g) 3 hours each term.
Survey of various theories in regard to the origin of individual differences: sex, race, physical characteristics, mental organization, etc.; experimental evidence in regard to normal development of personality characteristics; influence of motives, environment, and culture on individual differences; importance of individual differences in personal, educational, and social adjustments; practical training for prospective teachers and parents in guiding and directing normal development. Professor Chambers, Assistant Professor Sherburne.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Sociology

ALL the lower-division instruction in sociology, like that in the related social sciences, is intended to contribute to the task of training for good citizenship through a better understanding of the principles that govern human associations and relationships. Particular attention is given to attitudes and habits of mind and characteristic reactions to public events and social institutions. An insight is given into contemporary social problems. Fundamental instruction is provided for students who may later wish to major in sociology at the University. Courses are also designed to meet the needs of those who are majoring in home economics, engineering, education, and other fields.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Soc 201, 202, 203. **Elements of Sociology.** 3 hours each term.
Analysis of social organization and culture, human nature; social changes and movements as affected by culture, biological and physical environmental factors, and a brief survey of the various social problems as well as methods of investigation. Professor Bakkum and Associate Professor Dann.

Soc 211. **General Sociology.** 4 hours any term.
Analysis of the phenomena of group life, embracing social origins; a comparative study of group behavior and social institutions; a study of sociological principles and their application to modern social problems. Professor Bakkum and Associate Professor Dann.

Soc 212. **General Sociology.** 3 hours any term.
An abridgment of Soc 211. Restricted to science and upper-division professional and technical school students. Professor Bakkum.

UPPER-DIVISION SERVICE COURSES

Prescribed in major curricula in degree-granting schools at the State College and also available as electives to students majoring in such schools.

Soc 312. **The Family.** 3 hours winter.
A survey of the evolution of matrimonial institutions; the modern

legal status of marriage; economic and social aspects of the modern family; women in industry and the new woman's movement in relation to the family; a comparative study of the divorce problem. Open only to juniors and seniors. Associate Professor Dann.

Soc 314. **Educational Sociology.** 3 hours spring.
The field of sociology from the educational point of view; social institutions in their origin and development; social activities in their relation to institutions and the individual; social control or the moulding of social institutions and the directing of social activities; different methods of social investigation and their comparative results. Students in the School of Education may count this course toward the 36 required hours in education. Prerequisite: an introductory course in sociology. Professor Bakkum.

Soc 364. **Rural Sociology.** 3 hours fall.
Problems of rural life and rural institutions contrasted with the problems of urban living; attention to the community, the family, the school, the church, recreation and welfare activities as they find their expression in the rural setting; opportunity for field observation of rural life. Professor Bakkum.

Soc 411, 412. **Social Problems.** (g) 2 or 3 hours each term, winter and spring.
Designed to orient the student in applied sociology. An analysis of current group disorganization, institutional decline, and social maladjustment of individuals; positive processes of reorganization and reconstruction; field observations of social problems. The contents of the work are varied from time to time to meet the needs of particular groups of students. Soc 411 is not prerequisite to Soc 412. Students in the School of Education whose work in either of the terms in this sequence covers social education may count 3 hours of credit so earned toward the 36 required hours of education, if approved by the dean. Prerequisite: basic work in general sociology. Professor Bakkum.

Soc 474. **Social Psychology.** (g) 3 hours fall.
Analysis of group attitudes, social values, crowd behavior, fashion, custom, public opinion and forces forming it; factors in personality; elements and types of racial and group consciousness. Prerequisite: basic work in introductory psychology and introductory sociology. Professor Bakkum.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Architecture and Allied Arts

LOWER-division and service courses in architecture and allied arts are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in architecture and allied arts was confined to the School of Architecture and

Allied Arts at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

Students in landscape architecture may take the first two years of the five-year curriculum at either the State College or the University. Students taking the first two years at the University take the third year at the State College, and return to the University for the last two years of the curriculum.

The lower-division work in art and architecture is essentially the same at both institutions. While it is recommended that students intending to major in art or architecture enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.*

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in architecture and allied arts, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in architecture and allied arts for students in other fields.

Suggested Curriculum in Landscape Architecture

MR. PECK, Adviser at the State College and Head of Department

MR. CUTHBERT, Adviser at the University

A student majoring in landscape architecture takes one year of his professional training at the State College, studying plant material, plant propagation, soils, surveying, and other practical phases of the profession. The student who does his lower-division work at the University will spend his third year at Corvallis, and return to Eugene for the last two years of the curriculum. A student may, however, spend his first two years at the State College, completing during these years the required professional work offered at Corvallis, and transfer to the University for the last three years of professional work. Curricula for students who begin at Eugene and for those who begin at Corvallis are printed below.[2]

FOR STUDENTS TAKING FIRST TWO YEARS AT STATE COLLEGE

First Year (State College)	Term hours F	W	S
Graphics (AA 111, 112, 212)	2	2	2
General Botany (Bot 201, 202, 203)	3	3	3
Landscape Architecture (LA 279)	—	—	3
History and Literature of Landscape Architecture (LA 356, 357, 358)	2	2	2
English Composition (Eng 111, 112, 113)	3	3	3
Lower-Division Architectural Design (AA 297)	2	—	—
Construction (AA 120)	—	1	—
[1]Military Science (men) and Physical Education	2	2	2
[2]Group requirements in Language and Literature or Social Science	3	3	3
	17	16	18

*Under present budget conditions, however, such students may be required to take at the University certain required lower-division work not at present offered at the State College.

[1]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education. Women take Social Ethics (PE 131) one term.

[2]Work in a foreign language is not required for the Bachelor of Landscape Architecture degree. Students wishing to earn the Bachelor of Arts degree will take a modern foreign language during their freshman and sophomore years, and will complete group requirements in Language and Literature or Social Science in the third or fourth year of the curriculum.

Second Year (State College)

	Term hours F	W	S
Lower-Division Architectural Design (AA 297)	—	1	1
Lower-Division Landscape Design (LA 290)	2	2	2
Plane Surveying (CE 226, 223)	3	—	3
Plant Propagation (Hrt 311)	—	3	—
Maintenance and Construction (LA 359, 360, 361)	3	3	3
Plant Materials (LA 326, 327, 328)	3	3	3
Soil Improvement (Sls 215)	2	—	—
Military Science (men) and Physical Education	2	2	2
Electives	2	3	3
	17	17	17

Third Year (University)

Lower-Division Architectural Design continued, Lower-Division Drawing, Architectural History, Construction, Upper-Division Landscape Design, Plant Composition, and electives.

Fourth and Fifth Years (University)

Same as for Students Beginning at University (see below).

FOR STUDENTS TAKING FIRST TWO YEARS AT UNIVERSITY

First and Second Years (University)

Graphics, Architectural Design, Drawing, Landscape Architecture, Architectural History, Construction, Landscape Design, Botany, English Composition, group requirement and electives.

Third Year (State College)

	Term hours F	W	S
Plant Materials (LA 326, 327, 328)	3	3	3
History and Literature of Landscape Architecture (LA 356, 357, 358)	2	2	2
Plane Surveying (CE 226, 223)	3	—	3
Maintenance and Construction (LA 359, 360, 361)	3	3	3
Plant Propagation (Hrt 311)	—	3	—
Soil Improvement (Sls 215)	2	—	—
Intermediate Landscape Design (LA 390)	3	3	3
Graphics II (AA 212)	—	—	2
Elective	0	1	0
	16	15	16

Fourth and Fifth Years (University)

Upper-Division Landscape Design, Civilization and Art Epochs, Construction, Plant Composition, City Planning, Real Estate, City Government, Business Law, Office Practice, Field Practice, group requirement or electives.

Suggested Curriculum in Structural Design in Architecture

Joint Curriculum—First Two Years at Eugene in School of Architecture and Allied Arts, Last Two Years at Corvallis in School of Engineering—see SCHOOL OF ENGINEERING.

Art and Architecture

FUNDAMENTAL instruction in drawing, painting, architectural theory, design, composition, and color is offered in the Department of Art and Architecture, together with training in art appreciation. Students majoring in other fields may take art or architecture as a minor or as service courses.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

AA 111, 112. **Graphics I.** 2 hours each term.
First year. The principles of orthographic projection or descriptive geometry; application to the construction of plans and elevations; projections of points, lines, and planes; correct location of shades and shadows for design problems.

AA 114, 115, 116. **Survey of Creative Arts (Art Appreciation).** 1 to 3 hours each term.
The principles and practices of the arts. The aim is an understanding of why men had the urge to produce the arts in the first place; the types of usefulness the arts serve today; how function, color, scale, textures, and proportions enter into one's personal habits of appreciation. The three terms need not be taken in sequence.

AA 120. **Construction.** 1 hour spring.
Introduction to architectural elements by means of individual research and observation; sketching of existing examples; class discussion.

AA 160, 161, 162. **Color and Composition.** 3 hours each term.
Elementary study of relations of line, areas, mass, neutral values and color values for pictures, decorations, and interior schemes. Applies to both creative processes and appreciation. Adapted to needs of home economics group.

AA 178, 179, 180. **House Planning and Architectural Drawing.** 2 or 3 hours each term.
Small-house construction, detail drawing, and architectural drafting, with particular reference to the needs of students majoring in industrial arts.

AA 212. **Graphics II.** 2 hours.
Second year. Continuation of AA 112. Completion of the work in shades and shadows; practical methods of constructing perspectives.

AA 290. **Lower-Division Painting.** 2 or 3 hours each term, six terms.
First year: studies from still life, figure, and landscape; application of the principles of arrangement in relation to the background. Various mediums are employed. Second year: advanced studies from still life and from the human figure. Individual achievement in technique is encouraged.

AA 291. **Lower-Division Drawing.** 2 or 3 hours each term, six terms.
First year: analysis of forms by shading and perspective, leading to an understanding of essential structure; problems in simple and direct expression of structure, by use of different mediums, adapted to the needs of various groups. Second year: continued study of forms and combinations of forms; elementary study of the human figure; interrelationships of forms and adaptation to decoration.

AA 295. **Lower-Division Decorative Design.** 2 or 3 hours each term, six terms.
First year: the principles underlying the various arrangements of lines, shapes, neutral tones and colors studied for purposes of decorative ex-

pression. Second year: further problems in decorative arrangements. The aim is to build up the student's capacities to plan a design for a given purpose and to carry out his design in material with increasing critical powers.

AA 297. **Lower-Division Architectural Design.** 1 to 5 hours each term.
Fundamental principles of architectural design are studied by means of plans and renderings of architectural details.

Landscape Architecture

ALL instruction in landscape design is correlated with the instruction in closely related arts. In addition to the landscape courses, the student is instructed also in plant propagation, soils, surveying, and other practical phases of the profession. The campus constitutes an out-of-door living laboratory of unusual interest and value to students in landscape architecture.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

LA 179. **Landscape Architecture (Descriptive).** 2 hours fall.
A lecture course planned to introduce the student to the subject as it is applied to home-ground layouts, city parks, national parks, the wilderness areas, city plans, and modern garden cities; good taste and general information. No drawing. Assistant Professor Legg.

LA 279. **Landscape Architecture.** 2 or 3 hours any term.
Designed to fit the needs of all students. Definite principles controlling layout and organization of different kinds of property are introduced. Enough drafting is done so that the student will learn to express himself in a satisfactory manner. Study is made of problems in improvement work on home grounds, rural and urban. One or 2 two-hour drafting periods; one lecture. Professor Peck.

LA 290. **Lower-Division Landscape Design.** 2 hours each term.
Design of small residence properties, the ordinary city lot, town-house property, and suburban residence properties involving not more than three acres. Prerequisite: LA 279. Associate Professor Cuthbert and Assistant Professor Legg.

UPPER-DIVISION COURSES

LA 326, 327, 328. **Plant Materials.** 3 hours each term.
Trees, shrubs, vines, and perennials and their uses in plant composition. Professor Peck.

LA 356, 357, 358. **History and Literature of Landscape Architecture.** 2 hours each term.
A lecture course, supplemented by directed reading and lantern slides; develops the story of gardens as an outgrowth or result of living conditions of the times from early Egyptian to the modern of America. The course builds up judgment and enables the student to become generally informed concerning private home grounds, parks, parkways, and recreation areas. Professor Peck.

LA 359, 360, 361. **Maintenance and Construction.** 3 hours each term.
Concise and practical knowledge of the maintenance of parks, estates, cemeteries, and golf courses; landscape construction work involving the handling of earth, such as golf-course construction, and the building of tennis courts, walks, roads, and water effects. Professor Peck and Assistant Professor Legg.

LA 379. **Landscape Architecture.** 3 hours spring.
For forestry students. The arrangement of features and elements in ranger stations, recreation areas, state parks, overlooks, and summer-home sites; enough drafting to enable the student to express himself on paper by means of landscape plans; assigned readings. Prerequisite: LA 279. Two lectures; 1 two-hour drafting period. Professor Peck.

LA 382, 383, 384. **Layout of Small Properties.** 2 or 3 hours each term.
For students in landscape maintenance. The city lot, small suburban properties, and other graduated studies of ground arrangement; sketch plans, finished renderings, and contour problems. Two three-hour laboratory periods. Prerequisite: LA 279, 290. Assistant Professor Legg.

LA 390. **Intermediate Landscape Design.** 3 hours.
Continuation and enlargement of LA 290. Associate Professor Cuthbert and Assistant Professor Legg.

LA 392, 393, 394. **Planting Plans.** 2 hours each term.
For students in landscape maintenance. The drawing of planting plans; estimates of costs; construction and seasonal care of the planting areas worked up by students. Two three-hour laboratory periods. Prerequisite: LA 279, 326, 327, 328, 382, 383, 384. Assistant Professor Legg.

Business Administration

LOWER-division and service courses in business administration are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in business administration was confined to the School of Business Administration at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College. Teacher training in business administration was assigned to the University. Secretarial science was allocated to the State College under the administration of the Dean and Director of Business Administration. Teacher training in secretarial science was also assigned to the State College. In May 1933, the work in secretarial science was organized by authority of the State Board into a four-year curriculum (see SECRETARIAL SCIENCE).

The lower-division work in business administration (as distinct from secretarial science) is essentially the same at both institutions. While it is recommended that students intending to major in business administration enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for

their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in business administration, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in business administration for students in other fields.

Lower-Division Curricula. At the upper-division and graduate level in the School of Business Administration at the University the student may select one of a number of fields of specialization. Programs of study are worked out for lower-division students at the State College according to their special objectives.

Facilities. The instruction in business administration at the State College is centered in Commerce Hall, in which are located classrooms and laboratories for instruction in business subjects. The same building houses the instructional work in secretarial science. The courses and laboratories teaching the use of mimeograph, duplicating, adding, computing and bookkeeping machines are available to all students taking business courses.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

BA 111, 112, 113. **Constructive Accounting.** 4 hours each term.
An introduction to the field of accounting and business administration. Technique of account construction and preparation of financial statements; application of accounting principles to practical business problems; proprietorship from the standpoint of the single owner, the partnership, and the corporation. Required of all students planning to major and prerequisite to all advanced work in business administration.

BA 211. **Retail Accounting.** 3 hours fall.
Accounting records peculiar to retail stores; practice sets assigned for the purpose of familiarizing the student with the necessary forms and retail accounting routine. Prerequisite: BA 111, 112, 113. Associate Professor Robinson.

BA 212. **Principles of Cost Accounting.** 3 hours spring.
Basic principles of cost accounting, departmentalization, expense allocation, and the differences to be noted between accounting systems with which a cost system is tied in and accounting systems with no cost system involved; problems and practice sets to furnish the student with a working familiarity. Prerequisite: BA 111, 112, 113, or BA 385, 386. Associate Professor Robinson.

BA 213. **Analysis of Financial Statements.** 3 hours spring.
Managerial accounting, including accounting theory and practice for effective management and control of industrial and trading concerns; emphasis on the preparation, analysis, and interpretation of balance sheets and operating reports. Prerequisite: BA 111, 112, 113, or BA 385, 386. Associate Professor Robinson.

BA 214. **Federal and State Tax Forms.** 3 hours winter or spring.
For students who have had one year of accounting or its equivalent.

Income and other tax laws, state and national; problems involving calculation and preparation of tax returns; special attention to exemptions and their part in the returns. Not open to students planning to major in business administration. Associate Professor Kelley.

BA 221. **Elements of Organization and Production.** 4 hours fall.
The principles of the science and philosophy of management as applied to industrial concerns; functional management, including time study records, standardization, and planning, as applied by Taylor and subsequent industrial managers. Required of all students planning to major in business administration. Associate Professor Kelley.

BA 222. **Elements of Finance.** 4 hours any term.
A brief survey of financial institutions with attention to the possible use of each by the business man; further study of the financial problems involved in the launching of a business enterprise, expansion, budgetary control, credits and collections, borrowing and management of earnings. Required of all students planning to major in business administration. Prerequisite: BA 111, 112, 113, or equivalent. Associate Professor Kelley, Mr. Steiner.

BA 223. **Elements of Marketing.** 4 hours any term.
Methods, policies, and problems involved in the marketing of producers' and consumers' goods; particular attention to functions of marketing and the market middlemen engaged in performing those functions; current trends in marketing of commodities and services; legislation particularly applicable in marketing field. Dr. Kleinsorge, Mr. Gifford.

*BA 256. **Business Law.** 4 hours any term.
An introductory course in business law correlating fundamental principles with selected cases and specially prepared problems illustrating their application to typical business situations. The history of legal systems and legal institutions; the source of obligations—contracts, torts, quasi contracts, domestic status, and trusts—with special attention to interpretation and discharge and incidental treatment of bankruptcy, suretyship, and insurance. Associate Professor LeMaster, Assistant Professor Craig.

*BA 257. **Business Law.** 4 hours any term.
An intermediate course involving (1) agency—creation, operation, and discharge; (2) negotiable instruments—classification, creation, business uses, liabilities of primary and secondary parties, discharge, and incidental banking functions; (3) personal property—nature of, sale of, bailment and pledge of, conditional sale of, and mortgage of (i.e., chattel mortgages). Associate Professor LeMaster, Assistant Professor Craig.

*BA 258. **Business Law.** 4 hours any term.
A concluding course dealing with (1) specialized business and business organization with primary attention to corporations and partnerships and incidental treatment of joint adventure, unincorporated nonprofit associations, business trusts, and joint stock companies; and (2) the law of real property including estates between vendor and vendee,

*Special sections for technical students, carrying 3 hours credit each term, are offered as follows: BA 256 fall, BA 257 winter, BA 258 spring.

mortgagor and mortgagee, landlord and tenant, and of the estate of the surviving spouse including dower, courtesy, and homestead. Associate Professor LeMaster, Assistant Professor Craig.

UPPER-DIVISION SERVICE COURSES

BA 385. **Accounting for Technical Students.** 3 hours any term.
An abbreviated course covering the general principles of accounting, designed especially for nonbusiness students. Emphasis is placed on accounting principles rather than technique. The ultimate aim is to prepare the student to read and interpret accounting facts, rather than to construct accounts. Not open to students planning to major in business administration. Associate Professor Robinson.

BA 386. **Accounting for Technical Students.** 3 hours winter or spring.
A continuation of BA 385. The accounting peculiar to partnerships and corporations; preparation, analysis, and interpretation of financial statements. Associate Professor Robinson.

BA 403. **Special Problems for Technical Students.** (g) 1 to 5 hours any term.
Opportunity to do supervised individual work in some field of special application and interest. Subjects chosen must be approved by the major professor. Prerequisite: senior or graduate standing. Staff.

BA 413. **Production Management.** 4 hours fall.
An analysis of the problems of production, factory organization, and factory management, studied from the point of view of the production manager. Prerequisite: BA 221. Associate Professor Kelley.

BA 414. **Personnel Management.** (g) 4 hours fall.
Principles of scientific management, job analysis, systematic hiring, placing and promoting, methods of wage payment, turnover problems, labor's participation in management, the public's concern in such participation. Recommended for seniors in forestry and juniors and seniors in engineering and home economics who expect to employ and manage men or women. Associate Professor Kelley.

BA 463. **Investments.** (g) 3 hours spring.
A study of the special phases of investments; markets and the price of securities; their demand and supply; the computing of earnings; government, state, county, municipal, and corporation bonds and real estate loans as investment securities; the stock exchange. Prerequisite: BA 221, 222, 223. Assistant Professor Wheeler.

BA 469. **Business and Agricultural Statistics.** (g) 3 hours fall.
Sources of business and agricultural statistics; study of statistical devices used in fields of business and agriculture, such as summary numbers, indices of trends, and seasonal variation; and problems involved in comparing statistical results. Consent of instructor must be obtained before registering. Assistant Professor Wheeler.

BA 470. **Business Statistics.** (g) 3 hours winter.
A quantitative and theoretical study of business fluctuations; evaluation of nature, suggested causes, and remedies for cyclical perturba-

tions; examination of types, methods and adequacy of economic and business forecasting. Prerequisite: consent of instructor. Assistant Professor Wheeler.

BA 494. **Cost Accounting for Industrials.** (g) 3 hours winter or spring. The principles and methods of factory cost accounting, with application to practical problems; phases of industrial management necessary to the installation and operation of a modern cost system. Prerequisite: BA 386. Associate Professor Robinson.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Journalism

LOWER-division and service courses in journalism are offered at the State College. By action of the State Board of Higher Education on April 30, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in journalism was confined to the School of Journalism at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

The lower-division work in journalism is essentially the same at both institutions. While it is recommended that students intending to major in journalism enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended, not only to lay the foundation for specialization in journalism, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in journalism for students in other fields.

The elementary courses, in addition to furnishing a certain cultural background in newspaper methods, are intended to introduce students to the fundamentals of news writing. These courses also enable students to get additional benefit out of work on the DAILY BAROMETER, student newspaper, and serve to some extent as a training school in this work in an endeavor to keep student publications on a high plane. Journalistic instruction is also given which is designed to train students enrolled in the technical and professional schools to write competently for newspapers and magazines on the subjects or in the fields in which they are specializing. These courses are intended to meet the needs of a large number of persons who, either in public service or in private life, have occasion to prepare material for the press on industrial or technical subjects. Training is also offered in the popularization of scientific material for the press.

A full journalistic training combined with a technical specialty may be arranged in a four- or five-year curriculum utilizing the facilities at both the University and the State College.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

J 111, 112. **Elementary Journalism.** 3 hours each term.
Fundamental principles of news writing. Intended to introduce to the students of the various technical schools the journalistic style of writing and to acquaint them with the workings of the press, both general and technical. J 111 is required for eligibility to the editorial staffs of student publications. J 111 offered each term; J 112, winter and spring terms. Special sections for professional schools where enrollment justifies.

J 211. **Copyediting.** 3 hours any term.
Copy reading, head writing, proof reading, and make-up. Actual experience is given in editing copy for publication. Required for all students in advanced positions on the Barometer. Prerequisite: J 111.

J 223. **Editorial Writing.** 3 hours fall or spring.
Materials, style, and arrangement of periodical editorials; training in writing editorials; principles of policy and ethics; the make-up of the editorial page of farm and trade journals. Prerequisite: J 111.

UPPER-DIVISION SERVICE COURSES

J 312. **Special Feature Articles.** 3 hours winter or spring.
Writing of special articles along the line of the student's own major; study of the media of such articles; practice in popularization of scientific material. Prerequisite: J 111. Assistant Professor Johnson.

J 313. **Public Information Methods.** 3 hours winter.
Planning and executing of informational campaigns, through such media as newspapers, posters, radio, circular letters; methods of informing the public of public affairs and other enterprises in which it has an interest. Adapted to the special needs of students in science and the professional schools. Prerequisite: J 111. Associate Professor Shideler.

J 314. **Technical Writing.** 3 hours any term.
Writing and editing of popular and scientific bulletins; preparing reports and writing articles for scientific publications; preparing radio manuscripts. Intended primarily for research workers in the fields of agriculture, home economics, engineering, and other technical fields and for extension workers and college teachers in fields of agriculture and home economics. Prerequisite: J 111. Assistant Professor Johnson.

Music

LOWER-division and service courses in music are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in music was confined to the School of Music at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

The lower-division work in music is essentially the same at both institutions. While it is recommended that students intending to major in music enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended not only to lay the foundation for specialization in music but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in music for students in other fields.

Music is recognized at the State College as of fundamental value in the development of personality, enriching the life of every man or woman who learns to appreciate it. In the training of every young woman preparing for homemaking, in supplementing the resources of the teacher and others, music is regarded as of special importance. The institution maintains a noteworthy program of musical activities, together with exceptional opportunities for music study. The faculty in music has been selected with great care, numbering among its members musicians of the highest rank, who, through study and concert work in the large musical centers of this country and Europe, bring to their students the highest ideals prevailing in these centers. The assistant instructors employ the same methods as their superiors, thus preparing the less advanced students for effective study under the principal instructors when they later enter upon more advanced study.

Training and experience in performance before the microphone of radio station KOAC are valuable features in all phases of the work.

Musical Activities. Musical organizations at the State College include the R. O. T. C. Band, the Co-Ed Band, the Orchestra, the Glee Club, and the Madrigal Club. Under the direction of the faculty in music a series of Sunday afternoon Vesper Concerts is presented throughout the college year. The Orchestra and the Glee Club give programs both entertaining and educational in character. Recitals by members of the faculty and by the more advanced students are also given.

Courses. Students enter the State College with varying degrees of proficiency in music. Consequently a considerable range of music courses has been provided. For students carrying a heavy program of required work, many of the courses permit carrying from one to three hours credit, while for students in curricula providing opportunity for more elective work, more credit may be carried with the approval of the Director, as determined by the individual student's previous preparation.

Students who have had sufficient preparation may pursue advanced study in music under one of the principal instructors. So far as their music work is concerned such students are artist students of the music faculty; they are registered in the State College only in so far as they may be pursuing regular courses, either as carrying a full major curriculum in one of the degree-granting schools or as optional or special students, not candidates for a degree.

Teaching Minor. Students who are preparing to enter some field of teaching for which training is given at the State College may take a minor

norm in music designed to fit them to take charge of high-school choruses, bands and orchestras in connection with their other teaching. For the minor norm see SCHOOL OF EDUCATION.

Applied Music. Courses are offered in all phases of applied music at the State College, including piano, organ, singing, violin and violoncello, plectral instruments, and band instruments. Students may study any phase of applied music throughout four years, taking from one to four term hours in any term according to the course pursued. The maximum credit in applied music acceptable toward a B.A. or B.S. degree is twelve term hours.

At all stages of instruction in applied music, training is given in analysis of material.

Group instruction in voice, stringed instruments, and band instruments is available to students pursuing the minor norm in music in the School of Education (see courses Mus 191, 192).

PIANO. Instruction in piano is offered to meet the needs of students in various stages of proficiency from the beginner to the artist student. Thorough foundation in technique is developed on a highly scientific basis. Monthly group meetings of the more advanced students give an opportunity to accustom the students to play before others. Students may take from one to six term hours each term and are required to devote from one to three hours daily to practice.

VOICE. Students who wish to develop their singing voices are offered excellent opportunity for instruction. Each student is treated individually and is assigned exercises and songs according to his stage of vocal development. For the more advanced students opportunity to sing before various campus audiences and over the radio is provided. Students may take from one to four term hours each term, requiring from one-half to two hours daily practice.

VIOLIN AND VIOLONCELLO. Instruction in violin and violoncello is available to suit the requirements of the student, from beginner to finished artist. To those of adequate ability opportunity is afforded to play in the symphony orchestra and in similar groups and to appear as soloists before various campus audiences and over the radio. Students may take from one to six term hours each term, requiring from one to three hours daily practice.

PLECTRAL INSTRUMENTS. Mandolin, guitar and banjo instruction is available at reasonable cost. Students reaching a fair degree of proficiency have opportunity to join the Mandolin and Guitar Club, which meets weekly for ensemble playing. Students may take two term hours each term, requiring one hour daily practice.

BAND INSTRUMENTS. Courses in band instruments include cornet, trombone, clarinet, oboe, bassoon, baritone, saxophone, flute, Bb bass, Eb bass, drums, French horn, bells, and xylophone.

Regulations. Students are expected to consult the Director regarding regulations governing registration, attendance, public performance of music students, etc.

Equipment. The entire top floor of the Administration Building is devoted to studios, offices, and other needs of the work in music. Ample facilities for teaching and practicing are provided.

Tuition and Fees. Private lessons are one-half hour in length. Class lessons are fifty minutes in length. All fees are payable strictly in advance.

INDIVIDUAL INSTRUCTION

	Per term: One lesson a week	Per term: Two lessons a week
Piano		
Mrs. Petri	$30.00	$60.00
Miss Gray	18.00	36.00
Voice		
Mr. Petri	30.00	60.00
Violin, Viola, Cello		
Mr. Moore	18.00	36.00
Miss Bowden	15.00	30.00
Banjo, Guitar, and other Small Strings		
Miss Bowden	15.00	30.00
Band Instruments		
Mr. Beard	15.00	30.00
Theory and Allied Subjects		
Private Instruction	30.00	60.00
*GROUP INSTRUCTION (see Mus 191, 192)		
Voice		
Mr. Petri	15.00	——
Stringed Instruments		
Mr. Moore	7.50	——
Band Instruments		
Mr. Beard	7.50	——

	Two lessons a week
Piano Rental	
½ hour a day, a term (for voice students only)	3.00
1 hour a day, a term	5.00
2 hours a day, a term	7.50
3 hours a day, a term	10.00
4 hours a day, a term	12.50

Orchestra Instruments Rental

Viola, cello, bassoon, and oboe are available for practice purposes for $3.00 per term for one hour weekly. Bassoon and oboe players must furnish their own reeds, and viola and cello students must replace broken strings with new ones. Any damage done to the instruments through carelessness or negligence of student must be replaced at student's expense.

Studio Rental

1 hour a day, a term (without use of piano) 2.50

DESCRIPTION OF COURSES

Mus 111, 112, 113. Harmony I, II, III. 3 hours each term.

Laws of overtone; origin and history of diatonic scale system; scale drills; melodic principles developed from tetrachord relations, and awakening of harmonic consciousness; triads, dominant and diminished seventh chords; recognition of by-tones; keyboard drills; ear drills; free harmonization of melodies; original melody writing; simple transposition and modulation.

Mus 121. Appreciation of Music. 1 hour any term.

Illustrated lectures, using the phonograph and other means to stimulate and arouse interest in good music. Elementary in nature. Required of home economics students; elective to others. Two lectures.

*Group instruction is not given to classes of fewer than four, and available only to students pursuing the music minor in Education.

Mus 122, 123. **Appreciation of Music.** 1 hour each term, winter and spring.
Winter term: symphonic music; request numbers; general discussion. Spring term: grand operas; request numbers; general discussion. Two lectures.

Mus 127, 128, 129. **Music Survey.** 1 hour each term.
Intensive study of rhythm and melody writing or construction; study of acoustics; orchestral instruments; terminology and embellishments; song form, suite, sonata. Two lectures.

Mus 147, 148, 149. **Sightsinging and Ear Training.** 1 hour each term.
Writing from tonal dictation, singing melodies, rhythmic problems; rhythmic dictation. Two recitations.

Mus 190. **Individual Instruction.** 1 to 4 hours each term.
Individual instruction, any six terms, in piano, organ, voice, violin, plectral instruments, and band instruments.

Mus 191. **Group Instruction in Voice.** 1 hour each term, two terms.
Open only to students pursuing the minor norm in music in the School of Education.

Mus 192. **Group Instruction in Stringed Instruments and Band Instruments.** 2 hours each term.
Group instruction is not intended to supplant individual instruction, but has its own advantages: economy, extra interest of those participating, the benefit of composition. Classes of four or more may be organized for any stringed instrument or band instrument.

Mus 211, 212, 213. **Harmony IV, V, VI.** 3 hours each term.
Continuation of Mus 113. Use of secondary chords in free harmonization of melodies; ear perception of these as substitutes for primary chords; four-voice treatment of original melodies; free harmonization of melodies that modulate; ear drills in recognition of key changes; keyboard modulation from chord patterns. Two periods.

Mus 290. **The College Chorus.** 1 hour each term, three terms.
For students who can pass the necessary vocal test. Glee and Madrigal Clubs. Three periods.

Mus 291, 292, 293. **Orchestral Conducting (Elementary).** 2 hours each term.
A practical study of the elements of conducting. Organization and management of the amateur orchestra, progressive materials, studies in transposition, simple arrangements, manipulation of the various instruments, technique of the baton, and actual experience in orchestral conducting.

Mus 295. **Band.** 1 hour each term, three terms.
This organization is maintained for women students who have been active in their respective high-school bands and wish to continue with this type of musical expression. Open to all who can pass the necessary test. Two periods.

UPPER-DIVISION SERVICE COURSES

Mus 311. **Strict Counterpoint.** 3 hours fall.
Analysis of Bach fugues continued. Prerequisite: Mus 213. Two periods. Professor Lillian Petri.

Mus 312. **Canon and Fugue.** 3 hours winter.
Prerequisite: Mus 311. Two periods. Professor Lillian Petri.

Mus 313. **Modern Harmony.** 3 hours spring.
Modern interval successions; modern chord structure and resolution; scales other than diatonic; free harmonization of melodies with contrapuntal voice written in. Prerequisite: Mus 312. Two periods. Professor Lillian Petri.

Mus 324, 325, 326. **Advanced Conducting and Orchestration.** 2 hours each term.
Further study of applied orchestral conducting, designed for the advanced student. The fine points of conducting, scoring, and arranging for full symphonic orchestra; thorough acquaintance with the literature suitable for such a group. An orchestra is made available for this study. Prerequisite: Mus 291, 292, 293. Professor Moore.

Mus 331, 332, 333. **Band Organization.** 2 hours each term.
Designed to give the training and technique necessary to the band conductor. The technique and repertoire of band instruments; organizing and developing ensembles; band administration; instrumentation; elementary arranging; use of the baton. Professor Beard.

Mus 334,335,336. **Band Organization.** 2 hours each term.
Continuation of Mus 331, 332, 333. Organization and administration of the military and concert band; rehearsal methods; use of the baton; expression; grouping and coloring; score building and arranging; score reading; dictation; transposition; study of the various clefs; repertoire; program building. The student is given frequent opportunity to conduct the concert band in public performance of a standard overture or other composition of recognized merit. Prerequisite: Mus 331, 332, 333. Professor Beard.

Mus 390. **Individual Instruction.** 1 to 4 hours each term.
Continuation of Mus 190. Individual instruction, any six terms, in piano, organ, voice, violin, plectral instruments, and band instruments.

Mus 391. **The College Orchestra.** 1 hour each term, three terms.
For students who play orchestral instruments and who can pass the necessary test. Three periods. Professor Moore.

Mus 411. **Modern Harmony.** 3 hours fall.
Continuation of Mus 313. Dual chord structure; lack of tonality; lack of melody and definite form traced and analyzed. Prerequisite: Mus 313. Two periods. Professor Lillian Petri.

Mus 433. **Glee Club Conducting.** 1 hour spring.
The elements of high school chorus conducting, including baton technique, study of choral arrangements suitable for high-school students, and other topics. For students who have completed all other requirements of a minor norm in music in the School of Education. Professor Petri.

Religion

ESTABLISHMENT of a chair of Religion was authorized in 1928, and the first courses were offered in the fall term of 1928-29. The Department of Religion is nonsectarian in spirit and organization.

The purpose of the Department of Religion is threefold:

(1) The courses in religion seek to develop an appreciation of the nature and processes of religion in the light of conditions affecting life today, thus enabling students to make such adjustments as will vitalize religion for them.

(2) The courses are determined for the most part by the needs of the larger group of students at the College, who are preparing for service in the fields of science, engineering, agriculture, home economics, teaching, etc.

(3) Special attention is given to the religious training of those students who anticipate lay-leadership in the churches of their local communities, as well as to those who plan to enter social service or the religious vocations, such as missionary work, the ministry, directors of religious education, pastor's assistant, professional leadership of religious organizations, etc.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

R 211. **The New Testament and Its Historical Background.** 2 hours winter.
Special attention is given to the times and conditions out of which the New Testament writings came and the problems which gave rise to the Christian movement. Professor Warrington.

R 220. **The Sermon on the Mount.** 1 hour fall.
Intensive study of a limited New Testament passage; the content of Jesus' teaching as embodied in the selected passage; the nontechnical method of Bible study. Professor Warrington.

R 225. **The Prophets and Their Message.** 1 hour spring.
The early Hebrew prophets as heralds of a new day, spokesmen of a new idealism; significance of the prophets and the value of their messages for the present day. Professor Warrington.

Eng 275. **The Bible as Literature.** 3 hours spring.
Given by the Department of English. Designed to stimulate and enlarge appreciation of the art and beauty of the literature of the Bible. Questions of theology and dogmas of religion are avoided. Assignments include passages that fall under the chief literary types, such as folklore, story telling, history, poetry, drama, wisdom literature, oratory, and the essay. Assistant Professor Baldwin.

UPPER-DIVISION COURSES

R 370. **Principles of Religious Leadership.** 2 hours spring.
Open only to those on the campus or in the local community who are engaged, during the term, in some religious activity. In the theory

work consideration is given to the psychology of human nature, work with individuals, group thinking, social conditions determining program, value of social activities, place of the Bible in religious education, and similar topics. Professor Warrington.

R 461. **Religious Orientation.** 3 hours fall.
The present status of religion; the effect upon religious thought of the new scientific discoveries and significant trends in present-day life; the nature and function of religion in a world of change; the basis of authority in religion; evaluation of the concept of God. Professor Warrington.

R 462. **History of Great Religions.** 3 hours winter.
Comparative study of the religions that command a large following today, such as Hinduism, Buddhism, Confucianism, Judaism, Christianity, and Islam. Intended to introduce the student to the essential facts about each religion studied. Professor Warrington.

R 463. **Psychology of Religion.** 3 hours spring.
The bearing of psychology on religious thought and life; the effects on human personality of such religious processes as faith, prayer, worship; the function of these as noted in a study of such modern leaders as Gandhi, Schweitzer, and Kagawa. Professor Warrington.

School of Agriculture

Faculty

WILLIAM ALFRED SCHOENFELD, M.B.A., Dean of the School of Agriculture.
FREDERICK EARL PRICE, B.S., Assistant Dean of Agriculture.
LOUISE WARREN, Secretary to the Dean.
WILLIAM MARTIN LANGAN, Secretary, School of Agriculture.
ESTHER MCKINNEY, Accountant.

DIVISION OF AGRICULTURAL ECONOMICS

ERMINE LAWRENCE POTTER, M.S., Professor of Agricultural Economics; In Charge, Division of Agricultural Economics.

Agricultural Economics

MILTON NELS NELSON, Ph.D., Professor of Agricultural Economics.

Farm Management

DWIGHT CURTIS MUMFORD, M.S., Professor of Farm Management.
HENRY DESBOROUGH SCUDDER, B.S., Professor of Farm Management.
GUSTAV WESLEY KUHLMAN, Ph.D., Associate Professor of Farm Management.

DIVISION OF ANIMAL INDUSTRIES

PHILIP MARTIN BRANDT, A.M., Professor of Dairy Husbandry; In Charge, Division of Animal Industries.

Animal Husbandry

RAY GEORGE JOHNSON, B.S., Professor of Animal Husbandry.
ORAN MILTON NELSON, M.S., Professor of Animal Husbandry.
BENJAMIN WILLIAM RODENWOLD, M.S., Assistant Professor of Animal Husbandry.
ALFRED WEAVER OLIVER, M.S., Assistant Professor of Animal Husbandry.

Dairy Husbandry
(Includes Dairy Manufacturing)

GUSTAV HANS WILSTER, Ph.D., Professor of Dairy Manufacturing.
IDWAL RALPH JONES, Ph.D., Associate Professor of Dairy Husbandry.
HOWARD NOTSON COLMAN, B.A., B.S., Assistant Professor of Dairy Husbandry.
HAROLD PLYMPTON EWALT, B.S., Instructor in Dairy Husbandry.

Fish and Game Management

ROLAND EUGENE DIMICK, M.S., Professor of Fish and Game Management.
FRANCIS PRIDAY GRIFFITHS, Ph.D., Assistant Professor of Fish and Game Management.
JAY B LONG, B.S., Instructor in Fish and Game Management.

Poultry Husbandry

HUBERT ELMER COSBY, Professor of Poultry Husbandry.

FRANK LESTER KNOWLTON, M.S., Professor of Poultry Husbandry.

WILBUR TARLETON COONEY, B.S., Instructor in Poultry Husbandry.

Veterinary Medicine

JAMES NIVEN SHAW, B.S., D.V.M., Professor of Veterinary Medicine.

ERNEST MILTON DICKINSON, D.V.M., M.S., Associate Professor of Veterinary Medicine.

ROBERT WATSON DOUGHERTY, B.S., D.V.M., Assistant Professor of Veterinary Medicine.

ROLAND O SCOTT, D.V.M., Instructor in Veterinary Medicine.

CARL ROBERT HOWARTH, D.V.M., Instructor in Veterinary Medicine.

DIVISION OF PLANT INDUSTRIES

GEORGE ROBERT HYSLOP, B.S., Professor of Farm Crops; In Charge, Division of Plant Industries.

Farm Crops

DONALD DAVID HILL, Ph.D., Professor of Farm Crops.

ROBERT ESTES FORE, Ph.D., Associate Professor of Farm Crops.

HAROLD ETHAN FINNELL, M.S., Assistant Professor of Farm Crops.

LEROY ROBERT HANSEN, M.S., Instructor in Farm Crops.

VERN KEARN HUGIE, B.S., Graduate Assistant in Farm Crops.

JESSIE BLAINE HOLLADAY, B.S., Graduate Assistant in Farm Crops.

Food Industries

ERNEST HERMAN WIEGAND, B.S.A., Professor of Food Industries.

THOMAS ONSDORFF, M.S., Assistant Professor of Food Industries.

RUDOLPH JOSEPH ALLGEIER, Ph.D., Assistant Technologist in Food Industries.

EDWARD WINSLOW HARVEY, M.S., Instructor in Food Industries.

Horticulture

WALTER SHELDON BROWN, M.S., D.Sc., Professor of Horticulture.

HENRY HARTMAN, M.S., Professor of Horticulture.

ARTHUR GEORGE BRISTOW BOUQUET, M.S., Professor of Vegetable Crops.

WILLIS PIERRE DURUZ, Ph.D., Professor of Pomology.

Soils

WILBUR LOUIS POWERS, Ph.D., Professor of Soils.

CHARLES VLADIS RUZEK, M.S., Professor of Soil Fertility.

ROSCOE ELMO STEPHENSON, Ph.D., Professor of Soils.

EDWARD FRITCHOFF TORGERSON, B.S., Associate Professor of Soils.

RODNEY BERTRAMSON, M.S., Graduate Assistant in Soils.

AGRICULTURAL EDUCATION, ENGINEERING, AND EXTENSION METHODS

Agricultural Education

HEBER HOWARD GIBSON, A.M., Professor of Agricultural Education.

RUSSEL MONROE ADAMS, M.S., Supervising Teacher in Agricultural Education.

Agricultural Engineering

WILLIAM JAMES GILMORE, B.C.E., B.S., Professor of Agricultural Engineering.

CLYDE WALKER, M.S., Associate Professor of Agricultural Engineering.

HERBERT REEVES SINNARD, M.S., R.A., Associate Professor of Agricultural Engineering.

RALPH NICHOLAS LUNDE, B.S., Assistant Professor of Agricultural Engineering.

Extension Methods

FRANK LLEWELLYN BALLARD, B.S., Professor of Extension Methods.

AZALEA LINFIELD SAGER, M.A., Professor of Extension Methods.

General Statement

UNDERGRADUATE curricula are offered in the School of Agriculture leading to the degree of Bachelor of Science, and graduate curricula are offered leading to the degree of Master of Science and Doctor of Philosophy. The curricula in agriculture are planned to prepare young men or women to be better farmers, stockmen, dairymen, poultrymen, or fruit or truck growers; to be efficient managers of farm or orchard properties, commercial creameries, cheese plants and ice cream factories, market-milk plants, and other business enterprises in which a knowledge of practical and scientific agriculture is of value; to serve as agricultural advisers and land appraisers for banks, trust companies, land companies and realtors, as specialists in the United States Department of Agriculture or in agricultural colleges as teachers, investigators, extension specialists, county agricultural agents, 4-H club leaders, as teachers of agriculture in secondary schools, or in charge of control laboratories in manufacturing industries related to agriculture.

The curriculum in landscape construction and maintenance trains students for the practical application of landscaping principles to problems in the field, as in the management of estates, superintendency of cemeteries and parks, ornamental nursery stock industry, teaching the practical phases of ornamental gardening, maintenance of golf courses, contracting and construction on new properties, and in other similar occupations.

The curriculum in agricultural engineering prepares for college extension, experiment station, and government work in agricultural engineering; sales and development work with manufacturers of implements such as tractors and farm equipment; agricultural specialists with building materials and equipment companies; the commercial field, including the farm implement and lumber retail business; teaching of vocational agriculture; service as managers or operators of farms where the knowledge of drainage, farm structures, and machinery and power equipment is important.

In the food industries curriculum the aim is to train students in the fields of canning, preserving, fruit juice and vinegar making, carbonated-beverage manufacturing, pickling, dehydrating, and the by-products of these industries; and for service as buyers of raw materials, salesmen, food brokers, food inspectors, food chemists, food bacteriologists, food research workers, and instructors in foods.

The curriculum in agricultural technology leads to technical work in the industries handling agricultural and related products and to specialized lines in state or Federal research and regulatory work; to service as dairy or milling chemists, dairy or agricultural bacteriologists, insecticide, fertilizer, or seed analysts, transportation or refrigeration specialists, specialists in processing of agricultural products, nursery and quarantine inspectors, managers of warehouses or elevators, and plant explorers.

The Bachelor's Degree. The degree of Bachelor of Science is granted on the completion of any of the four-year curricula, which include a total of 192 term hours of credit (including Military Science and Physical Education). See page 76 for complete information.

Four-year curricula leading to the bachelor's degree are offered in general agriculture; in the broad fields of agricultural economics, animal industries, and plant industries; in agricultural education; in agricultural engineering; and in agricultural technology. In most of the curricula the student during his first year pursues a program of basic and introductory work called the common freshman year. In some curricula a common sophomore year is provided.

The several curricula, each leading to the degree of Bachelor of Science, are outlined as follows:

GENERAL AGRICULTURE

A four-year curriculum providing liberal opportunity for students to major in agriculture and carry a minor in some other field, such as business administration, social science, or education.....Page 202

AGRICULTURAL ECONOMICS

A four-year curriculum—common freshman and sophomore years; differentiated junior and senior curricula in AGRICULTURAL ECONOMICS and in FARM MANAGEMENT.....Pages 202-203

ANIMAL INDUSTRIES

Four-year curricula—common freshman and sophomore years; basic junior and senior curriculum, providing opportunity to major in ANIMAL HUSBANDRY, DAIRY PRODUCTION, or POULTRY HUSBANDRY, with an option in RANGE AND RANGE LIVESTOCK MANAGEMENT..... Pages 204-207

A four-year curriculum in DAIRY MANUFACTURING.....Pages 205-206

A four-year curriculum in FISH AND GAME MANAGEMENT.....Page 207

PLANT INDUSTRIES

Four-year curricula—common freshman and sophomore years; differentiated junior and senior curricula in FARM CROPS and in SOILS, with an option in SOIL CONSERVATION; and in HORTICULTURE, with options in POMOLOGY and VEGETABLE CROPS.....Pages 208-212

A four-year curriculum in FOOD INDUSTRIES.....Pages 209-210

A four-year curriculum in LANDSCAPE CONSTRUCTION AND MAINTENANCE..... Pages 211-212

AGRICULTURAL EDUCATION

A four-year curriculum preparing students to teach agriculture.....Page 212

AGRICULTURAL ENGINEERING

A four-year curriculum in AGRICULTURAL ENGINEERING, with PROFESSIONAL and VOCATIONAL options and an option in SOIL CONSERVATION ENGINEERING.....Pages 213-214

AGRICULTURAL TECHNOLOGY

A four-year curriculum combining a major in agriculture and a minor in science.....Pages 214-215

Two-Year Curriculum. The School of Agriculture offers a two-year curriculum leading to a Certificate in Agriculture (see page 76). The purpose is to provide training for students who are farming or planning to engage in farming or in nontechnical phases of agriculture, who are unable to take a four-year curriculum. Students who have maintained a good scholarship standing through the two-year curriculum are in a good position to continue for two additional years and obtain the bachelor's degree.

Advanced Degrees. Opportunities are provided in all the departments of the School of Agriculture for graduates of the State College or other accredited colleges or universities to do graduate work leading to the degree of Master of Science. The degree of Doctor of Philosophy is offered in the Division of Agricultural Economics, the Division of Animal Industries, and the Division of Plant Industries. The requirements for advanced degrees are printed under GRADUATE DIVISION.

Annual Canners' and Cannery Fieldmen's School. The annual Canners' and Cannery Fieldmen's School, established in 1921, has developed into a full two-weeks school and is the only course of its kind in the United States giving complete instruction in canning. It is designed primarily for those engaged in commercial canning, freezing, preserving, pickling, and allied industries. The registration includes owners, officers, foremen, mechanics, and all other workers in the industry as well as selling agents and representatives of allied industries. The course is given annually—usually the first two weeks in February.

Annual Short Course and Conference in Dairy Manufacturing. The short course and conference in dairy manufacturing is of special interest to butter makers and ic-cream makers. The annual convention of the Oregon Dairy Manufacturers Association is expected to be held during the short course. This course is usually held in February.

Curricula for Undergraduates

Common Freshman Year

Freshman curriculum for all students in four-year agriculture curricula except as indicated under certain curricula.

	Term hours		
	F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Botany (Bot 201, 202)	3	3	---
Principles of Zoology (Z 130)	---	---	3
Elements of Agronomy (FC 111)	3	--- *or*	(3)
Elements of Horticulture (Hrt 111)	(3)	--- *or*	3
[1]Introduction to Animal Husbandry (AI 121)	(3) *or*	(3) *or*	3
[1]Introduction to Poultry Husbandry (AI 123)	---	3	---
Agricultural Resources (AEc 111)	3	---	---
Agricultural Engineering (AE 111)	(3) *or*	3	---
[2]Physical Education	1	1	1
Military Science	1	1	1
	17	17	17

[1]Stock Judging I (AI 111) may be substituted for AI 121 or AI 123 by students who will major in animal industries who wish to qualify for the stock judging team. AI 121 and AI 123 must be taken in the sophomore year if not taken in the freshman year.

[2]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education. Women take Social Ethics (PE 131) one term.

Curriculum in General Agriculture

B.S. Degree

(See Common Freshman Year, page 201.)

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Soils (Sls 211, 212)	3	3	---
Soil Drainage and Irrigation (Sls 213)	---	---	3
Principles of Farm Management (FM 211)	---	---	3
Forage and Root Crop Production (FC 211)	3	---	*or* (3)
General Bacteriology (Bac 204)	---	3	---
Introduction to Dairy Husbandry (AI 122)	---	3	---
Military Science	1	1	1
Physical Education	1	1	1
Electives	6	3	6
	17	17	17

Junior Year			
Principles of Economic Entomology (Ent 211)	(3) *or*	3	---
Elementary Journalism (J 111)	---	3	---
Extempore Speaking (Sp 111)	3	---	---
[1]Electives	12	9	14
	15	15	14

Senior Year			
[2]Technical Writing (J 314)	---	3	---
American National Government (PS 212)	3	---	---
[1]Electives	12	12	14
	15	15	14

Curricula in Agricultural Economics

B.S. Degree

Agricultural Economics *Farm Management*

(See Common Freshman Year, page 201.)

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Agricultural Statistics (AEc 221)	---	3	---
Agricultural Economics (AEc 211)	---	---	3
Principles of Farm Management (FM 211)	---	---	3
Soils (Sls 211, 212)	3	3	---
Soil Drainage and Irrigation (Sls 213)	---	---	3
Forage and Root Crop Production (FC 211)	3	---	---
Introduction to Dairy Husbandry (AI 122)	---	3	---
General Bacteriology (Bac 204)	---	3	---
Elementary Journalism (J 111)	3	---	---
Military Science	1	1	1
Physical Education	1	1	1
Electives	3	---	3
	17	17	17

[1]Electives leading to specific objectives are chosen in conference with the Dean of Agriculture and must include a minimum of 36 upper-division hours in agriculture.

[2]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

AGRICULTURAL ECONOMICS,[1] AGRICULTURAL MARKETING[2]

Junior Year

	Term hours F	W	S
Extempore Speaking (Sp 111)	3	----	----
Technical Writing (J 314)	----	3	----
Principles of Agricultural Marketing (AEc 441)	4	----	----
Marketing Organizations (AEc 442)	----	----	3
Constructive Accounting (BA 111, 112, 113)	4	4	4
Public Finance (Ec 418)	----	4	----
Money and Banking (Ec 413)	----	----	4
Electives in Plant Industries or Military Science	3	3	3
Electives	2	2	2
	16	16	16

Senior Year

International Trade (Ec 440)	4	----	----
General Advertising (SS 439)	----	----	3
Farm Credits (AEc 431)	----	3	----
Transportation (Ec 435)	----	4	----
Current Economic Theory and Problems (Ec 475, 476)	3	3	----
Business Law (BA 256)	----	----	4
American National Government (PS 212)	----	3	----
[3]Electives in Plant and Animal Industries or Military Science	3	3	3
Electives	6	----	3
	16	16	13

FARM MANAGEMENT

Junior Year

Farm Organization (FM 312)	3	----	----
Operation Efficiency (FM 313)	----	3	----
Enterprise Costs and Profits (FM 414)	----	----	3
Farm Accounting (FM 311)	3	----	----
Animal Breeding (AI 315)	----	3	----
Animal Nutrition (AI 411)	----	----	4
[4]Technical Writing (J 314)	3	----	----
Extempore Speaking (Sp 111)	----	----	3
Electives	6	9	5
	15	15	15

Senior Year

Enterprise Costs and Profits (FM 415)	2	----	----
Applied Farm Management (FM 411, 412)	3	3	----
Agricultural Land Economics (FM 420)	----	3	----
Agricultural Appraisal (FM 425)	----	----	3
Farm Credits (AEc 431)	----	3	----
Principles of Agricultural Marketing (AEc 441)	4	----	----
American National Government (PS 212)	3	----	----
Electives	3	6	12
	15	15	15

[1]Students who have completed the first two years of any agricultural curriculum are admitted to junior standing in agricultural economics. The curriculum outlined is intended as a suggestion rather than as a requirement and is modified to fit the needs and previous training of the individual student. Especial modifications are made for students desiring more intensive training in rural finance, marketing, cooperation, or land economics.

[2]The curriculum for students majoring in the marketing of agricultural products is given in cooperation with the production departments concerned. In general, students follow the curriculum outlined for agricultural economics, including courses in the handling, grading, and storage given in the production departments, and courses in accounting and advertising given in the Department of Business Administration. Students may major in marketing of fruits, vegetables, dairy products, poultry, livestock, or farm crops; with the approval of the production departments concerned.

[3]Electives leading to specific objectives are chosen in conference with the head of the department and must include a minimum of 36 hours in agriculture.

[4]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

Curricula in Animal Industries[1]

B.S. Degree

Dairy Production *Animal Husbandry*
Dairy Manufacturing *Poultry Husbandry*
Fish and Game Management

Sophomore Year[2]

(See Common Freshman Year, page 201, taken by all students in animal industries except those in dairy manufacturing and fish and game management. For the freshman and sophomore curriculum in dairy manufacturing see pages 205-206 and in fish and game management see page 207.)

	Term hours		
	F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Organic and Agricultural Biochemistry (Ch 251)	5	----	----
General Bacteriology (Bac 204)	(3)	3	----
Principles of Farm Management (FM 211)	----	----	3
Soils (Sls 211, 212)	3	3	----
[3]Anatomy of Domestic Animals (VM 211)	3	----	----
Physiology of Domestic Animals (VM 221, 222)	----	3	3
Introduction to Dairy Husbandry (AI 122)	----	(3)	3
Stock Judging I (AI 111)	----	3	----
Physical Education	1	1	1
Military Science	1	1	1
[4]Electives	----	----	3
	16	17	17

ANIMAL HUSBANDRY

Junior Year[2]

Forage and Root Crop Production (FC 211)	3	----	----
Livestock Breed Types (AH 211)	----	----	3
Animal Nutrition (AI 411)	4	----	----
Animal Breeding (AI 315)	----	3	----
Elementary Journalism (J 111)	----	3	----
Farm Livestock Management (AH 330, 331)	----	3	3
American National Government (PS 212)	----	3	----
Business Law (BA 257)	----	----	4
Extempore Speaking (Sp 111)	3	----	----
Farm Accounting (FM 311)	3	----	----
[5]Technical Writing (J 314)	----	----	3
Electives	3	3	3
	16	15	16

Senior Year[2]

Livestock Feeding (AH 412)	3	----	----
Reproduction Problems (AH 423)	----	3	----
Livestock Economics (AH 424)	----	----	3
Diseases of Livestock (VM 441, 442, 443)	3	3	3
Range Livestock Management (AH 419)	----	3	----
Seminar (AH 407)	1	1	1
Electives	8	5	8
	15	15	15

[1]At the graduate level major work is also offered in veterinary medicine.

[2]Students who will specialize in (1) the science phases of animal industries, or (2) range and range-livestock management may make certain substitutions in the curriculum in consultation with the head of the Division of Animal Industries.

[3]Students who intend to major in poultry husbandry should take Anatomy of the Fowl (VM 311) in place of VM 211.

[4]Animal husbandry majors will take Breeds of Livestock (AH 316), and dairy production majors will take Dairy Breed Types (DH 321).

[5]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

Options

Students specializing in *range and range-livestock management* are required to take the following courses.

Freshman Year	Term hours F	W	S
General Botany (Bot 203)	—	—	3
Junior Year			
Range and Pasture Botany (Bot 314)	3	—	—
Fish and Game Management (FG 351, 352)	3	3	—
Systematic Botany (Bot 313)	—	—	4
General Forestry (F 211)	3	—	—
Forest Administration (F 212)	—	3	—
Principles of Plant Ecology (Bot 341)	—	4	—
Senior Year			
Public Land Policies (AEc 461)	3	—	—
Range Livestock Management (AH 419, 420)	—	3	3
Range Survey Methods (AH 430)	—	—	3
Range Improvement and Maintenance (FC 319)	—	3	—

DAIRY PRODUCTION[1]

Junior Year

Dairy Herd Management (DH 322)	—	3	—
Dairy Breed Types (DH 321)	—	—	3
Dairy Products Standards (DH 315)	—	1	—
Animal Nutrition (AI 411)	4	—	—
Animal Breeding (AI 315)	—	3	—
Farm Accounting (FM 311)	3	—	—
Forage and Root Crop Production (FC 211)	3	—	—
Elementary Journalism (J 111)	—	3	—
Extempore Speaking (Sp 111)	3	—	—
Business Law (BA 257)	—	—	4
Farm Livestock Management (AH 330, 331)	—	3	3
Electives	3	3	6
	16	16	16

Senior Year

Breeding Dairy Cattle (DH 421)	—	3	—
Dairy Cattle Feeding (DH 422)	—	3	—
Dairy Products Manufacturing (DH 312, 313, 314)	3	3	3
Seminar (DH 407)	1	1	1
Utilization of Dairy Products (DH 430)	3	—	—
Diseases of Livestock (VM 441, 442, 443)	3	3	3
American National Government (PS 212)	3	—	—
[2]Technical Writing (J 314)	—	—	3
Electives	3	3	6
	16	16	16

DAIRY MANUFACTURING

Freshman Year

English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Physics (Ph 201, 202, 203)	4	4	4
Agricultural Resources (AEc 111)	3	—	—
Introduction to Dairy Husbandry (AI 122)	—	3	—
Elementary Journalism (J 111)	—	—	3
Physical Education	1	1	1
Military Science	1	1	1
	15	15	15

[1]Elective courses leading to production, agricultural teaching, research, extension, or commercial careers are chosen in conference with the head of the department. Certain substitutions for required courses may be requested.

Sophomore Year	Term hours F	W	S
Introduction to Poultry Husbandry (AI 123)	....	3	....
Dairy Breed Types (DH 321)	....	....	3
Principles of Economics (Ec 201, 202, 203)	3	3	3
Organic and Agricultural Biochemistry (Ch 251)	5	....	....
Quantitative Analysis for Agricultural Students (Ch 254)	....	....	3
General Bacteriology (Bac 204)	3	....	....
Elements of Finance (BA 222)	....	....	4
Extempore Speaking (Sp 111)	3	....	....
Business English (Eng 217)	....	3	....
Market Milk (DH 311)	....	....	3
Dairy Products Standards (DH 315)	....	1	....
Stock Judging I (AI 111)	....	3	....
Physical Education	1	1	1
Military Science	1	1	1
	16	15	18

Junior Year			
Dairy Products Manufacturing (DH 312, 313, 314)	4	4	4
Dairy Bacteriology (Bac 411, 412)	3	3	....
Dairy Chemistry (Ch 353)	....	....	3
Dairy Herd Management (DH 322)	....	3	....
General Advertising (SS 439)	....	....	3
[1]Technical Writing (J 314)	3	....	....
Accounting for Technical Students (BA 385, 386)	3	3	....
Analysis of Financial Statements (BA 213)	....	....	3
Refrigeration and Cold Storage (ME 363)	....	....	3
Business Law (BA 256)	4	....	....
Business Statistics (BA 470)	....	3	....
	17	16	16

Senior Year			
Dairy Technology (DH 411, 412, 413)	3	3	3
American National Government (PS 212)	....	....	3
Reading and Conference (DH 405)	....	2	....
Dairy Cattle Feeding (DH 422)	....	....	3
Farm Credits (AEc 431)	....	3	....
Seminar (DH 407)	1	1	1
Principles of Agricultural Marketing (AEc 441)	4	....	....
Marketing Organizations (AEc 442) *or* Research (DH 401)	....	....	3
Utilization of Dairy Products (DH 430)	3	....	....
[2]Electives	6	8	3
	17	17	16

POULTRY HUSBANDRY

Junior Year			
Poultry Housing (PH 331)	3	....	....
[3]Poultry Judging (PH 341)	....	2	....
Incubation and Brooding (PH 321)	....	....	4
Diseases of Poultry (VM 351)	....	....	4
Extempore Speaking (Sp 111)	....	....	3
Animal Nutrition (AI 411)	4	....	....
Animal Breeding (AI 315)	....	3	....
Farm Accounting (FM 311)	....	3	....
Anatomy of the Fowl (VM 311)	....	3	....
Forage and Root Crop Production (FC 211)	3	....	....
Turkey Management (PH 351)	3	....	....
Elementary Journalism (J 111)	....	3	....
Electives	3	3	5
	16	17	16

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]Elective courses leading to production, agricultural teaching, research, extension, or commercial careers are chosen in conference with the head of the department. Certain substitutions for required courses may be requested.

[3]Poultry Judging (PH 341) offered alternate years. Offered 1940-41.

Senior Year

	Term hours F	W	S
Poultry Feeding (PH 411)	4	----	----
Marketing Poultry Products (PH 421)	----	4	----
Poultry Plant Management (PH 431)	----	----	4
Poultry Breeding (PH 441)	----	----	4
Seminar (PH 407)	1	1	1
American National Government (PS 212)	----	3	----
[1]Technical Writing (J 314)	3	----	----
Electives	7	6	5
	15	14	14

FISH AND GAME MANAGEMENT

Freshman Year

English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Zoology (Z 201, 202, 203)	3	3	3
Wildlife Conservation (FG 251)	3	----	----
Elements of Agronomy (FC 111)	----	3	----
Introduction to Animal Husbandry (AI 121)	----	----	3
General Forestry (F 211)	3	----	----
Forest Administration (F 212)	----	3	----
Agricultural Engineering (AE 111)	----	----	3
[2]Physical Education	1	1	1
Military Science	1	1	1
	17	17	17

Sophomore Year

Economics and Social Science	3	3	3
General Botany (Bot 201, 202, 203)	3	3	3
Economic Ornithology (Z 321)	3	----	----
Economic Mammalogy (Z 322)	----	3	----
General Bacteriology (Bac 204, 205)	3	3	----
Biology of Fishes (Z 323)	----	----	3
Anatomy of Domestic Animals (VM 211)	3	----	----
Physiology of Domestic Animals (VM 221, 222)	----	3	3
Physical Education	1	1	1
Military Science	1	1	1
Electives	----	----	3
	17	17	17

Junior Year

Range and Pasture Botany (Bot 314)	3	----	----
Principles of Plant Ecology (Bot 341)	----	4	----
Elementary Journalism (J 111)	----	----	3
Nutrition of Wild Animals (AI 410)	----	----	4
Extempore Speaking (Sp 111)	3	----	----
Fish and Game Management (FG 351, 352, 353)	3	3	3
Anatomy of the Fowl (VM 311)	----	3	----
Diseases of Game Birds (VM 355)	----	----	3
Parasitic Diseases of Domestic and Game Animals (VM 361)	----	4	----
Principles of Economic Entomology (Ent 211)	3	----	----
Electives	3	3	3
	15	17	16

Senior Year

Wildlife Food Crops (FC 318)	3	----	----
Range Livestock Management (AH 419, 420)	----	3	3
Management of Game Birds (FG 451)	----	3	----
Management of Game Fish (FG 454)	----	3	----
Management of Big Game (FG 457)	----	3	----
Management of Fur Bearers (FG 460)	3	----	----
Animal Breeding (AI 315)	----	3	----
American National Government (PS 212)	----	----	3
Seminar (FG 407)	1	1	1
[1]Technical Writing (J 314)	3	----	----
Electives	4	----	7
	14	16	14

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, where upon arrangements will be made for a special examination.

[2]General Hygiene (PE 150), 2 term hours, is taken one term in place of Physical Education.

Curricula in Plant Industries[1]

B.S. Degree

Farm Crops
Soils
Food Industries

Horticulture:
Fruit and Vegetable Production and Distribution
Landscape Construction and Maintenance

(See Common Freshman Year, page 201, taken by all students in plant industries except those in food industries and in landscape construction and maintenance. For the freshman and sophomore curriculum in food industries see pages 209-210. For the freshman and sophomore curriculum in landscape construction and maintenance see pages 211-212.)

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Soils (Sls 211, 212)	3	3	---
Soil Drainage and Irrigation (Sls 213)	---	---	3
Organic and Agricultural Biochemistry (Ch 251)	5	---	---
Principles of Farm Management (FM 211)	---	---	3
Principles of Plant Physiology (Bot 331)	---	---	4
Forage and Root Crop Production (FC 211)	3	---	---
General Bacteriology (Bac 204)	---	3	---
Introduction to Dairy Husbandry (AI 122)	---	3	---
Plant Propagation (Hrt 311)	---	3	---
Agricultural Engineering (AE 122)	---	---	3
Physical Education	1	1	1
Military Science	1	1	1
	16	17	18

FARM CROPS

Junior Year

Cereal Production Lectures (FC 322)	3	---	---
Extempore Speaking (Sp 111)	---	---	3
Cereal Morphology (FC 323)	2	---	---
Forage and Related Crops (FC 324)	---	---	3
Principles of Agricultural Breeding (FC 315)	3	---	---
Principles of Plant Pathology (Bot 351)	4	---	---
Farm Accounting (FM 311)	---	3	---
Elementary Journalism (J 111)	---	3	---
Principles of Economic Entomology (Ent 211)	---	3	---
[2]Electives	3	6	9
	15	15	15

Senior Year

Crop Inspection (FC 411)	---	4	---
Seed Production (FC 414)	3	---	---
Plant Breeding (FC 415)	---	---	3
Soil Physics Lectures (Sls 421)	3	---	---
Soil Fertility Lectures (Sls 424)	---	3	---
Crop Efficiency (FC 421)	---	---	3
Business Law (BA 256)	---	---	4
American National Government (PS 212)	---	---	3
Transportation (Ec 435)	---	4	---
Seminar (FC 407)	1	1	1
Animal Nutrition (AI 411)	4	---	---
[3]Technical Writing (J 314)	3	---	---
[2]Electives	1	3	3
	15	15	17

[1]The following curricula of the various departments of Plant Industries may be modified, with the permission of department heads, to meet the needs of students desiring specialization in any phase of work of the respective departments.

[2]Electives leading to production, agricultural teaching, research, extension, or commercial careers are chosen in conference with the head of the department.

[3]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

SOILS

Junior Year

	Term hours F	W	S
Extempore Speaking (Sp 111)	3	---	---
Principles of Agricultural Breeding (FC 315)	3	---	---
Animal Nutrition (AI 411) *or* Fruit Production (Pom 415)	---	---	4
Farm Accounting (FM 311)	---	3	---
Farm Motors and Tractors (AE 311)	---	---	3
Irrigation Farming (Sls 311)	3	---	---
Western Land and Water Laws (Sls 411)	---	3	---
Soil Survey (Sls 432)	---	---	3
Soil Bacteriology (Bac 421)	---	---	4
Agricultural Land Economics (FM 420)	---	3	---
Principles of Economic Entomology (Ent 211)	---	3	---
Elementary Journalism (J 111)	3	---	---
Electives	3	3	2
	15	15	16

Senior Year

	F	W	S
American National Government (PS 212)	---	3	---
Soil Physics Lectures (Sls 421)	3	---	---
Soil Physics Laboratory (Sls 422)	2	---	–
Soil Fertility Lectures (Sls 424)	---	3	---
Soil Fertility Laboratory (Sls 425)	---	2	---
Soil Management (Sls 428)	---	---	5
Irrigation Investigations (Sls 414)	3	---	---
Seminar (Sls 407)	1	1	1
[1]Technical Writing (J 314)	---	3	---
[2]Electives	6	3	9
	15	15	15

Options

Students majoring in agronomy or soils who desire to prepare for *soil-conservation* service should take the following courses.

Junior Year	Term hours F	W	S
Cover Crop and Soil-Erosion Prevention Plants (FC 320)	---	2	---
Climatology (Sls 319)	---	---	2
Geology (G 201, 202)	3	3	---
General Forestry (F 111)	3	---	---
Range Improvement and Maintenance (FC 319)	---	3	---
Soil Survey (Sls 432)	---	---	3
Principles of Plant Ecology (Bot 341)	---	4	---
Plane Surveying (CE 221)	3	---	---
Senior Year			
Range and Pasture Botany (Bot 314)	3	---	---
Agricultural Land Economics (FM 420)	---	3	---
Agricultural Appraisal (FM 425)	---	---	3
Silviculture: Forestation (F 343)	---	---	4
Soil Physics Lectures (Sls 421)	3	---	---
Soil Physics Laboratory (Sls 422)	2	---	---
Soil Conservation (Sls 413)	---	3	---
Soil Conservation Engineering (AE 471)	3	---	---
Economic Plant Adaptation (FC 418)	---	---	3
Field-Plot Technique (FC 416)	---	---	3

FOOD INDUSTRIES

Freshman Year

	F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Botany (Bot 201, 202)	---	3	3
General Physics (Ph 201, 202, 203)	4	4	4
Agricultural Resources (AEc 111)	3	---	---
Elements of Horticulture (Hrt 111)	---	---	3
Military Science	1	1	1
[3]Physical Education	1	1	1
	15	15	18

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]Electives leading to production, agricultural teaching, research, extension, or commercial careers are chosen in conference with the head of the department.

[3]General Hygiene (PE 150), 2 term hours, is taken one term in place of Physical Education.

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Elementary Journalism (J 111)	---	---	3
Extempore Speaking (Sp 111)	---	---	3
Landscape Architecture (LA 279)	---	---	3
Organic and Agricultural Biochemistry (Ch 251, 252)	5	3	---
Business Law (BA 256, 257)	4	4	---
Principles of Food Preservation (FI 250)	3	---	---
Principles of Canning Fruits (FI 251)	---	3	---
Principles of Canning Vegetables (FI 252)	---	---	3
Military Science	1	1	1
Physical Education	1	1	1
	17	15	17

Junior Year			
General Bacteriology (Bac 204, 205, 206)	3	3	3
Principles of Plant Pathology (Bot 351)	4	---	---
Principles of Plant Physiology (Bot 331)	---	---	4
Dehydration of Fruits and Vegetables (FI 331)	3	---	---
Vegetable Crops for Manufacturing (VC 322)	---	3	---
Pickles, Relishes, and Condiments (FI 341)	3	---	---
Fruit Production (Pom 415)	---	---	4
American National Government (PS 212)	---	3	---
Elements of Organization and Production (BA 221)	4	---	---
Electives	---	8	4
	17	17	15

Senior Year			
Accounting for Technical Students (BA 385)	---	3	---
Fruit Juice and Vinegar Manufacture (FI 351)	3	---	---
Commercial Jam and Jelly Manufacture (FI 352)	---	3	---
Preserves, Glacéd Fruits, and Candied Fruits (FI 361)	---	---	3
Commercial Pomology (Pom 313)	3	---	---
Frozen Foods (FI 412)	---	3	---
Seminar (FI 407)	1	1	1
Thesis (FI 403)	---	---	3
[1]Technical Writing (J 314)	---	3	---
Electives	8	4	10
	15	17	17

HORTICULTURE: FRUIT AND VEGETABLE PRODUCTION AND DISTRIBUTION[2]

Junior Year	Term hours F	W	S
Commercial Pomology (Pom 313)	3	---	---
Fruit Production (Pom 415)	---	---	4
Vegetable Production (VC 321)	3	---	---
Dehydration of Fruits and Vegetables (FI 331)	3	---	---
Principles of Plant Pathology (Bot 351)	4	---	---
Principles of Plant Physiology (Bot 331)	---	---	4
Principles of Economic Entomology (Ent 211)	---	3	---
Principles of Agricultural Marketing (AEc 441)	4	---	---
[3]Marketing Organizations (AEc 442)	---	---	3
Elementary Journalism (J 111)	---	3	---
Accounting for Technical Students (BA 385)	---	3	---
Public Speaking (Sp 111)	---	3	---
Electives	---	3	5
	17	15	16

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]Other horticultural subjects may be chosen after reading the descriptions of these courses on pages 242-246 subject to the approval of the head of the department.

[3]May be taken in either the junior or senior year. Given alternate years.

Senior Year	Term hours F	W	S
American National Government (PS 212)	---	3	---
Systematic Pomology (Pom 417)	4	---	---
Pruning (Pom 431)	---	3	---
Spraying (Pom 419)	---	---	3
Vegetable Varieties (VC 423)	2	---	---
Vegetable Marketing (VC 424)	3	---	---
Handling and Distribution of Fruits (Pom 413)	---	3	---
Economic Entomology (Ent 411)	3	---	---
Business Law (BA 256, 258)	4	---	4
Money and Banking (Ec 413)	---	---	4
Seminar (Hrt 407)	1	1	1
[1]Technical Writing (J 314)	---	3	---
Electives	---	3	4
	17	16	16

HORTICULTURE: LANDSCAPE CONSTRUCTION AND MAINTENANCE[2]

Freshman Year	Term hours F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Botany (Bot 201, 202, 203)	3	3	3
Trigonometry (Mth 106)	4	---	---
Landscape Architecture (LA 279)	---	3	---
Elements of Horticulture (Hrt 111)	---	---	3
Lower-Division Architectural Design (AA 297)	2	2	2
Construction (AA 120)	---	1	---
[3]Physical Education	1	1	1
Military Science	1	1	1
	17	17	16

Sophomore Year			
Principles of Economics (Ec 201, 202, 203)	3	3	3
Plane Surveying (CE 226, 223)	3	---	3
House Planning and Architectural Drawing (AA 178, 179, 180)	3	3	3
Soils (Sls 211, 212), Soil Drainage and Irrigation (Sls 213)	3	3	3
Principles of Economic Entomology (Ent 211)	---	3	---
Lower-Division Landscape Design (LA 290)	2	2	2
Physical Education	1	1	1
Military Science	1	1	1
	16	16	16

Junior Year			
Plant Materials (LA 326, 327, 328)	3	3	3
Principles of Plant Pathology (Bot 351)	4	---	---
Plant Propagation (Hrt 311)	---	3	---
Principles of Plant Physiology (Bot 331)	---	---	4
Layout of Small Properties (LA 382, 383, 384)	2	2	2
General Floriculture (Hrt 316)	3	---	---
Greenhouse Crops (Hrt 313)	---	3	---
Nursery Management (Hrt 320)	---	---	3
Extempore Speaking (Sp 111)	---	3	---
Elementary Journalism (J 111)	---	---	3
Electives in Agriculture	3	3	3
	15	17	18

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]The student is required to have one or more summers of practical experience in some one of the following or related fields: ornamental nursery; florist establishment; national, state, or municipal parks; roadway beautification; or large private grounds. Students desiring a degree in landscape architecture may qualify by taking additional work in the School of Architecture and Allied Arts at the University of Oregon or in some other institution where this degree is granted.

[3]General Hygiene (PE 150), 2 term hours, is taken one term in place of Physical Edution.

Senior Year	Term hours F	W	S
Maintenance and Construction (LA 359, 360, 361)	3	3	3
Pruning (Pom 431)	---	3	---
Spraying (Pom 419)	---	---	3
Planting Plans (LA 392, 393, 394)	2	2	2
History and Literature of Landscape Architecture (LA 356, 357, 358)	2	2	2
Intermediate Landscape Design (LA 390)	3	3	3
American National Government (PS 212)	3	---	---
Lawns and Turfs (FC 313)	2	---	---
[1]Technical Writing (J 314)	---	3	---
Electives	1	---	3
	16	16	16

Curriculum in Agricultural Education

B.S. Degree

(See Common Freshman Year, page 201.)

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Organic and Agricultural Biochemistry (Ch 251)	5	---	---
Introduction to Dairy Husbandry (AI 122)	3	---	---
General Bacteriology (Bac 204)	---	3	---
Principles of Farm Management (FM 211)	---	---	3
Farm Motors and Tractors (AE 311) *or* Automobile Mechanics (AE 312)	---	3	---
Forage and Root Crop Production (FC 211)	---	---	3
Soils (Sls 211, 212)	3	3	---
Outlines of Psychology (Psy 211)	---	---	6
Military Science	1	1	1
Physical Education	1	1	1
Electives	---	3	---
	16	17	17

Junior Year			
Elementary Journalism (J 111)	---	3	---
Extempore Speaking (Sp 111)	---	---	3
Farm Mechanics (AE 221)	3	---	---
Animal Nutrition (AI 411)	4	---	---
Enterprise Costs and Profits (FM 414)	---	---	3
Secondary Education (Ed 311)	---	3	---
Educational Psychology (Ed 312)	3	---	---
Principles of Teaching (Ed 313)	---	---	3
Electives	6	9	6
	16	15	15

Senior Year			
Rural Survey Methods (AEd 533)	---	---	3
Supervised Teaching (Ed 415)	---	3	2
American National Government (PS 212)	---	---	3
[1]Technical Writing (J 314)	---	3	---
Electives	15	9	8
	15	15	16

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

Curriculum in Agricultural Engineering

B.S. Degree

Freshman Year	Term hours F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
Elementary Analysis (Mth 101, 102, 103)	4	4	4
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Agricultural Engineering Survey (AE 101)	3	----	----
Farm Mechanics (AE 221, 222)	----	3	3
Military Science	1	1	1
[1]Physical Education	1	1	1
	15	15	15

Sophomore Year			
Outlines of Economics (Ec 212)	3	----	----
Engineering Physics (Ph 111, 112, 113)	3	3	3
Machine Shop Practice (IA 260)	----	----	2
Soils (Sls 211, 212)	3	3	----
Farm Motors and Tractors (AE 311)	----	----	3
General Sociology (Soc 212)	----	3	----
American National Government (PS 212)	----	----	3
Engineering Drawing (GE 111, 112)	2	2	----
House Planning and Architectural Drawing (AA 178)	----	----	2
Engineering Problems (GE 101, 102, 103)	2	2	2
Military Science	1	1	1
[1]Physical Education	1	1	1
	15	15	17

Junior Year

NORM			
Plane Surveying (CE 226)	3	----	----
Extempore Speaking (Sp 111)	----	3	----
Principles of Farm Management (FM 211)	----	----	3
Elementary Journalism (J 111)	3	----	----
Elementary Hydraulics (CE 322)	----	3	----
Farm Implements (AE 231)	----	----	3
Automobile Mechanics (AE 313)	3	----	----
Rural Electrification (AE 331)	----	3	----
Pumps and Irrigation Equipment (AE 321)	----	----	3
Reading and Conference (AE 305)	1	1	1
	10	10	10

PROFESSIONAL OPTION			
Junior-Year Norm	10	10	10
Introduction to Calculus (Mth 221, 222)	4	4	----
Descriptive Geometry (ME 211)	3	----	----
Mechanics (ME 212, 213)	----	3	3
Electives	----	----	4
	17	17	17

VOCATIONAL OPTION			
Junior-Year Norm	10	10	10
Agricultural Resources (AEc 111)	3	----	----
Introduction to Dairy Husbandry (AI 122)	----	3	----
Elements of Agronomy (FC 111)	----	----	3
Electives	4	4	4
	17	17	17

[1]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education.

Senior Year

NORM	Term hours F	W	S
Accounting for Technical Students (BA 385)	3	---	---
Business Law (BA 256)	---	4	---
[1]Technical Writing (J 314)	3	---	---
Farm Structures (AE 461, 462)	3	3	---
Research (AE 401)	---	---	3
Seminar (AE 407)	1	1	1
	10	8	4
PROFESSIONAL OPTION			
Senior-Year Norm	10	8	4
Steam, Air, and Gas Power (ME 346)	---	---	3
Industrial Electricity (EE 351, 352)	3	3	---
Electives	3	6	8
	16	17	15
VOCATIONAL OPTION			
Senior-Year Norm	10	8	4
Forage and Root Crop Production (FC 211)	3	---	---
Farm Organization (FM 312)	3	---	---
Soil Drainage and Irrigation (Sls 213)	---	---	3
Electives	---	9	8
	16	17	15

OPTIONS

Students majoring in agricultural engineering who desire to prepare for *soil-conservation* service should take the following courses.

Sophomore Year	Term hours F	W	S
General Botany (Bot 201, 202)	3	3	---
Junior Year			
Cover Crop and Soil-Erosion Prevention Plants (FC 320)	---	2	---
Soil Drainage and Irrigation (Sls 213)	---	---	3
Forage and Root Crop Production (FC 211)	---	---	3
Principles of Economic Entomology (Ent 211)	3	---	---
Geology (G 201, 202)	3	3	---
Range Improvement and Maintenance (FC 319)	---	3	---
Soil Survey (Sls 432)	---	---	3
Plane Surveying (CE 221, 222, 223)	3	3	3
Senior Year			
Climatology (Sls 319)	---	---	2
Agricultural Land Economics (FM 420)	---	3	---
Agricultural Appraisal (FM 425)	---	---	3
Silviculture: Forestation (F 343)	---	---	4
Soil Physics Lectures (Sls 421)	3	---	---
Soil Physics Laboratory (Sls 422)	2	---	---
Soil Conservation (Sls 413)	---	3	---
Soil Conservation Engineering (AE 471)	3	---	---

Curriculum in Agricultural Technology

B.S. Degree

Freshman Year	Term hours F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
General Zoology (Z 201, 202, 203) *or* General Botany (Bot 201, 202, 203)	3	3	3
Elementary Analysis (Mth 101, 102, 103) *or* Lower-division agriculture courses	4	4	4
Electives (Lower-division agriculture courses)	2	2	2
[2]Physical Education	1	1	1
Military Science	1	1	1
	17	17	17

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education.

Sophomore Year	Term hours F	W	S
Principles of Economics (Ec 201, 202, 203)	3	3	3
Genetics (Z 315)	—	3	—
General Bacteriology (Bac 204)	—	3	—
Lower-division science elective (sequence courses)	3	3–5	3–8
Agriculture electives from courses numbered 211 to 299	—	4–6	4–9
Physical Education	1	1	1
Military Science	1	1	1
Electives	8	—	—
	16	16	16

Junior and Senior Years			
Extempore Speaking (Sp 111)	3	—	—
Elementary Journalism (J 111)	—	3	—
American National Government (PS 212)	3	—	—
[1]Technical Writing (J 314)	—	3	—
[2]Electives	25	25	30
	31	31	30

Two-Year Curriculum in Agriculture

Certificate in Agriculture

First Year	Term honrs F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
[3]Science	3	3	3
Elements of Agronomy (FC 111)	3	—	—
Elements of Horticulture (Hrt 111)	—	—	3
Introduction to Animal Husbandry (AI 121)	3	—	—
[4]Introduction to Poultry Husbandry (AI 123)	—	3	—
Current Affairs (PS 232)	—	2	—
Agricultural Engineering (AE 111)	3	—	—
[5]Physical Education	1	1	1
Military Science	1	1	1
Electives	—	4	6
	17	17	17

Second Year			
Principles of Farm Management (FM 211)	—	—	3
Soils (Sls 211, 212)	3	3	—
Plant Propagation (Hrt 311)	—	3	—
Forage and Root Crop Production (FC 211)	—	—	3
[4]Introduction to Dairy Husbandry (AI 122)	3	—	—
Agricultural Resources (AEc 111)	—	3	—
Diseases of Livestock (VM 341)	4	—	—
Farm Structures (AE 461) *or* House Planning and Architectural Drawing (AA 178)	3	—	—
American National Government (PS 212)	—	3	—
Public Speaking	—	—	3
Military Science	1	1	1
Physical Education	1	1	1
Electives	2	3	6
	17	17	17

[1]Students desiring exemption from J 314 may apply to the Dean of Agriculture, whereupon arrangements will be made for a special examination.

[2]Not less than 24 hours of upper-division courses in agriculture including 3 hours of Seminar.

[3]Courses in the basic sciences may be selected from the following: Biological Science Survey, Physical Science Survey, Chemistry, Botany, Zoology, Entomology.

[4]Students especially interested in plant industries or some other phase of agriculture that does not require all three courses in animal industries may make a substitution.

[5]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education.

Division of Agricultural Economics

THE Division of Agricultural Economics deals with the business, financial, and managerial phases of agriculture and agricultural business. The Department of Farm Management deals largely with the individual farm. The Department of Agricultural Economics deals with the broader economic phases of agriculture. No sharp line of distinction is drawn, however, between farm management and agricultural economics. Every effort is made, moreover, to coordinate the work in agricultural economics and farm management with that of the Plant Industries and Animal Industries divisions.

Agricultural Economics--Agricultural Marketing

THE Department of Agricultural Economics, including Agricultural Marketing, aims primarily to meet the needs of students interested in the business side of agriculture and its broader economic relationships, together with sufficient work in agricultural science and technique to give the student a scientific concept of the industry.

The growth of agriculture into a vast commercial industry and the increasing maze of economic, financial, and marketing problems accompanying that development are opening up attractive opportunities to well-trained students in agricultural economics. The curriculum (pages 202-203) not only affords excellent preparation for those who intend to farm and assume positions of business, educational, and community leadership, but also gives the basic training needed for professional careers as teachers, research workers, and extension specialists. It lays a foundation for a business career in connection with farmers' buying and selling associations, real-estate and farm-mortgage companies, banks, brokerage, jobbing, wholesale and retail houses, and expert business service for the agricultural field. It gives valuable training for positions in county agricultural extension work, both professional and commercial; chamber of commerce work; or professional work as adviser to business houses or railway companies where aggressive qualities of leadership and an intimate knowledge of town and country relations are required.

In order that the student may have ample opportunity to acquire the broad and liberal training requisite for entry into many of these occupations, ample electives are provided for in the junior and senior years.

The practical character of the instruction in agricultural economics is enhanced by the extension and research activities conducted by this department. Through the Agricultural Experiment Station investigations dealing with (a) rural taxation, (b) marketing, and (c) economic trends and the market situation and outlook for Oregon's leading agricultural commodities are being conducted.

Through the Extension Service, market news and agricultural situation and outlook material are disseminated to farmers and others. Special attention is also given to the marketing, processing, and handling of agricultural commodities through both cooperative and private agencies. The

department has leased-wire connection with the leading markets of the country, through which daily and even hourly market reports are received.

All of the work in agricultural economics is very closely coordinated with the work in agricultural production in the various other departments of the State College.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

AEc 111. **Agricultural Resources.** 3 hours fall or winter.
The agricultural resources of the world, with special reference to the resources of the United States and of the State of Oregon; a broad survey of agriculture, including soil, climate, topography, institutions, and population and their relation to present-day problems.

AEc 211. **Agricultural Economics.** 3 hours spring.
The major supply, demand, and foreign-trade problems of American agriculture; their underlying economic principles; especial attention to the economics of controlled production and controlled foreign trade. Prerequisite: at least two terms of Principles of Economics.

AEc 221. **Agricultural Statistics.** 3 hours winter.
Methods of analyzing, simplifying, and presenting statistical material; sources of business and agricultural statistics; study of statistical devices used in the fields of business and agriculture.

UPPER-DIVISION COURSES

AEc 307. **Seminar.** Three terms, 1 hour each term.

AEc 312. **Agrarian Movements.** 3 hours spring.
Review of the fundamentals of cooperation; discussion of agrarian organizations such as the Grange, Farmers' Union, American Society of Equity, the Gleaners, Farm Bureau, Non-Partisan League, and cooperative organizations for production, distribution, consumption, and credit purposes. Prerequisite: AEc 211. Professor Nelson.

AEc 331. **Economic Development of Agriculture.** 3 hours spring.
History of the development of agriculture, of political economy as applied to agriculture, and of present-day agricultural problems. Prerequisite: Ec 203. Professor Potter.

AEc 405. **Reading and Conference.** Terms and hours to be arranged.
Special study of problems under the direction of some member of the staff of the department. The cooperation of staff members from production departments is available where necessary.

AEc 407. **Seminar.** 1 hour each term.

AEc 431. **Farm Credits.** (G) 3 hours winter.
Fundamental principles of credit and finance as applied to agriculture; credit requirements of agriculture; existing credit agencies; strength

and weakness of present credit system. Prerequisite: Ec 203; junior or senior standing. Professor Potter.

AEc 433. **Land Taxation.** (g) 3 hours winter.
The present system of land assessment and taxation; tax burden of real property compared with tax burden of personal property, tangible and intangible; methods of taxing mineral wealth, forests, and water-power; analysis of effects of changes in taxation system. Prerequisite: Ec 203 or equivalent. Professor Dreesen.

AEc 441. **Principles of Agricultural Marketing.** (G) 4 hours fall.
The marketing of staples, semistaples, and perishable farm products, including the geographical location of producing areas; marketing routes from the producer to the consumer; types of middlemen, including cooperative marketing associations; marketing costs; standardization; factors influencing prices; general description of our whole marketing system as it exists today. Prerequisite: Ec 203. Professor Nelson.

AEc 442. **Marketing Organizations.** (g) 3 hours spring.
Principles of organization, management, and operation of cooperative marketing associations; application to the various types of agricultural commodities; emphasis on types of organization and methods of formation, financial and operating policies, membership relations, marketing machinery and functions, sales methods and policies, and public relations. Prerequisite: AEc 441. Professor Nelson.

AEc 443. **Commodity Marketing.** (G) 3 hours spring.
The marketing of specific agricultural commodities or groups of commodities. Each student selects his own subject, with the approval and cooperation of the commodity specialist concerned. Prerequisite: AEc 441. One lecture; other hours by arrangement. Associate Professor DeLoach.

AEc 451. **Agricultural Prices.** (G) 3 hours spring.
Aim is to analyze trends of farm and market prices, compare prices of agricultural commodities with nonagricultural products, and consider prices in their relation to production and marketing programs. The state and national agricultural situation and outlook receive special attention. Prerequisite: Ec 203 or 211, AEc 441. Professor Nelson.

AEc 461. **Public Land Policies.** (G) 3 hours fall.
Economic, legislative, and historical background of present public-land and range problems; factors governing public-land legislation and administration, Federal, state, and county; relation of public-land legislation and administration to land-use and to nonland-use factors. Professor Potter.

AEc 472. **Management of Cooperatives.** (G) 3 hours winter.
Problems of cooperative enterprises, management, organization, incorporation, and analysis of income statements, balance sheets and patrons' equities with particular reference to problems peculiar to cooperative enterprises. Prerequisite: AEc 442 and three terms of accounting. Professor Nelson.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

AEc 501. **Research.** Terms and hours to be arranged.

AEc 503. **Thesis.** Terms and hours to be arranged.

AEc 505. **Reading and Conference.** Terms and hours to be arranged. Special studies of problems under the direction of some member of the staff of the department. The cooperation of staff members from production departments is available when necessary.

AEc 507. **Seminar.** 1 hour each term.

AEc 571. **Marketing Finance.** 4 hours spring.
Methods of financing agricultural marketing and marketing organizations, including financial structure, methods of raising capital, current financial operations, sources of credit and credit policies, and management of earnings; financial statements analyzed and interpreted; cooperative and noncooperative marketing enterprises in the fields of fruits, vegetables, dairy products, and poultry. Open only to students who have had satisfactory preparation in money and banking, rural finance, and accounting. Associate Professor DeLoach.

AEc 572. **Marketing Problems.** 3 or 5 hours fall.
Each student is assigned to a specific problem of some marketing agency in Oregon, makes an analysis of the problem, and suggests remedies. Prerequisite: AEc 441 and graduate standing. One lecture; other hours by arrangement. Associate Professor DeLoach.

Farm Management

FARM management deals with (1) the organization, equipment, and operation of the farm as a business enterprise; (2) the cost of production; and (3) agricultural land economics and appraisal. Its aim is to correlate and synchronize the operations in the various phases of production on the farm in such a way as to result in a smoothly running, efficient plant from which continuous maximum returns may be obtained. The curriculum in farm management (page 203) is designed to give the student a broad, well-rounded training in all the phases of agriculture that will prepare him for successful production, with emphasis laid upon those studies that will best fit him for successful management of the farm. The work also prepares students for professional work as farm managers and supervisors, county agriculturists, rural rehabilitation supervisors, extension specialists, Smith-Hughes teachers, farm appraisers, soil conservationists, agricultural statisticians, bank and railroad agriculturists, United States Department of Agriculture civil-service candidates, college instructors, and experiment-station research men.

Opportunity for graduate work leading toward the master's and doctor's degrees is well provided for in the upper-division and graduate courses offered by this department combined with the offerings of other departments appropriate for minors.

Candidates for the doctorate should be, of course, more fully qualified in advanced study in economics and related fields.

Equipment. The farm-management laboratory and seminar room is provided with drafting tables and instruments, surveying instruments, original data and record sheets, lantern slides and charts, and a periodical and bulletin reference library. Investigational work carried on in many different parts of the state affords the advanced student excellent opportunities for field work or thesis study.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSE

FM 211. **Principles of Farm Management.** 3 hours fall or spring.
Major factors affecting the labor income; types of farming; selection and purchase of the farm; capital investment and distribution; use of credit; size, quality and diversity of business; farm leases and rental methods; man- and horse-labor efficiency, farm-equipment costs and duty; farm and farmstead layout; cropping systems and crop rotations; cost of production; use of farm records and accounts; getting started in the farming business. Short field trips. (Fall section for upper-classmen and spring for sophomores.)

UPPER-DIVISION COURSES

FM 311. **Farm Accounting.** 3 hours fall or winter.
Drill in setting up and analyzing accounts for agricultural enterprises and for farms of different types, with emphasis on clarifying the student's understanding of inventories and debits and credits; preparation of different forms of summary statements of the year's business, adapted to reporting income tax, enterprise costs and profits, etc. For agriculture students only. One lecture; 1 recitation; 1 two-hour laboratory period. Associate Professor Kuhlman.

FM 312. **Farm Organization.** 3 hours fall.
Application of farm-management principles to the organization of the individual farm; methods of measuring the efficiency of any given farm; organizing a farm business; standards for farm planning; efficiency practices in production and operation; planning production programs, cropping systems, and fertility balances; labor programs; livestock, machinery, and building equipment; methods of increasing productive business; methods of financing, etc. Field trips. Prerequisite: FM 211. Two lectures; 1 three-hour laboratory period. Professor Scudder.

FM 313. **Operation Efficiency.** 3 hours winter.
The minor factors in successful farm management, stress being laid on operation efficiency. Two lectures; 1 two-hour laboratory period. Associate Professor Kuhlman.

FM 401. **Research.** Terms and hours to be arranged.

FM 405. **Reading and Conference.** Terms and hours to be arranged.
Special studies of problems under the direction of some member of the staff of the department. The cooperation of staff members from production departments is frequently involved.

FM 407. **Seminar.** 1 hour each term.

FM 411, 412, 413. **Applied Farm Management.** (G) Hours to be arranged. Field work on individual problems, such as preparation of detailed organization and management plans for specific farms, efficiency testing of groups of farms; field studies of costs and profits of specific farm enterprises; field study of specific farm practices and their efficiency; studies in equipment and building improvement; farm-management factor studies, etc.; directed and reviewed through weekly round-table discussions. All laboratory and field work. Prerequisite: FM 211, 311 or equivalent. Professor Scudder.

FM 414. **Enterprise Costs and Profits.** (G) 3 hours spring.
Survey and comparison from the economic or cost-and-profit viewpoint of the major farm enterprises, particularly those of the Northwest and Pacific Coast, to give the student a needed basis for the correct selection of enterprises in different regions; importance of each enterprise; causes of failure; size, capital, labor, and maintenance requirements; production possibilities and markets; costs, prices, and profits; analyses of new or questionable enterprises; field study of major enterprises. Prerequisite: FM 211, 311 or equivalent. Three lectures. Professor Scudder.

FM 415. **Enterprise Costs and Profits.** (g) 2 hours fall or winter.
Continuation of FM 414. Two lectures. Professor Scudder.

FM 418. **Agricultural Land Use Planning.** (G) 2 hours spring.
Present and prospective conservation and land-planning programs will affect type of farming and farm organization. The purpose of this course is to outline the objectives and procedure followed in these programs and to appraise the probable effect of such programs on the organization and operation of Oregon farms. Prerequisite: Ec 203; FM 211, 311, or equivalent. Professor Mumford.

FM 420. **Agricultural Land Economics.** (G) 3 hours winter.
Applied economics of the subject, presenting an inventory of our agricultural land resources; bases and procedure in agricultural land classification, utilization, and disposal; costs and problems of land reclamation; land-settlement plans, procedure, and results; problems in land tenure and conservation; agricultural land values and appraisal methods. Prerequisite: Ec 203; FM 211, 311 or equivalent. Professor Scudder.

FM 425. **Agricultural Appraisal.** (G) 3 hours spring.
Field work in appraisal of farms of different types; appraisal of agricultural land areas and projects such as logged-off lands, reclamation projects, etc.; appraisal of farm enterprises; advanced commercial and Federal appraisal methods used and newer methods tested. Weekly field trips. Prerequisite: FM 211, 311, 411, 420 or equivalent. Professor Scudder.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

FM 501. **Research.** Terms and hours to be arranged.

FM 503. **Thesis.** Terms and hours to be arranged.

FM 507. **Seminar.** 1 hour each term.
Senior and graduate seminar in farm management. See FM 407.

FM 511. **Types and Systems of Farming.** Term and hours to be arranged.
Major types and systems of farming in Oregon, the Northwest, the Pacific Coast, the United States, and foreign countries; examination of the organization and management factors involved in different types and systems, such as land and other capital requirements, the labor program, land utilization, etc.; effect of different systems of farming on soil conservation, farm income, and standards of living, and on interregional competition. Prerequisite: Ec 203, AEc 221, 441; FM 312, 414 or equivalent. Professor Scudder.

FM 512. **Farm Tenure and Administration.** Term and hours to be arranged.
The different forms of tenure and changes in tenure in the United States and abroad and the effect on operator's income, standard of living, and opportunity; important factors in the organization and management of tenant farms and the improvement of farm-leasing forms and methods; administrative problems of tenant farming, corporation farming, and the problems involved in absentee ownership. Prerequisite: Ec 203; FM 211, 312 or equivalent. Associate Professor Kuhlman.

FM 514. **Advanced Agricultural Appraisal.** Term and hours to be arranged.
Methods of appraising farm buildings; appraisal of reclamation district lands, such as irrigation, drainage, diked and logged-off lands, and of western range and submarginal lands; field work. Prerequisite: FM 425 or equivalent. Professor Scudder.

FM 518. **Farm Management Research Methodology.** Terms and hours to to arranged.
Methods of obtaining and determining costs of agricultural products, including the survey method; assembling, tabulating, analyzing, and interpreting cost data; cost record forms for different types of farms and enterprises and for cost surveys. Prerequisite: FM 211, 312, 414; Ec 203, AEc 221 or equivalent. Associate Professor Kuhlman.

Division of Animal Industries

IN THE Division of Animal Industries are included the departments of Animal Husbandry, Dairy Husbandry (includes Dairy Manufacturing), Fish and Game Management, Poultry Husbandry, and Veterinary Medicine. Training for dairy manufacturing and for range and range-livestock management is also given through the curricula in this division.

The specialized producer of livestock products can no longer ignore relationship of competitive livestock industries to his own in the modern business scheme. One livestock product is easily substituted for another, and consumer demands are quick to reflect the change in prices of livestock commodities.

The instruction in animal industries is arranged not only to train students in their fields of special interest, but to make them sufficiently fa-

miliar with types of other livestock production to appreciate the importance of proper adjustment of production and marketing operations to competitive conditions. Liberal opportunity is provided for fundamental training in the several phases of agricultural economics—the technique of farm management, agricultural credits, rural finance, and agricultural trade, both international and domestic. Present economic conditions in agriculture demand such training. It is thus seen that the courses in animal industries not only train in economic and modern methods of production, but offer virile training to those with professional or business aims. Business involving the distribution of livestock products or the financing of livestock operations affords one of the greatest opportunities to the student of today. The intricate problems of marketing and distribution require more and more fundamental training in methods of production.

Courses in Animal Industries

BASIC and supplementary to the work of the several departments in the division, courses in animal industries are offered for both undergraduate and graduate students. The undergraduate courses are planned from the broad point of view of animal industries as a whole or are concerned with more than one field.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

AI 111. **Stock Judging I.** 3 hours winter.
The various types of farm animals studied by score cards and comparative methods, and the student is made familiar with the acceptable types of farm livestock for market and breeding purposes. Market types of feeder and fat livestock are considered. Beef cattle, dairy cattle, sheep, swine, and horses are studied.

AI 121. **Introduction to Animal Husbandry.** 3 hours any term.
National and state economic importance and geographical distribution of beef cattle, horses, swine, sheep, and goats; practical details of the correct feeding, care, management, and marketing of these animals and their products. Two lectures; 1 two-hour lecture-demonstration period.

AI 122. **Introduction to Dairy Husbandry.** 3 hours any term.
National and state economic importance and geographical distribution of dairy cattle; practical details of the current management practices of modern dairying. Special arrangements can be made to learn the operation of the Babcock test. Two lectures; 1 two-hour lecture-demonstration period.

AI 123. **Introduction to Poultry Husbandry.** 3 hours any term.
National and state economic importance and geographical distribution of poultry; practical details of the correct management practices of farm poultry and of the marketing of poultry products. Two lectures; 1 two-hour laboratory period.

UPPER-DIVISION COURSES

AI 315. **Animal Breeding.** 3 hours winter.
Principles of heredity as applied to the breeding of domestic animals and fowls. Professor Knowlton.

AI 410. **Nutrition of Wild Animals.** 4 hours spring.
Chemical and physiological principles of nutrition of game and fur-bearing animals; function of the various classes of nutrients when taken into the animal body; chemical composition of feeds, energy values, and adaptability for the feeding of game animals. Professor Nelson.

AI 411. **Animal Nutrition.** (g) 4 hours fall or spring.
Chemical and physiological principles of animal nutrition; function of the various classes of nutrients when taken into the animal body; nutritive ratios; feeding standards; compounding ratios; feeds with special reference to chemical composition, energy values, and general adaptability to stock-feeding purposes. Prerequisite: Ch 251. Professor Nelson.

GRADUATE COURSES

Course AI 411 may be taken for graduate credit. Courses in animal husbandry, dairy husbandry (includes dairy manufacturing), fish and game management, and veterinary medicine numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

AI 501. **Research.** Terms and hours to be arranged.
For qualified students interested in animal nutrition and related biochemical problems.

AI 503. **Thesis.** Terms and hours to be arranged.

AI 505. **Reading and Conference.** Terms and hours to be arranged.

AI 507. **Seminar.** Terms and hours to be arranged.

AI 511. **Animal Nutrition.** 5 hours winter.
Critical review of the field of animal nutrition; nutritional research methods; energy concepts; protein metabolism; mineral and vitamin requirements; dietary deficiency disorders. Prerequisite: Ch 251, AI 411 or their equivalent. Professor Haag.

Animal Husbandry

COURSES in animal husbandry are planned to fit the student for the actual raising of livestock on the farm so that he may produce the highest grade of stock in the most economical and business-like manner. The student is thoroughly grounded in the underlying principles in order that he may successfully continue his study after leaving college, but the practical details are also thoroughly treated and a special effort is made to keep the student in close touch with the financial phases of the industry. Students who take this work as their specialty are expected not to devote their entire time to livestock; but, on the contrary, to familiarize themselves with veterinary science, crop production, soil fertility, range botany, and other phases of agriculture as well as general education subjects. Much work in economics and marketing is also expected.

Students majoring in animal hubsandry (see curriculum, pages 204-207) are given a very free range of electives so that they may fit their programs to their own particular needs. Special opportunity is afforded in this department in range and range-livestock management for students who wish to qualify as grazing specialists for Federal or other official positions, or who desire to engage in the operation of a range-livestock business.

Students not majoring in animal husbandry but desiring to elect some work in the department will be given careful attention to see that they get the work fitted to their individual needs.

Equipment. The equipment of the Department of Animal Husbandry consists essentially of livestock, barns, and the State College stock farms. The department maintains good representatives of all the leading breeds. The department has adequate equipment for the conduct of laboratory, lecture, and recitation work. Attention is called to courses and equipment in veterinary medicine (pages 233-235).

DESCRIPTION OF COURSES

LOWER-DIVISION COURSE

AH 211. **Livestock Breed Types.** 3 hours spring.
Judging of all kinds of stock, particularly market types. Prerequisite: AI 111. Three two-hour laboratory periods.

UPPER-DIVISION COURSES

AH 305. **Reading and Conference.** Terms and hours to be arranged.
Individual investigation of some topic by student. The object is, first, to allow the student to study some particular subject in which he is especially interested; and second, to give him training in working out for himself problems such as he will have to undertake after leaving college.

AH 312. **Stock Judging II.** 4 hours fall.
Practical judging of all kinds of livestock, with trips to fairs and stock farms. Prerequisite: at least three credits in stock judging. Four two-hour laboratory periods. Assistant Professor Rodenwold.

AH 316. **Breeds of Livestock.** 3 hours spring.
Breeds of sheep, swine, horses, and beef cattle; their development, breeding, types, and best uses. Prerequisite: AI 111, AI 315, or FC 315. Two recitations; 1 two-hour laboratory period. Professor Nelson.

AH 319. **Livestock Practice.** 1 hour fall.
Laboratory practice in such work as dipping, dehorning, hoof trimming, shearing, horse training, and other common operations of the stock farm. (Note: The department reserves the right to limit the number of students in this course.) One three-hour laboratory period. Professor Nelson, Assistant Professor Oliver.

AH 320. **Livestock Practice.** 2 hours spring.
A continuation of AH 319. Two three-hour laboratory periods. Professor Nelson, Assistant Professor Oliver.

AH 326. **Meats.** 3 hours winter or spring.
Meats of all classes of meat animals; butchering; location and cutting of standard and retail cuts; judging meat raw and cooked; economics

of meat production; sanitation and inspection; abattoirs, packing houses, and retail markets. One lecture or recitation; 2 three-hour laboratory periods. Assistant Professor Oliver.

AH 330, 331. **Farm Livestock Management.** 3 hours winter and spring. The handling of livestock on the farm and in the feed lot; consideration of proper land use in conjunction with adapted species of livestock, and available markets; methods of feeding for maintenance and fattening; selection of feeders, etc. Prerequisite: AI 111. Two lectures; laboratory work to be arranged. Professor Oliver.

AH 401. **Research.** Terms and hours to be arranged.

AH 405. **Reading and Conference.** Terms and hours to be arranged.

AH 407. **Seminar.** Terms and hours to be arranged.

AH 412. **Livestock Feeding.** (G) 3 hours winter.
An advanced course in the feeding of horses, beef cattle, sheep, and swine. Special study of the practices of the best stockmen, and of investigations carried on by the various experiment stations. Students desiring to take only such parts of the course as relate to certain kinds of livestock are permitted to do so by arrangement with the head of the department. Prerequisite: AI 411. Professor Nelson.

AH 418. **Wool and Mohair.** (G) 3 hours.
Wool and mohair, covering commercial value, physical and chemical structure, preparation and marketing, judging, sorting, grading, scouring, and principles of manufacture. Prerequisite: AH 316. Two lectures; 1 two-hour laboratory period. Professor Nelson.

AH 419, 420. **Range Livestock Management.** (G) 3 hours each term, winter and spring.
The handling of livestock on the range, proper control in numbers; distribution of stock; salting, watering, breeding, branding, etc.; control of livestock losses caused by poisonous plants and predatory animals; winter livestock husbandry in range territory. Prerequisite: AI 411. Professor Johnson.

AH 421. **Pedigree Study.** (g) Hours to be arranged, spring.
A laboratory study of the blood lines of the various breeds of livestock. Each student is expected to select one or two breeds as the basis for special study rather than to attempt to cover all breeds. Assistant Professor Rodenwold.

AH 423. **Reproduction Problems.** (G) 3 hours winter.
The breeding efficiency of livestock; the effect of nutritional, genetic, and physiological factors on reproduction; the care and management of young and breeding animals. The student has opportunity to observe and study animals during breeding, pregnancy, parturition, and suckling. Prerequisite: AI 315, 411. Assistant Professor Rodenwold.

AH 424. **Livestock Economics.** (G) 3 hours spring.
Management dealing with the economic and financial phases of livestock speculation; trends in livestock production and costs of production; marketing and financing in livestock enterprises. Prerequisite: AH 412. Assistant Professor Rodenwold.

AH 430. Range **Survey Methods.** (G) 3 hours spring.
Range-forage appraisal methods in use by Federal and state administrative and research agencies; supplemental lectures by field administrators and experiment-station staff members, outlining requirements expected of employees by their organizations. Mr. G. D. Pickford, range ecologist, United States Forest Service, will give two lectures. Through the courtesy of the Division of Grazing, United States Department of the Interior, a series of lectures is also offered, to be given by Mr. A. D. Molohon, chief of range improvements. Two one-hour lectures and one three-hour Saturday laboratory section. One-week field trip required. Prerequisite: AE 111; AH 419, 420; Bot 203, 313. Professor Johnson.

GRADUATE COURSES

See ANIMAL INDUSTRIES, page 224.

Dairy Husbandry

AT THE present time there are approximately 26,000,000 dairy cows in the United States that return about one-fourth the gross national farm income. Of the one and one-third billion pounds of milk produced annually in Oregon, about 50 per cent is used for the manufacture of butter; about 15 per cent for cheese; and the remainder for fluid milk, ice cream, condensed milk, and other products. Since about one-third of the butter and three-fourths of the cheese manufactured are sold outside the state, it is necessary to employ high standards in producing milk and to efficiently manufacture and market the products.

The student who plans to major in dairy husbandry may elect either dairy production (page 205) or dairy manufacturing (pages 205-206). The curriculum in dairy production is planned to give the student a broad education with emphasis on the basic sciences and in the selection, care, feeding, breeding, and management of dairy cattle, and the production and marketing of dairy products. The curriculum is planned that students may qualify for agricultural extension, Smith-Hughes teaching, fieldmen or operators of testing associations, cooperative associations, and feed mills, and managers of state, Federal, and privately-owned dairy herds. The object of the four-year course in dairy manufacturing is to train students to become operators and technicians in dairy manufacturing plants; supervisors and inspectors; teachers or research workers in colleges and experiment stations. The freshman and sophomore years provide for a broad knowledge of chemistry, bacteriology, physics, and economics; the junior and senior years emphasize the training in the theory and practice of dairy science, accounting and business methods, and marketing.

Equipment. The department has a herd of more than 100 head of purebred dairy cattle representing three major dairy breeds. The animals are available for both instructional and experimental purposes and each year are used in teaching judging. The herd is being developed in such a way as to be of unusual value in illustrating the important points in breeding and handling dairy cattle. The herd is free from both tuberculosis and infectious abortion. The dairy barn is equipped with modern facilities for dairy-herd operations and for the production and handling of high-quality milk. The dairy farm includes about 50 acres of irrigated pasture, which is very important in dairy-herd operations.

The department has a well-equipped manufacturing laboratory. The manufacture of butter, ice cream, and cheese, and the handling of market milk, are carried on continuously on a commercial scale. The student thus has opportunity to see this work done under practical conditions, and he receives his systematic instruction under the same conditions.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

DH 305. **Reading and Conference.** Terms and hours to be arranged.
Students who have demonstrated ability to do independent investigation may pursue various lines of study under supervision of members of the staff. Prerequisite: consent of department head.

DH 311. **Market Milk.** 3 hours spring.
Aim is to train for the production of market milk, for work in city milk plants, and for service as milk inspectors. Distribution problems of the small town and city; methods of buying, standardizing, and distributing milk from the point of view of the plant owner or manager. Prerequisite: AI 122. Two lectures; 1 two-hour laboratory period. Assist- and Professor Colman.

DH 312, 313, 314. **Dairy Products Manufacturing.** 3 or 4 hours each term.
Principles and practices of commercial manufacture of butter, cheese, casein, ice cream, and concentrated milk products. (a) Students in dairy production, agricultural economics, chemistry, and other fields than dairy manufacturing may take this sequence in condensed form for 3 hours credit each term. Two lectures; 1 two-hour lecture-demonstration period. (b) For students in dairy manufacturing the sequence carries 4 hours credit each term. Two lectures; 1 five-hour and 1 three-hour laboratory period. Prerequisite: AI 122. Offered alternate years. Offered 1940-41. Professor Wilster.

DH 315. **Dairy Products Standards.** 1 hour winter.
Critical study of butter, cheese, milk, and ice cream with score cards; discussion of defects and reasons therefor. Prerequisite: AI 122. One two-hour lecture and laboratory period. Professor Wilster.

DH 321. **Dairy Breed Types.** 3 hours spring.
The correlation of the form of dairy cattle with milk production; gross breed characteristics; comparative judging, terminology of the show ring, and fitting for show. Prerequisite: AI 111. Three two-hour laboratory periods. Mr. Ewalt.

DH 322. **Dairy Herd Management.** 3 hours winter.
Breed characteristics, adaptability, and selection; selection of foundation animals; factors affecting growth and development of dairy heifers; factors influencing quality and quantity of milk; keeping of records; cost of production; management practices. Prerequisite: AI 411. Associate Professor Jones.

DH 401. **Research.** Terms and hours to be arranged.
Senior students desiring to pursue advanced work may take up problems they are qualified to study.

DH 405. **Reading and Conference.** Terms and hours to be arranged.
Students who have demonstrated ability to do independent investigation may pursue various lines of study under supervision of members of the staff. Prerequisite: consent of department head.

DH 407. **Seminar.** 1 hour each term.
The object is to train students to do independent work and to develop the spirit of research. Each student prepares papers and discussions on recent scientific work.

DH 411, 412. **Dairy Technology.** (g) 3 hours each term, two terms.
Technical problems in dairy plant operation; application of fundamental sciences in solving these problems; analysis of dairy products; standardization. Prerequisite: AI 122, Ch 232. One lecture; 2 two-hour laboratory periods. Professor Wilster.

DH 413. **Dairy Technology.** (G) 3 hours.
Continuation of DH 411, 412. Prerequisite: DH 411, 412. One lecture; 2 two-hour laboratory periods. Professor Wilster.

DH 421. **Breeding Dairy Cattle.** (G) 3 hours winter.
Origin and development of dairy cattle; systems of breeding; study of inherited characteristics; pedigree study and analysis; progeny tests; planning the breeding program. Prerequisite: AI 315. Associate Professor Jones.

DH 422. **Dairy Cattle Feeding.** (G) 3 hours spring.
Feeding standards and feed stuffs for dairy cattle; calf and heifer feeding; feeding the herd sire; feeding for milk production, and reproduction; feeding problems; technique for investigating feedstuff values and nutritional requirements. Prerequisite: AI 411. Associate Professor Jones.

DH 430. **Utilization of Dairy Products.** (G) 3 hours fall.
An advanced study of milk, cream, butter, cheese, ice cream, condensed milk, and other dairy products; use and importance in human and animal nutrition; utilization in industry; physical properties of dairy products; chemical composition; factors causing variations. Prerequisite: senior standing and consent of instructor. Professor Wilster, Associate Professor Jones.

GRADUATE COURSES

See ANIMAL INDUSTRIES, page 224.

Fish and Game Management

THE four-year curriculum in fish and game management, including those subjects having direct and practical application in wildlife conservation, together with basic and general studies, is designed to prepare students for any of the following and other fields of wildlife conservation: state and Federal service; land-using industries; management of fish and game for estates and for game and fish clubs; private fur and game farming. Many of the courses are valuable to students in allied fields who wish the practical aspects of wildlife conservation, especially in its correlation with the livestock industry, and with public land-use problems.

Strategically located for the study of wildlife, Oregon State College has within easy access state fish hatcheries, game farms and refuges, and

fur farms. Most forms of Oregon's varied wildlife are within a few hours travel from Corvallis. Research work by the United States Bureau of Biological Survey and the Oregon State Game Commission conducted at the State College in cooperation with the Agricultural Experiment Station is of basic value to the instruction offered in this field.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

FG 251. **Wildlife Conservation.** 3 hours fall.
Wildlife as a valuable economic and social resource; the need of its conservation through scientific administration and manipulation. (In collaboration with the United States Bureau of Biological Survey.)

FG 261. **Wildlife Technique.** 3 hours spring.
The collecting and preserving of wildlife specimens for scientific investigations; practice in the making of museum mounts of birds, mammals, and fish, and in rodent and predatory-animal control. Two lectures or recitations; 1 three-hour period in laboratory or field work.

FG 271, 272. **Fur Farming.** 3 hours each term, fall and winter.
The important fur-bearing mammals raised on fur farms; special attention to the practices of breeding, feeding, and sanitation; construction; marketing; judging of pelts and animals; business principles important in the fur-farming enterprises.

UPPER-DIVISION COURSES

FG 305. **Reading and Conference.** Terms and hours to be arranged.
Students may register under this number for a general course in wildlife field work conducted in a summer camp, or field work under supervision of some state or Federal service. The course may be taken for a series of summers as a different area is studied each year. (In collaboration with the United States Bureau of Biological Survey.)

FG 310, 311, 312. **Forest Wildlife Management.** 3 hours each term.
The theories and practices of game and fish management in forest areas; special attention to the measurement and diagnosis of productivity, the control of factors inimical to wildlife species, and environmental improvements for game and fish species. Professor Dimick, Mr. Long.

FG 341. **Fish and Game Law Enforcement.** 2 hours winter.
A survey of National and state game laws, including a critical study of law enforcement and scientific methods of evidence collection, preservation, and presentation. One lecture; 1 two-hour laboratory period. (In collaboration with the United States Bureau of Biological Survey.) Assistant Professor Griffiths.

FG 351, 352, 353. **Fish and Game Management.** 3 hours each term.
The theories of game and fish management, game and fish administration in forest areas, wildlife refuges, state and national parks, submarginal areas, farm lands, etc.; special attention to the measurement of game and fish populations, methods of measurement and diagnosis of productivity, types of game refuges, control of hunting and fishing, parasite and predator control, control of water and food conditions,

control of cover, and other techniques involving fish and game. Prerequisite: Z 203. Two lectures or recitations; 1 three-hour laboratory period or field work. Professor Dimick.

FG 360. **Applied Fish and Game Ecology.** 3 hours winter.
Techniques used in investigating ecological factors affecting birds, mammals, and fish; special attention to the making of chemical, physical, and statistical measurements of ecological factors important in wildlife management. Two lectures; 1 three-hour laboratory period. Professor Dimick, Assistant Professor Griffiths.

FG 401. **Research.** Terms and hours to be arranged.

FG 405. **Reading and Conference.** Terms and hours to be arranged.

FG 407. **Seminar.** Terms and hours to be arranged.

FG 451, 452. **Management of Game Birds.** (G) 3 hours each term, winter and spring.
Studies of game birds with special attention to their propagation on game farms and under natural conditions; their management in forest areas, wildlife refuges, submarginal lands, and agricultural areas. Prerequisite: Z 321, FG 352. Two lectures or recitations; 1 four-hour laboratory period or field work. Mr. Long.

FG 454, 455. **Management of Game Fish.** (G) 3 hours each term, winter and spring.
Studies of game fish with special attention to fish-hatchery methods, natural propagation, and methods of fish liberation. Much of the laboratory and field work is conducted at the Alsea Fish Hatchery. Prerequisite: Z 323, FG 353. Two lectures or recitations; 1 three-hour laboratory period or field work. Professor Dimick, Assistant Professor Griffiths.

FG 457, 458. **Management of Big Game.** (G) 3 hours each term, winter and spring.
The various species of game mammals; their habits, distribution, management under natural conditions; their economic values; laws for protection. Prerequisite: Z 322, FG 352. Two lectures or recitations; 1 three-hour laboratory period or field work. (In collaboration with the United States Bureau of Biological Survey.) Professor Johnson, Mr. Long.

FG 460. **Management of Fur Bearers.** (G) 3 hours fall.
Fur-bearing animals with special attention to their management in forest areas, submarginal lands, and agricultural lands. Prerequisite: Z 322, FG 352. Two lectures or recitations; 1 three-hour laboratory or field period. Mr. Long.

FG 464, 465, 466. **Commercial Fisheries.** 3 hours each term.
Studies of the commercial fisheries of North America, with particular reference to the Pacific Coast; biologies of important species; economic values; methods of harvesting and regulating the fisheries resources. Prerequisite: FG 353. Two lectures or recitations; 1 three-year laboratory or field trip. Professor Dimick.

GRADUATE COURSES

See ANIMAL INDUSTRIES, page 224.

Poultry Husbandry

POULTRY keeping as a specialized business has developed rapidly throughout the Northwest and especially in Western Oregon. Climatic conditions throughout the state are particularly adapted to successful breeding and raising of poultry.

With the development of the poultry industry in Oregon and throughout the country has come a demand for young men trained in the various lines of the industry. Besides the opportunities afforded in the actual work of poultry farming there is an increasing demand for properly qualified men for positions as government and experiment-station workers, as field men and poultry-feed specialists with the larger feed companies, and for positions with packing houses and cooperative marketing associations.

In the major curriculum (pages 206-207) poultry courses and elective subjects are so arranged that the student may receive training that will fit him for any of the lines of work mentioned.

Equipment. The three-story Poultry Building, 53 by 140 feet, contains well-equipped laboratories for incubation, judging, killing, and egg candling, in addition to modern refrigeration facilities for study of marketing problems. Different makes of incubators, including three mammoth machines, are available for student instruction as are also sets of charts, lantern slides, motion pictures and photographs which are used to illustrate the rarer breeds of fowls, types of poultry houses and equipment. Large flocks of White Leghorns and representatives of other common breeds are kept on a plant adjacent to the Poultry Building. This plant contains modern laying houses, an eight-room stationary brooder house, a ten-room breeder house, a granary equipped with feed-mixing machinery, and much other equipment suitable for use on practical poultry farms, all of which is available for instruction and experimentation.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

PH 305. **Reading and Conference.** Terms and hours to be arranged.

PH 307. **Seminar.** 1 hour each term.

PH 321. **Incubation and Brooding.** 4 hours spring.
Principles and practices involved in natural and artificial incubation and brooding; the egg and its development; laboratory work in actual running of incubators and brooders. Opportunity is given when possible for students to work out some definite problem. Prerequisite: AI 123. Two recitations; 2 two-hour laboratory periods. Mr. Cooney.

PH 331. **Poultry Housing.** 3 hours fall.
Poultry-house types and housing problems; field trips to neighboring poultry farms. Prerequisite: AI 123. Two lectures; 1 three-hour laboratory period. Professor Knowlton.

PH 341. **Poultry Judging.** 2 hours winter.
Practical judging of all kinds of poultry. Judging teams for intercollegiate judging competitions are chosen largely from the members of

this class. Prerequisite: AI 123. Two two-hour laboratory periods. Offered alternate years. Offered 1940-41. Professor Cosby.

PH 351. **Turkey Management.** 3 hours fall.
Practical details in the breeding, feeding, rearing, and marketing of turkeys. Prerequisite: AI 123. Two recitations; 1 two-hour laboratory period. Professor Cosby.

PH 403. Thesis. Terms and hours to be arranged.
Prerequisite: consent of department head.

PH 405. **Reading and Conference.** Terms and hours to be arranged.
For students who have demonstrated their ability to carry on independent investigation or study under supervision.

PH 407. **Seminar.** 1 hour each term.

PH 411. **Poultry Feeding.** (g) 4 hours fall.
Feeds suitable for poultry; principles and practice of feeding breeding stock, feeding for egg production, and fattening for market; feeding young and growing chicks; feeding appliances; the compounding of rations. Prerequisite: AI 123, 411. Two recitations; 2 two-hour laboratory periods. Mr. Cooney.

PH 421. **Marketing Poultry Products.** (g) 4 hours winter.
Preparation of poultry and eggs for market; methods of storage and preservation; methods of marketing; laboratory work in killing, picking, grading, and shipping poultry; candling, grading, packing, and storing eggs. Prerequisite: AI 123. Two recitations; 2 two-hour laboratory periods. Mr. Cooney.

PH 431. **Poultry Plant Management.** (g) 4 hours spring.
Selection of the location, layout, and arrangement of buildings; study of records. Each student works out complete plans for the layout and management of a commercial poultry enterprise. Prerequisite: PH 321, 331, 411, 421. Two recitations; 2 two-hour laboratory periods. Mr. Cooney.

PH 441. **Poultry Breeding.** (G) 4 hours spring.
History of poultry breeds; study of breeding with special emphasis on the modes of inheritance of egg production; egg size, hatchability and other economically important characteristics. Prerequisite: AI 123, 315. Three lectures; 1 two-hour laboratory period. Professor Knowlton.

GRADUATE COURSES

See Animal Industries, page 224.

Veterinary Medicine

THE object of the courses in veterinary medicine is to help fit the student for the successful handling of livestock. Anatomy and physiology of domestic animals familiarize the student with the normal structures and functions of the animal body, thus laying a foundation for courses in

judging, breeding, feeds and feeding, nutrition, and diseases of animals.

The work in diseases is taken up from the standpoint of the livestock owner. The students learn to recognize diseases, to care for sick animals, and to prevent disease through proper methods of sanitation and management. The importance of quarantine, the different methods of control and eradication of disease, and the role of the stock owners in maintaining this work are considered. The department does not train men to enter the Veterinary profession.

Equipment. This department has its offices, physiological laboratory, and lecture rooms in the Poultry Building. The Veterinary Clinic building is equipped for dissection, autopsies, and clinics.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

VM 211. **Anatomy of Domestic Animals.** 3 hours fall.
A laboratory course in the anatomy of domesticated animals; special attention to the digestive systems of the horse and the cow; to the foot, the teeth, and the muscles of locomotion of the horse; complete dissection of the digestive, urinary, genital and respiratory systems; partial dissection of the circulatory, muscular, and nervous systems. Prerequisite: Z 130 or equivalent. Three two-hour laboratory periods.

VM 221, 222. **Physiology of Domestic Animals.** 3 hours each term, winter and spring.
The functions of the body; the physiological processes of all domestic animals with emphasis on the horse and the cow. Prerequisite: VM 211. Two lectures; 1 two-hour laboratory period.

UPPER-DIVISION COURSES

VM 311. **Anatomy of the Fowl.** 3 hours winter.
The structure of the body of the fowl. Two lectures; 1 two-hour laboratory period. Associate Professor Dickinson.

VM 341. **Diseases of Livestock.** 4 hours fall.
A one-term course for students specializing in the plant group. The more common diseases, with methods of prevention and control. Professor Shaw.

VM 351. **Diseases of Poultry.** 4 hours spring.
The parasitic, infectious, and noninfectious diseases of poultry; emphasis on methods of prevention and control of the parasitic and infectious diseases; observations of autopsies, methods of diagnosis, and treatment of fowls. Three lectures; 1 two-hour laboratory period. Associate Professor Dickinson.

VM 355. **Diseases of Game Birds.** 3 hours spring.
Similar to VM 351, but concerned with game birds. Two lectures; 1 two-hour laboratory period. Associate Professor Dickinson.

VM 361. **Parasitic Diseases of Domestic and Game Animals.** 4 hours winter.
The intensive study of the common parasitic diseases of domestic animals. Two lectures; 2 two-hour laboratory periods. Professor Shaw.

VM 441, 442, 443. **Diseases of Livestock.** (g) 3 hours each term.
The parasitic, infectious, and noninfectious diseases of domesticated animals. Prerequisite: VM 221, 222, or equivalent. Two recitations; 1 two-hour laboratory period. Professor Shaw, Assistant Professor Dougherty.

GRADUATE COURSES

See ANIMAL INDUSTRIES, page 224.

Division of Plant Industries

THE Division of Plant Industries deals with the nation's major agricultural resources, the soils and their crops. The research, resident instruction, and extension work in plant industries is basic to practically all phases of general and specialized agriculture. It covers the nation's water and soil resources, their mapping, use, management, and preservation; and the plant resources which include the major basic food, forage, and clothing commodities and the food luxuries of the world's diet. Educational work conducted in this division is broad, covering ecological relationship, production, management, grading, preservation, manufacture, storage, transportation, and marketing of the food, forage, textile, and seed crops. Cereals, fruits, nuts, vegetables, ornamental plants, and the plant and soil phases of pasture, range, soil conservation, and wildlife work are given attention. Liberal opportunity is provided in the curricula of this division for students to elect courses of their own choice with the guidance of the faculty. Special curricula are developed to suit the needs of those more mature students who have a definite objective in view. Students are encouraged to undertake individual work in connection with training for special state, Federal, or private positions.

Farm Crops

PROBLEMS of production, improvement, marketing, manufacture, and uses of each of the field crops produced for food, forage, textile, and special purposes are dealt with by this department. The purpose of the major curriculum (page 208) is primarily to teach students scientific practical, and economical methods of crop production, marketing, and improvement that may be put into actual use on the farm. In addition the courses are so arranged that men may fit themselves for business positions in connection with the marketing of seeds and other farm crops; for civil service positions in agronomy, forage crops, soil conservation, range management, grain standardization, plant breeding, and crop marketing; and for experiment station, extension, and teaching work. The object is to develop men with broad training for leadership along agricultural and general lines and to provide scientific training such that graduates may succeed in the professional and technical agricultural fields. Considerable flexibility in electives together with the study of original problems is encouraged in order to meet special needs of individual students.

Farm-crops graduates occupy technical, commercial, and teaching positions involving considerable responsibility and are successful in farm operation. They are in Federal and state experimental and regulatory positions, several are county agents, others are in the seed and grain business, and some are in graduate study and teaching positions. The field is a large one and deals principally with well-known and staple crops that are constantly in use and in demand. Farm-crops work is closely related to six important fields: (1) the daily food supply of our human population, (2) the feed requirements of all classes of farm animals, (3) the growth of plants for textiles, (4) seed and special crops, such as drug plants, (5) plant problems of soil conservation, and (6) the range and wildlife food crops. Crops courses make practical application of scientific principles from such fields as soils, physics, chemistry, bacteriology, plant pathology, and plant physiology.

Equipment. The department has excellent recitation rooms, greenhouses, and well-equipped laboratories. The Experiment Station plots and farm fields afford superior opportunities for field study and make possible extensive collection of valuable material for class work. Federal cooperative investigations in seed testing, forage crop, fiber flax, cereals, and hops form a distinct instructional asset. A large collection of the best books, periodicals, etc., dealing with the subject, is available. Oregon State College is excellently equipped for grain and hay grading and seed-inspection work; the crop-inspection and grading work is a marked advance over anything heretofore offered.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

FC 111. **Elements of Agronomy.** 3 hours any term.
Fundamental principles of tillage and production, seed selection, identification, rotation, and economics of crop production, with special reference to the cereals and related crops. In the winter term the work is adapted to the needs of students in fish and game management. Prerequisite to all farm-crops courses except FC 211, 311, 317, and 324. One lecture; 1 recitation; 1 two-hour laboratory period.

FC 211. **Forage and Root Crop Production.** 3 hours fall or spring.
Fundamental principles of economic production, rotation, storage, costs, marketing, uses, and improvement of the important forage and pasture crops and their seeds, and the root crops. Two lectures; 1 two-hour laboratory period.

UPPER-DIVISION COURSES

FC 301. **Research.** Terms and hours to be arranged.

FC 303. **Thesis.** Terms and hours to be arranged.

FC 305. **Reading and Conference.** Terms and hours to be arranged.
Lectures or laboratory work, or both, for groups of students desiring additional work along special lines of crop production, or individual study by students.

FC 307. **Seminar.** 1 hour each term.
Analyses of technical publications on farm crops and allied subjects; especial attention to crop production, breeding, standardization, economics, ecology, and related fields.

FC 311. **Potato Growing.** 2 hours winter.
Potato production; improvement; storage; cost; marketing; distribution; uses; experimental work; varietal studies; identification, judging, and scoring. One recitation; 1 two-hour laboratory period. Assistant Professor Finnell.

FC 313. **Lawns and Turfs.** 2 hours fall.
Varieties, characteristics, and adaptability of turf plants and seeds; seed-bed preparation, seeding, fertilization, management, weed and pest control for lawns, golf courses, grass nurseries, playing and landing fields, parks, and other purposes. One recitation; 1 two-hour laboratory period. Assistant Professor Finnell.

FC 315. **Principles of Agricultural Breeding.** 3 hours fall.
The practical application of modern conceptions of breeding. Two lectures; 1 two-hour laboratory period. Associate Professor Fore.

FC 317. **Weed Eradication.** 3 hours spring.
Weed types and their habits of growth; weed legislation; practical methods of prevention, control, and eradication; special attention to noxious, persistent, perennial, and poisonous weeds of ranch and range. Two lectures, 1 two-hour laboratory period. Assistant Professor Finnell.

FC 318. **Wildlife Food Crops.** 3 hours fall.
Native and introduced food, forage, and cover plants for wildlife and game refuges, breeding areas, fur and game farms, etc.; seed and plant supplies and markets; production and management methods for maintaining the food supply. One lecture; 1 two-hour laboratory period. Mr. Hansen.

FC 319. **Range Improvement and Maintenance.** 3 hours winter.
Reseeding, improvement, care and maintenance of range, cut-over, overflow, marginal, and other lands used for grazing purposes. Prerequisite: FC 211 or equivalent. Two lectures; 1 two-hour laboratory period. Professor Hyslop, Mr. Hansen.

FC 320. **Cover Crop and Soil-Erosion Prevention Plants.** 2 hours winter.
Production, development, and maintenance of plants suited to soil, dike, and bank protection and to cover-cropping purposes; sand-dune control; cover crops for soil protection and building up organic content of tillable areas. One lecture; 1 two-hour laboratory period. Assistant Professor Finnell.

FC 322. **Cereal Production Lectures.** 3 hours fall.
Production and uses of cereals and allied grains; distribution; adaptability; ecological relationship; seed treatment; production methods; markets; manufacture and movement in commerce. Prerequisite: FC 111, Bot 202 or equivaent. Professor Hill.

FC 323. **Cereal Morphology.** 2 hours fall.
Laboratory and field studies of morphological and taxonomic characters on the common forms of cereals; methods of identification; and studies on seed structure in relation to the cereal manufacturing processes. Two two-hour laboratory periods. Professor Hill.

FC 324. **Forage and Related Crops.** 3 hours spring.
Special studies in the production, handling, marketing, and uses of forage and related plants; pasture development and management in humid areas and with irrigation; economy in hay making, storage, and transportation under special conditions; comparative use and cost of different forage crops. Prerequisite: FC 211 or equivalent. Two lectures; 1 two-hour laboratory period. Professor Hyslop, Mr. Hansen.

FC 327. **Production of Hops, Drug and Related Plants.** 3 hours winter.
The principles of production, harvest, storage, distribution, marketing and costs of hops, drug and related plants. Prerequisite: Bot 203 or equivalent. Two lectures; 1 two-hour laboratory period. Assistant Professor Finnell.

FC 401. **Research.** Terms and hours to be arranged.

FC 403. **Thesis.** Terms and hours to be arranged.

FC 405. **Reading and Conference.** Terms and hours to be arranged.
Similar to FC 305. For seniors.

FC 407. **Seminar.** 1 hour each term.
Similar to FC 307. For seniors.

FC 411. **Crop Inspection.** (G) 4 hours winter.
The inspection, grading, and valuation of cereals, hay, forage, potatoes, beans, seeds, stock feeds, and miscellaneous agricultural commodities according to Federal, state, and other adopted standards; theory and practice of grade fixation and application. For persons buying or selling agricultural commodities, grain supervisers, samplers, inspectors, warehousemen, millers, and others. Prerequisite: FC 111, 211, 322, 323; Ch 251; or equivalents. Two lectures; 2 two-hour laboratory periods. Professor Hill.

FC 414. **Seed Production.** (G) 3 hours fall.
Principles and special methods of production, distribution, and use of seed crops of grasses, alfalfa, clover, and other forage legumes; field beans, horse-beans, soy-beans, peas, and other food legumes; other special seed crops; seed inspection, seed certification, and seed legislation. Prerequisite: FC 111, 211, 322, 323, or equivalents. Two lectures; 1 two-hour laboratory period. Professor Hyslop, Assistant Professor Finnell.

FC 415. **Plant Breeding.** (G) 3 hours spring.
Practical application of genetics to improvement of field and horticultural plants; methods of breeding for yield, disease resistance, special qualities and special adaptations. For students wishing to prepare for research or for business in seed and plant production. Prerequisite: senior standing and consent of instructor. Two lectures; 1 two-hour laboratory period. Associate Professor Fore.

FC 416. **Field-Plot Technique.** (G) 3 hours spring.
Methods, theory, and technique of plot experiments and demonstrations with plants; recording of data, tabulation, biometrical and statistical analysis of results from field, plot, and nursery experiments. Designed for research, extension, Smith-Hughes, and other workers dealing with field plots and demonstrations. Prerequisite: senior standing and consent of instructor. Two lectures; 1 two-hour laboratory period. Professor Hill, Associate Professor Fore.

FC 417. **Plant Genetics.** (G) 3 hours winter.
The theory and technique of plant-inheritance studies; factor interaction, linkage, quantitative inheritance, interspecial crosses, sterility and other aspects of plant genetics. Designed primarily for students interested in a more detailed background for plant improvement. Prerequisite: FC 111, 211; Bot 202, 331; FC 315; or equivalent. Two lectures; 1 two-hour laboratory period. Associate Professor Fore.

FC 418. **Economic Plant Adaptation.** 3 hours spring.
The relationship of environment for special strains, varieties, and species of economic plants to practical production conditions. Prerequisite: FC 111, 211, 322, or 324; Bot 202, 331, 341; or equivalents. Two lectures; 1 two-hour laboratory period. Mr. Hansen.

FC 421. **Crop Efficiency.** (G) 3 hours spring.
The production, conditioning, storage, and marketing of farm crops; agricultural adjustment; comparison of methods leading to cheaper and more efficient production; cropping systems and crop rotations; crop specialization; warehousing problems; grade and standard fixation; export and import regulations; crop statistics, their value and use; disposal of crop by-products. Prerequisite: FC 322, 323, 414; or equivalents. Professor Hyslop.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

FC 501. **Research.** Terms and hours to be arranged.

FC 503. **Thesis.** Terms and hours to be arranged.

FC 505. **Reading and Conference.** Terms and hours to be arranged.

FC 507. **Seminar.** 1 hour each term.

Food Industries

THE curriculum in food industries (pages 209-210) is designed to fit the student to enter the fields of commercial food preservation and manufacturing, such as: canning; dehydration; preserving; pickling; maraschino, juice, and vinegar manufacture; and the by-product utilization of agricultural and marine crops. Students are also trained for positions such as food buyers, brokers, food inspectors, and food-research workers, and for positions as instructors in food preservation and manufacture. Much of the laboratory work is conducted on a commercial scale, and the student is trained to operate and repair machinery and equipment used in food and by-product manufacture.

Instruction includes lectures, laboratory exercises, visits to food plants, reading assignments, and problems. Special opportunity is afforded students of ability who wish to do research work on by-products.

The annual Canners' and Fieldmen's School (see page 201) affords an opportunity for students to hear and become acquainted with men who rank high in the food-preservation field. At this time and throughout the school year representatives of associated industries contribute valuable discussions and material for food-industries students.

Special courses covering preservation and utilization of fish and other marine products are available. These courses are designed particularly for students majoring in fish and game management.

Equipment. The Horticultural Products Building is equipped for the manufacture of fruit juices, carbonated beverages, and vinegar. The equipment includes a hydraulic press, centrifuge multiple drum, silver-lined filter, carbonating equipment, and settling vats, dehydrating equipment, a steam-heated experimental dehydrater of one-ton capacity, automatically controlled by compressed air. Preparation machines, such as power peelers, slicers, and washers are located in this building.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

FI 250. **Principles of Food Preservation.** 3 hours fall.
Fundamental principles involved in freezing, drying, concentrating, salting, smoking, fermenting, carbonating, and the use of heat, electricity, and chemical preservatives for the preservation of all types of foods. Two lectures; 1 two-hour laboratory period.

FI 251. **Principles of Canning Fruits.** 3 hours winter.
Fundamental principles of canning fruits; varieties; buying; handling before canning; grading; methods of preparation; blanching; siruping; water and steam exhausting; sealing; cooking; cooling; storage; causes of spoilage; judging canned foods; types of containers; marketing practices; working knowledge of methods used in commercial, farm, and home canning. Prerequisite: FI 250. Two lectures; 1 three-hour laboratory period.

FI 252. **Principles of Canning Vegetables.** 3 hours spring.
Continuation of FI 251, with application to vegetable canning and vegetable products. Retort installation, operation, and control; handling methods; heat penetration; time of cooking and thermal death points; vegetables canned by different methods and results compared; commercial plants visited for study. Prerequisite: FI 250, 251. Two lectures; 1 three-hour laboratory period.

FI 254, 255. **Canning of Fish and Fish Products.** 3 hours each term, winter and spring.
The fundamental principles of canning, heat penetration, thermal death points; the effect of acidity, vacuum, can fill, grading, seaming, cooking, storage, corrosion; canning of fish, clams, oysters, shrimp, etc. Prerequisite: FI 250, Bac 204. Two lectures; 1 two-hour laboratory period.

UPPER-DIVISION COURSES

FI 311. **The Canning Plant and Its Equipment.** 3 hours spring.
Economic phases of the canning plant; its location, general plan of construction; equipment; operation; training in designing plants and estimating costs; laboratory work on the construction, installation, operation, and adjustment of canning machinery; field trips to canneries to study their construction. Two lectures; 1 three-hour laboratory period. Assistant Professor Onsdorff.

FI 321. **Food Products.** 2 hours spring.
Commercial methods followed in the manufacture of such foodstuffs as fruit and vegetable by-products, spices, condiments, flavoring extracts, sirups, leavening agents, animal foods; the use of sugars, vegetable cooking oils, flours, and cereals. Prerequisite: Ch 201, 202, 203. Assistand Professor Onsdorff.

FI 331. **Dehydration of Fruits and Vegetables.** 3 hours fall.
Especially designed for students majoring in horticulture and farm crops. Actual drying of fruits and vegetables; all of the common types of driers and principles of dehydration; methods of testing for moisture and adulteration. Two lectures; 1 three-hour laboratory period. Professor Wiegand.

FI 341. **Pickles, Relishes, and Condiments.** 3 hours fall.
Theory, principles, and practice in vinegar and salt pickling; making and packing of sour, sweet, and dill cucumber pickles; pickling of other products, such as onions, melon rinds, carrots, beets, crab apples, tomatoes; tomato products, salad dressings, relishes, and sauerkraut studied and manufactured; causes of spoilage and testing methods emphasized. Prerequisite: Ch 251. Two lectures; 1 three-hour laboratory period. Assistant Professor Onsdorff, Mr. Harvey.

FI 351. **Fruit Juice and Vinegar Manufacture.** 3 hours fall.
Practical and scientific work in the handling of fruit juices; problems of filtration, sterilization, and bottling. Prerequisite: Bac 204, 205, 206; Ch 251; FI 252. Two lectures; 1 three-hour laboratory period. Professor Wiegand, Mr. Harvey.

FI 352. **Commercial Jam and Jelly Manufacture.** 3 hours winter.
Principles of making jams and jellies from fresh and frozen fruits, correlated with laboratory practice and quantity manufacture; testing for yields, moisture content, pectin requirement, acidity, sugar, etc., stressed. Prerequisite: Ch 251; Bac 204, 205, 206; FI 252. Two lectures; 1 three-hour laboratory period. Assistant Professor Onsdorff, Mr. Harvey.

FI 361. **Preserves, Glacèd Fruits, and Candied Fruits.** 3 hours spring.
Manufacture of preserves, marmalades, conserves, maraschino cherries, glacèd fruits, and candied fruits. Prerequisite: Ch 251; Bac 204, 205, 206; FI 252, 352. Two lectures; 1 three-hour laboratory period. Professor Wiegand, Mr. Harvey.

FI 401. **Research.** Terms and hours to be arranged.

FI 403. **Thesis.** Terms and hours to be arranged.

FI 405. **Reading and Conference.** Terms and hours to be arranged.

FI 407. **Seminar.** Terms and hours to be arranged.

FI 411. **Food Products Manufacture.** (G) 3 hours fall.
Physical, chemical and bacteriological principles involved in the preparation, preservation, and examination of fruit, vegetable, and food products. Prerequisite: Bac 413, Ch 351. One lecture; 2 two-hour laboratory periods. Professor Wiegand.

FI 412. Frozen Foods. (G) 3 hours spring.
The physical, chemical, bacteriological, and enzymatic changes occurring in products before, during, and after freezing; processing methods, storage, transportation, and distribution of frozen foods. Prerequisite: Ch 251; Bac 204, 205, 206; FI 250, 411; or equivalents. Two lectures; 1 two-hour laboratory period. Professor Wiegand.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

FI 501. Research. Terms and hours to be arranged.

FI 503. Thesis. Terms and hours to be arranged.

FI 505. Reading and Conference. Terms and hours to be arranged.

FI 507. Seminar. Terms and hours to be arranged.

Horticulture

INSTRUCTIONAL work covers the broad fields of production and marketing fruits and vegetables. It is designed to train students for fruit farming, fruit handlers and shippers, state and Federal inspectors, teachers in high schools and colleges, and investigators in fields of research.

The work in landscape maintenance lays the foundation for professional careers in laying out, planting, and superintending country and city homes, parks, and playgrounds, in nursery management, and in floriculture.

The courses cover general horticulture, pomology, vegetable crops, floriculture, and research. Much stress is placed upon the practical phases of all the work. Students are given field and laboratory exercises in all such operations as planting, seeding, budding, grafting, cultivating, thinning, spraying, harvesting, grading, and packing. The four-year curriculum in fruit and vegetable production and distribution is printed on pages 210-211.

Equipment. The Horticultural wing of Agriculture Hall, modern greenhouses, orchards, and gardens, the large campus containing good plant material, and a very good library are at the service of the department. The laboratories are well equipped for giving instruction in spraying, plant propagation, fruit packing, vegetable grading and crating, and systematic pomology. There are large lecture rooms, and a photography room.

NOTE: *The courses in horticulture include the following groups, under each of which the respective courses are listed in numerical order: General Horticulture (including graduate and research courses), Pomology, Vegetable Crops. Descriptions of the major courses in Landscape Construction and Maintenance are under Art and Architecture and Landscape Architecture, pages 181-184.*

COURSES IN GENERAL HORTICULTURE

LOWER-DIVISION COURSE

Hrt 111. Elements of Horticulture. 3 hours fall or spring.
Fruit growing from the farm and commercial standpoints; home vegetable growing and important truck crops; the fundamental phases of

food preservation, including drying, and cider and vinegar manufacture, are included. Two lectures; 1 three-hour laboratory period.

UPPER-DIVISION COURSES

Hrt 311. **Plant Propagation.** 3 hours winter.
Different methods of propagating plants by seeds, cuttings, bulbs, tubers, budding and grafting. Students grow their own plants and keep records on them in greenhouse, nursery, and orchard. One lecture; 2 two-hour practicums. Professor Duruz.

Hrt 312. **Greenhouse Construction and Management.** 3 hours fall.
Fundamental principles of greenhouse design and operation, including materials, equipment, heating, ventilation, watering, soils, soil sterilization, insecticides, and fumigation, as applied to greenhouse flower and vegetable crops. One lecture; 2 two-hour laboratory periods. Professor Bouquet.

Hrt 313. **Greenhouse Crops.** 3 hours winter.
Actual work in the greenhouse; propagation; culture; soils; ventilation; watering; heating; as wide a range of experience as possible in growing of plants used in the florist trade. Prerequisite: Hrt 311. Nine periods laboratory work. Professor Bouquet.

Hrt 314. **Greenhouse Crop Practices.** 3 hours spring.
Production of floricultural bedding plants as well as young vegetable plants under glass, for spring and summer transplanting. One lecture; 2 two-hour laboratory periods. Professor Bouquet.

Hrt 316. **General Floriculture.** 3 hours fall.
Studies of annual, biennial, and perennial flowers with particular reference to their culture in city and rural home gardens. Two lectures; 1 two-hour laboratory period. Professor Bouquet.

Hrt 320. **Nursery Management.** 3 hours spring.
The nursery industry; organization, management, equipment, plants, planting, storage, protection, shipping, diseases and insects, and quarantine regulations; trips to nurseries. Prerequisite: Hrt 311. Two lectures; 1 laboratory period. Professor Duruz.

Hrt 401. **Research.** Terms and hours to be arranged.

Hrt 403. **Thesis.** Terms and hours to be arranged.

Hrt 405. **Reading and Conference.** Terms and hours to be arranged.

Hrt 407. **Seminar.** Any term, 1 hour.

Hrt 411. **Methods of Research.** (G) 3 hours winter.
Conducted as a research round table. Making of briefs and outlines of research problems; methods of procedure in conducting investigative work; processes of reasoning and weighing of evidence; preparation of bulletins and reports; close study of research work presented in the literature. Professor Hartman.

GRADUATE COURSES

Courses in general horticulture, pomology, and vegetable crops numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Hrt 501. **Research.** Terms and hours to be arranged.
Investigational work for graduate students in pomology, vegetable crops, plant breeding, and plant physiology as related to horticulture. Horticulture staff.

Hrt 503. **Thesis.** Terms and hours to be arranged.

Hrt 505. **Reading and Conference.** Terms and hours to be arranged.

Hrt 507. **Seminar.** Three terms, 1 hour each term.

COURSES IN POMOLOGY

UPPER-DIVISION COURSES

Pom 312. **History and Literature of Horticulture.** 3 hours winter.
History of horticulture; systematic survey of the literature of horticulture, acquainting the student with the various sources of horticultural knowledge. Professor Duruz.

Pom 313. **Commercial Pomology.** 3 hours fall.
The problems of harvesting and handling fruits; physiology of ripening; maturity tests; methods of picking, cleaning, and packing, standardization, inspection, certification; loading for domestic and export markets. Two lectures; 1 two-hour laboratory period. Prerequisite: Hrt 111; Ec 201, 202, 203. Professor Duruz.

Pom 321. **Fruits and Nuts of the World.** 3 hours winter.
Fruits and nuts of economic importance not commonly grown in Oregon, including almond, avocado, banana, Brazil nut, cashew, citrus fruits, date, fig, olive, papaya, pecan, persimmon, pineapple, and pomegranate; their botanical relationships, culture, history, present trade status, and possibilities of development in the United States and its possessions. Prerequisite: Hrt 111. Professor Duruz.

Pom 341. **Small Fruits and Grapes.** 3 hours winter.
Problems connected with the soils and slopes, pruning, training, harvesting, packing, and marketing of such small fruits as the strawberry, currant, gooseberry, raspberry, blackberry, loganberry, cranberry; American and European grapes. Professor Duruz.

Pom 413. **Handling and Distribution of Fruits.** 3 hours winter.
Continuation of Pom 313. Problems of transportation, distribution, marketing methods, storage and storage plant operation. Prerequisite: Pom 313. Professor Hartman.

Pom 415. **Fruit Production.** (G) 4 hours spring.
Principles and practices of fruit and nut growing as related to climate, soil, and water requirements; varieties, root stocks, planting systems, pollination, thinning, frost, pest control, and other practical problems. Prerequisite: Hrt 111. Three lectures; 1 three-hour laboratory period. Professor Brown.

Pom 417. **Systematic Pomology.** (G) 4 hours fall.
Descriptions, nomenclature and classifications of fruits and nuts. The student studies a sufficient number of varieties to become acquainted with the more important groups, species, and varieties. One lecture; 1 recitation; 2 two-hour laboratory periods. Professor Duruz.

Pom 419. **Spraying.** (g) 3 hours spring.
Principles underlying spraying practices, insect and disease control, sprays and their mixing, operation of spray pumps, gas engines, and electric motors; utilization of portable and stationary outfits, operation of small sprayers and dusters, spray nozzles, guns and rods, accessories; practice in orchard spraying. Prerequisite: Hrt 111. One recitation; 2 two-hour laboratory periods. Professor Duruz.

Pom 431. **Pruning.** (g) 3 hours winter.
The fundamental principles underlying pruning, including bud studies, tree building, maintaining vigor of the tree, rejuvenation. Prerequisite: Hrt 111. Two lectures; 1 three-hour laboratory period. Professor Brown.

COURSES IN VEGETABLE CROPS

UPPER-DIVISION COURSES

VC 321. **Vegetable Production.** 3 hours fall or winter.
The principles and practices involved in growing vegetables, including such subjects as soils, fertilization, varieties, seeds, plant growing, distribution of crops, succession cropping, irrigation, pest control, planting, and cultivating. Prerequisite: Hrt 111. One lecture; 1 recitation; 1 two-hour laboratory period. Professor Bouquet.

VC 322. **Vegetable Crops for Manufacturing.** 3 hours winter.
Production and handling of vegetables for canning and freezing, including crops of special importance in the Northwest, such as asparagus, beans, beets, carrots, sweet corn, peas, pumpkin, and tomatoes. Especially for students majoring in vegetable crops and food industries. Two lectures; 1 two-hour laboratory period. Professor Bouquet.

VC 323. **Vegetable Growing Practices.** 3 hours spring.
Field and greenhouse work with lectures to acquaint the student with growing and management methods in the production of vegetables for market. Prerequisite: Hrt 111. One lecture; 1 recitation; 1 two-hour laboratory period. Professor Bouquet.

VC 325. **Vegetable Forcing.** 3 hours spring.
Commercial practices in growing vegetable crops and plants under glass, including tomatoes, cucumbers, and other plants; commercial greenhouse operations. Prerequisite: Hrt 111. Two lectures or recitations. Professor Bouquet.

VC 423. **Vegetable Varieties.** (G) 2 hours fall.
Descriptions, nomenclature, and classifications of vegetables; a sufficient number of varieties of each vegetable studied so that the student may become acquainted with the more important groups of horticultural varieties; exercises in displaying and judging vegetables; assigned readings. Prerequisite: Hrt 111. Two two-hour laboratory periods. Professor Bouquet.

VC 424. **Vegetable Marketing. (g)** 3 hours fall.
Commercial practices of field harvesting, grading, and packing of vegetables; methods of marketing; car loading, mixed cars, transportation, and distribution of truck crops, such as onions, celery, peas, cabbage, cauliflower, melons, tomatoes. Lectures, farm and market visits, field work in loading and observation of car loads; assigned readings. Prerequisite: Hrt 111. One lecture; 1 recitation; 1 two-hour laboratory period. Professor Bouquet.

Soils

COURSES in soils include soil physics, soil drainage, irrigation farming, dry farming, soil fertility, soil surveying, soil biology, soil-erosion control, and soil management and utilization. The purpose of the major curriculum in soils (page 209) is to give the student thorough training in fundamentals of agriculture, making him competent to manage a farm or preparing him for positions in state or Federal service. The wealth of Oregon rests in her soil and water resources, and their intelligent development, management, and preservation. With the further extension of reclamation, there will be a greater demand for men who have a knowledge of how most successfully and economically to use water that the engineer's canals and reservoirs provide. These men must know the best time, amount, and method of irrigation, and the effects of irrigation upon soils and crops. They should also know the relations between soils, soil waters, and drainage, and understand how to locate and construct drains and how to treat or fertilize the soil so as to obtain the highest possible efficiency for each unit of tilling or fertilizer employed.

Equipment. The soils laboratories are equipped with apparatus for complete study of physical and chemical properties of soils and problems of soil management. Laboratory desks are supplied with running water, gas, compressed air, and electricity. Soil surveying and mapping outfits, soil survey charts of the United States, and a collection of samples of the chief soil types of Oregon and the United States are available. The soil-preparation room is equipped with soil-grinding and sifting machinery, and space for drying, preparation, and storage of large quantities of the different soil types used in the laboratories. For field work in drainage and irrigation, surveying instruments, tiles, and ditching tools, weirs, flumes, hook gauges, water-stage register, electric pumping plant, etc., are available. Weather-recording instruments of different kinds supply equipment for the course in climatology. Laboratories and greenhouses afford opportunity for studies of the movement and retention of irrigation water in soil, the effects of irrigation upon soils and crops, the effect of tile drainage upon soils of different types, their rate of drainage, etc. On the State College farm the students build weirs, measure water, lay out distribution systems, make cement pipes for laterals, and test pumping machinery. On the drainage plots the rate of discharge is measured and the effect of drains and soil conditions on water table are studied. The exhibits, displayed in cases and racks, include soil-sample collections, subsoil, hardpans, soil analysis, soil colors, soil drainage, and irrigation. A well-stocked reference library is available. The Experiment Station farms at Corvallis and in other parts of the state, together with the cooperative trials in different counties, afford opportunity for field study of soil problems.

Research. The Department of Soils is well equipped for offering research work. The experiment fields, greenhouses, laboratories, and library, and the plans and methods used in soil, irrigation, and drainage investigations, afford valuable opportunities to graduate students.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Sls 211, 212. **Soils.** 3 hours each term (Sls 211 fall or spring, Sls 212 winter). Origin, formation, and classification of soils; study of the physical properties of soil moisture, heat, and air; effects of tillage, drainage and irrigation; plant foods and soil fertility; fertilizers; crop rotations; manures; acid and alkali soils. Prerequisite: Ch 101, 102, 103. Two lectures; 1 three-hour laboratory period.

Sls 213. **Soil Drainage and Irrigation.** 3 hours spring.
Soil mapping, reclamation, and use; use of chain, level, and soil auger as applied to design; installation of the tile drains or irrigation systems; their effect upon soils and crops; cost and benefits. Two lectures; 1 three-hour laboratory period.

Sls 214. **Forest Soils.** 3 hours spring.
Origin, development, characteristics, and classification of forest soils; relation to vegetation, moisture reaction and fertility; forest nursery soil management, use and conservation. Two lectures, 1 three-hour laboratory period.

Sls 215. **Soils Improvement.** 2 hours fall.
Soil-fertility gains and losses, maintenance, and improvement; effect of manures, fertilizers, and crop rotations on soil productiveness. Required of students in landscape architecture.

UPPER-DIVISION COURSES

Sls 311. **Irrigation Farming.** 2 or 3 hours fall.
Methods of obtaining, distributing, and conserving irrigation waters; handling of different crops under irrigation; costs and profits; duty of water in various districts of Oregon; water rights; field and laboratory studies of irrigation qualities of different soils; laying out of irrigation systems. Two or four lectures or recitations; 1 three-hour laboratory period. Professor Powers.

Sls 319. **Climatology.** 2 hours spring.
Practical meteorology; observing and recording local weather and forecasting; a study of the climate of Oregon and the effect of climate upon agriculture. One recitation; 1 two-hour laboratory period. Associate Professor Torgerson.

Sls 401. **Research.** (g) 3 hours each term.
Soil, drainage, or irrigation work. The advanced student may study the various soil types of Oregon through mechanical analysis, and other physical tests; may undertake field work in soil surveying and mapping; or, through wire-basket, pot-culture, and field-plot tests, may determine the effects of various systems of cropping or fertilizing, or of soil bacteria, upon soil fertility. Prerequisite: Sls 421, 424.

Sls 407. **Seminar.** 1 hour each term.

Sls 411. **Western Land and Water Laws.** (g) 3 hours winter.
A brief history of the development of water laws; homestead laws, water rights, and irrigation codes in the different states, particularly in the Northwest and Oregon; appropriation, adjudication, and administration of water; reclamation and other Federal and state land acts affecting reclamation development; organization and administration of irrigation districts and projects; water users' associations, etc.; discussion of public questions relating to reclamation. Professor Powers.

Sls 413. **Soil Conservation.** 3 hours winter.
Climate, topography, and soil in relation to erosion; its causes, types, and importance; soil mapping; methods of control. For those who may enter the soil conservation service. Two recitations; 1 three-hour laboratory period. Associate Professor Torgerson.

Sls 414. **Irrigation Investigations.** (G) 3 hours fall.
Irrigation literature and methods of irrigation investigation; field and laboratory studies of irrigation experiments; calculation of depth of water applied and of the most economical production thereby obtained; costs and profits connected with irrigation; analysis of data and preparation of a thesis. Field examinations are made, where possible, of some of the largest projects in the state. One lecture; 2 three-hour laboratory periods. Professor Powers.

Sls 418. **Land Drainage.** (G) 3 hours spring.
Field study of roads, oil, and sanitary drainage; actual surveying, laying out, drafting of plans, estimation of cost, and installation of drainage systems; preparation of a complete report on the organization of a drainage district. Prerequisite: Sls 211. One recitation; 2 three-hour laboratory periods (week-end). Professor Powers.

Sls 421. **Soil Physics Lectures.** (g) 3 hours fall.
Origin, formation, physical composition, and classification of soils; soil moisture, surface tension, osmosis, capillarity, diffusion, aeration, temperature, and the resulting alteration in crop-producing power. Prerequisite: Sls 212, 213. Professor Stephenson.

Sls 422. **Soil Physics Laboratory.** (g) 2 hours fall.
Supplemental to Sls 421. Laboratory determination and comparison of physical properties of various soil types; physical effects of mulches, rotations, and cropping; soil sampling and judging; mechanical analysis of soils. Two three-hour laboratory periods. Professor Stephenson.

Sls 424. **Soil Fertility Lectures.** (g) 3 hours winter.
Composition and values of fertilizers and barnyard and green manures; maintenance and improvement of fertility; effect of the various crops and different systems of farming upon the fertility of the soil; crop rotations and fertility in different sections of the state and the United States. Prerequisite: Sls 421. Professor Ruzek.

Sls 425. **Soil Fertility Laboratory.** (g) 2 hours winter.
Laboratory work accompanying Sls 424. Two three-hour laboratory periods. Professor Ruzek.

Sls 428. **Soil Management.** (G) 5 hours spring.
Occurrence, composition, characteristics, productivity, plant-food requirements, comparative values, and management of different soil types. Prerequisite: Sls 424. Two recitations; 3 three-hour laboratory periods. Professor Powers.

Sls 431. **Soils of Oregon.** (g) 2 hours winter.
The distinguishing characteristics of the various soil types of Oregon. Prerequisite: Sls 212. Associate Professor Torgerson.

Sls 432. **Soil Survey.** (G) 3 hours spring.
For the advanced student who desires preparation for service at state experiment stations or in the Government Bureau of Soils. Classification of soils and soil areas of the United States, of Oregon, and of the Northwest; much work in making regular and completed soil surveys of assigned areas, including field trips of inspection, with a report thereon. Prerequisite: Sls 421 or 424, 431. One recitation; 2 three-hour laboratory periods. Associate Professor Torgerson.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Sls 501. **Research.** Terms and hours to be arranged.

Sls 503. **Thesis.** Terms and hours to be arranged.
For graduate students either as major or minor. Students may select problems in soil physics, analysis, surveying, fertility, irrigation, drainage, soil management, soil conservation, or related subjects.

Sls 505. **Reading and Conference.** Terms and hours to be arranged.

Sls 507. **Seminar.** 1 hour each term.
A thorough, critical study of advanced research in soils and reclamation, and their relation to plant nutrition. Prerequisite: graduate standing in soils or related courses. One two-hour recitation period.

Sls 511. **Pedology.** 3 hours spring.
Advanced soil classification and morphology. Soil-forming processes; evolution of soil profiles; principles of soil classification and utilization; distribution of soils of the United States in relation to vegetation and crops, geology, physiography, and climate. Limited to advanced and graduate students. Two recitations; 1 three-hour laboratory period. Professor Powers.

Sls 512. **Soil Colloids.** 2 hours fall.
Physical chemistry of soils with special reference to the nature and function of soil colloids, soil acidity, absorption, and base exchange. Limited to advanced and graduate students. Professor Stephenson.

Sls 513. **Plant Nutrition.** 2 hours winter.
Soil, water, and plant relationships; external factors that are controllable by agricultural practices; character of the soil solution in relation to the nutrient requirements of plants. Limited to advanced and graduate students. Professor Powers.

Sls 514. **Soil Organic Matter.** 2 hours winter.
Soil organic matter and humification processes; chemical and physical properties of humus; effect on soil reaction; biological processes and nutrient-supplying power of the soil; relation of humus to soil conservation and to plant growth and adaptation. Professor Stephenson.

Agricultural Education, Engineering, Extension Methods

THE departments of Agricultural Education, Agricultural Engineering, and Extension Methods are administered in close relation to the three divisions of the School of Agriculture. Preparation for professional service as agricultural educator, agricultural engineer, or agricultural extension worker involves fundamental training in agricultural economics, animal industries, and plant industries, supplemented by special preparation in the particular field of professional specialization.

Agricultural Education

THIS department is responsible for the training of teachers and supervisors of agriculture in secondary schools, for all-day students, part-time and evening schools for both young and adult farmers, and the training for leadership in rural life and education. Special attention is given to the training of directors, supervisors, teacher trainers, and teachers of agriculture as provided for by the Federal laws for vocational education commonly known as the Smith-Hughes Act and the George-Deen Act. Included within the scope of this department's work are certain field, research, and extension activities involving the preparation of instructional material for the use of agriculture instructors in cooperation with various staff members of the School of Agriculture.

The Department of Agricultural Education is a joint department within both the School of Agriculture and the School of Education.

Requirements for Teaching Agriculture. Teachers of agriculture need to have a fundamental knowledge and a high level of doing ability in most of the departmental fields of the School of Agriculture. As early as possible in his college course and not later than the first term of his junior year the prospective teacher should advise with the head of the Department of Agricultural Education regarding the courses he should select in each of the fields of agriculture. Certain qualifications essential in teaching vocational agriculture should be considered by the student when applying for admission into this field of teaching. Students who have had Smith-Hughes agriculture in high school may have greater freedom in choice of electives and may be excused from certain courses ordinarily required in order to take advanced and additional work in the various departments.

Requirements in Agriculture:

(1) Graduation from a college of agriculture of standard rank.

(2) The course requirements in agriculture and education (for Smith-Hughes teaching) can be met in either of two ways: first, by ma-

joring in the Agricultural Education curriculum, which includes requirements in both agriculture and education; or, second, by pursuing one of the three other curricula in agriculture in the sophomore year and one of the major curricula in General Agriculture, Agricultural Economics, Animal Industries, or Plant Industries during the junior and senior years. The latter plan will be approved, provided sufficient electives are available for meeting the course requirements in agriculture as outlined in the Agricultural Education curriculum on page 212, as well as the requirements in education.

(3) 80 to 90 term hours of special work in agriculture are required. The student's choice of courses should depend somewhat on his previous training and experience and the recommendations of the head of the department. The suggested sequence and distribution of courses are given in the Agricultural Education curriculum on page 212. Regardless of the department in which the student majors he should have a minimum of subject-matter courses in the respective departments as follows:

(a) 12 hours in Agricultural Engineering
(b) 7 hours in Animal Husbandry
(c) 3 hours in Dairy Husbandry
(d) 6 hours in Horticulture
(e) 9 hours in Farm Crops
(f) 12 hours in Farm Management and Agricultural Economics
(g) 9 hours in Soils
(h) 3 hours in Poultry Husbandry
(i) 4 hours in Veterinary Medicine

Requirements in Education: The description of courses in education and psychology required for teaching agriculture, in addition to those in agricultural education described here, will be found on pages 273-280. (For electives following graduation and meeting certification requirements consult the department head.)

Junior Year[1]	Term hours F	W	S
[2]Educational Psychology (Ed 312)	3 *or*	3	....
Secondary Education (Ed 311) (may be taken senior year)	3 *or*	3	....
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2
History of Oregon (Hst 377)	3 *or*	3 *or*	3
Special Methods in Teaching (Ed 408a)	....	....	3
Senior Year[1]			
Principles of Teaching (Ed 313)	....	....	3
The Agriculture Curriculum (Ed 417)	3	....	....
[3]Supervised Teaching (Ed 415)	3–6 *or*	3–6 *or*	3–6
Adult Education in Agriculture (Ed 418)	....	3	....
Rural Survey Methods (AEd 533)	....	....	3

Requirements for Certification of Agricultural Instructors:

(1) Vocational certificate. Granted only to full-time teachers of high-school vocational agriculture upon graduation from college and fulfillment of the four-year requirements in agriculture and education as outlined in agricultural education curriculum, page 212.

[1]The sequence of courses may be changed somewhat upon approval.
[2]Ed 312 must be preceded by Psy 211.
[3]Ed 415 may be taken any two terms.

(2) Secondary school certificate. Required when teaching vocational agriculture in combination with other high-school subjects. Requirements for certification, in addition to the requirements for graduation from college, are given on pages 262-264. Any term in which the student may be acquiring excess credits beyond the graduation requirements in upper-division courses either in agriculture or education, he should arrange to apply them toward meeting the requirements for high-school certificates.

Graduate Study and Apprentice Teaching in Agricultural Education. As the demands on teachers of agriculture the country over are becoming more exacting each year additional work after graduation in the fields of agriculture and education is desirable, and in certain states, including Oregon and Washington, is required for the regular high-school teaching certificate. To meet this demand, a fifth year of graduate work including apprentice teaching is available for a limited number of graduates of approved standing. The plan provides for the location of apprentice teachers in high-school centers near Corvallis where they may acquire credit, both by work at the College and in the field, toward a master's degree.

General Electives. Certain courses are open to all students in agriculture and others who are interested in training for leadership in rural life. Special attention is called to Ed 341, Rural Education.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

Ed 341. **Rural Education.** 3 hours winter.
Open to all students, prospective high-school teachers and others alike, who desire to acquire some foundation for a philosophy of rural life and training for leadership in rural education. New methods of utilizing the student's rural, social, and economic environment as a means of vitalizing different phases of the high-school instruction, achieving social objectives of education, and increasing farm, home, and town-country efficiencies; various forms of continuation and rural extension education for out-of-school youths and adults. Students actively participate in planning and executing studies and programs in rural education. Prerequisite: junior standing. Professor Gibson.

AEd 401. **Research.** Terms and hours to be arranged.

AEd 403. **Thesis.** Terms and hours to be arranged.

AEd 405. **Reading and Conference.** Terms and hours to be arranged.

AEd 407. **Seminar.** Hours to be arranged, two terms.

Ed 408a. **Special Teaching Methods.** 3 hours any term.
See School of Education, page 275. Professor Gibson.

AEd 417. **The Agriculture Curriculum.** (G) 3 hours fall or spring.
Determining course content and evaluating types of course organization with reference to the objectives to be attained in the field of agriculture in secondary schools. Prerequisite: Ed 313. Professor Gibson.

AEd 418. **Adult Education in Agriculture.** (G) 3 hours winter.
Problems and procedures in developing programs for both young and adult farmer groups. Students in this course participate in recruiting, organizing, and teaching evening classes in the vicinity of Corvallis. Prerequisite: Ed 313; AEd 417. Professor Gibson.

GRADUATE COURSES

AEd 501. **Research.** Terms and hours to be arranged.
Problems in agricultural education.

AEd 503. **Thesis.** Terms and hours to be arranged.

AEd 505. **Reading and Conference.** Terms and hours to be arranged.

AEd 507. **Seminar.** Terms and hours to be arranged.

AEd 516. **Extension Course in Teacher Training.** Hours to be arranged, any term.
Teachers of vocational agriculture in service who cannot be relieved of their professional duties to pursue courses that are offered in the summer session may make use of the course to continue their professional improvement. Personal conferences, follow-up instruction, and supervision, supplemented by correspondence and reports. Prerequisite: Ed 311, 312, 313; 328. Professor Gibson.

AEd 533. **Rural Survey Methods.** 3 hours spring.
The technique of making agricultural and rural educational surveys; methods of analyzing, interpreting, and using the material and results as a basis for evaluating and formulating programs in agricultural education; field studies required. Open to graduates with teaching experience and seniors by special permission. Prerequisite: Ed 311, 312, 313; 328. Professor Gibson.

Agricultural Engineering

THIS department offers two types of instruction: (1) a major curriculum in agricultural engineering (pages 213-214) and (2) service courses for students majoring in other departments. The major curriculum offers the student two options. The professional option provides training for the student planning to qualify for civil service examinations, or other fields where extensive technical training is needed. The vocational option is designed to train the student who is interested in farming, extension work, Smith-Hughes vocational agriculture teaching, farm implement sales, lumber and building materials retailing in rural communities, or other work requiring a wider knowledge of agriculture, with less emphasis on the technical phases of engineering. In both options the sciences fundamental to engineering and agriculture, including mathematics, physics, chemistry, and economics, serve as a basis for practical work in agriculture and agricultural engineering. Opportunity is given to elect nontechnical work of cultural value.

The increasing importance of modern machinery and equipment in reducing cost of production, together with the improvement of rural living conditions, demands, in any branch of agriculture, a more complete and effective grasp of agricultural engineering. Students majoring in other departments who recognize the need for a knowledge of farm mechanics, implements, tractor, and automobile mechanics, building materials and structures, and modern home conveniences may elect courses pertaining to these subjects.

Equipment. Up-to-date equipment and demonstration material is loaned to the institution by the leading manufacturers and distributors of the Northwest for study and operation by the students. The farm motors laboratory contains several makes and types of stationary gas engines, cut-away automobile and tractor motors, and accessories, such as carburetors, magnetos, and air cleaners. A Prony brake for determining the horsepower output of stationary engines and sectionized automobile chassis parts are also included.

The tractor and automobile repair laboratory is well equipped with modern tools and testing equipment for complete instruction in repair work of all kinds. A number of tractors, of both wheel and crawler types, are loaned annually to the department for instruction purposes.

A well-lighted drafting room with modern equipment is available for students studying farm structures. A number of model farm buildings and various samples of building materials are used to supplement the study of actual buildings on the college and neighboring farms.

Courses in farm construction and general farm repairs are taught in laboratories equipped for the purpose. Farm water systems, centrifugal and turbine pumps for irrigation pumping, spray pumps, and similar equipment are also available for instruction purposes.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

AE 101. **Agricultural Engineering Survey.** 3 hours fall.
The field of agricultural engineering; application of principles of mathematics and physics to the solution of agricultural problems. For students majoring in agricultural engineering. One lecture; 2 two-hour laboratory periods.

AE 111, 112. **Agricultural Engineering.** 3 hours each term.
Principles of mechanics, hydraulics, and electricity as applied to farm problems; mathematics essential to agriculture. Designed to teach general agriculture students the more important principles involved in application of engineering to agricultural problems, through survey of the field of agricultural engineering. Spring term especially for students in fish and game and range management. One lecture; 2 two-hour laboratory periods.

AE 221, 222. Farm **Mechanics.** 3 hours two terms.
Farm drawing, reading blueprints, and estimating materials and costs; study of materials and their uses; selection and care of tools; construction of farm appliances involving both wood and metal work; farm equipment repairs. The first term is devoted primarily to acquiring basic information and skills, followed by additional practice in these

skills in the second term. One recitation; 2 three-hour laboratory periods.

AE 231. **Farm Implements.** 3 hours spring
The latest horse- and tractor-drawn farm implements, plows and their adjustments and hitches, cultivating machinery, seeding and planting machines, hay- and grain-cutting machines, and manure spreaders; fences and roads; adjustment of machines. One recitation; 2 two-hour laboratory periods.

UPPER-DIVISION COURSES

AE 305. **Reading and Conference.** Terms and hours to be arranged.
Study of some current agricultural engineering problem.

AE 311. **Farm Motors and Tractors.** 3 hours any term.
The principle, construction, operation, and adjustment of farm motors and accessories, carburetors, magnetos, ignition, governing, cooling, and lubricating systems; fuels and oils; testing, timing, and trouble hunting of farm gas motors, such as are used in the tractor, truck, automobile, and stationary outfits. Two recitations; 1 three-hour laboratory periods. Assistant Professor Lunde.

AE 312. **Automobile Mechanics.** 3 hours any term.
The automobile and its parts; their functions, adjustment and simple repairs; advantages and disadvantages of different features in automobile construction; latest developments in the automotive field. Designed for the student who wishes to understand the principles of automobile operation together with simple repairs and adjustments which the operator of an automobile may have occasion to make. Two recitations; 1 three-hour laboratory period. Assistant Professor Lunde.

AE 313. **Automobile Mechanics.** 3 hours any term.
Practical work in overhauling and repairing automobiles, tractors, and trucks, involving disassembling and assembling of parts, testing for and locating troubles, making replacements and repairs. Lectures, demonstrations, class discussions, and laboratory work. Prerequisite: AE 311 or 312. One recitation; 2 three-hour laboratory periods. Assistant Professor Lunde.

AE 314. **Automobile Mechanics.** 3 hours spring.
(Advanced course.) A continuation of AE 313 for students who wish to acquire additional skill and information relative to automobile repairing and overhauling, especially those intending to teach automobile mechanics. Prerequisite: AE 313. Two recitations; 1 three-hour laboratory period. Assistant Professor Lunde.

AE 321. **Pumps and Irrigation Equipment.** 3 hours spring.
The study, operation, and testing of different types of pumps, irrigation equipment, and farm water supply systems, farm spray pumps and equipment. Prerequisite: AE 111. Two recitations; 1 three-hour laboratory period. Associate Professor Walker.

AE 331. **Rural Electrification.** 3 hours winter.
Uses of electricity on the farm; farm electric plants; rural line extension policies; farm wiring; farm electric motors and equipment such

as water heaters, cooling, sterilizing, and refrigerating equipment. Prerequisite: AE 111. Two lectures; 1 three-hour laboratory period. Associate Professor Walker.

AE 341. **Use of Explosives.** 2 hours winter.
The use of explosives in removing stumps and boulders; stump burning and charpitting; the use of explosives in ditch and rock blasting. Taught jointly by the departments of Agricultural Engineering, Civil Engineering, and Logging Engineering. One recitation; 30 hours of laboratory and field work arranged during the term. Professors Gilmore and Glenn.

AE 401. **Research.** Terms and hours to be arranged.

AE 405. **Reading and Conference.** Terms and hours to be arranged.

AE 407. **Seminar.** Terms and hours to be arranged.
Prerequisite: fourteen term hours in agricultural engineering or equivalent.

AE 461, 462, 463. **Farm Structures.** 3 hours each term.
The first term's work is a general course including the fundamental principles involved in the organization, layout, and construction of farm buildings, with sufficient drafting to enable the student to interpret drawings and blueprints. In the second and third terms the work covers the planning of farm buildings, building materials, types of construction, lighting, ventilating, heating, equipment; estimating costs, writing specifications, and analyzing the structural elements in farm-building design. One recitation; 1 or 2 three-hour laboratory periods. Associate Professor Sinnard.

AE 471. **Soil Conservation Engineering.** 3 hours fall.
Agricultural-engineering phases of soil-erosion control, including methods of constructing dams and terraces, terracing machinery, mapping, measurement of run-off, and similar problems. For students specializing in soil conservation. One lecture; 1 recitation; 1 three-hour laboratory period. Associate Professor Walker.

GRADUATE COURSES

AE 501. **Research.** Terms and hours to be arranged.

AE 503. **Thesis.** Terms and hours to be arranged.

AE 505. **Reading and Conference.** Terms and hours to be arranged.

AE 507. **Seminar.** Terms and hours to be arranged.

Extension Methods

INSTRUCTION in this department is intended to supplement that of the subject matter departments in the training of students for positions as county agents, home demonstration agents, 4-H club agents, extension specialists, and for similar types of work in which extension methods are commonly used.

The extension worker must be well trained not only in the subject matter of his field but also in the methods by which extension work is successfully carried on. He must be able to give or know how to obtain authoritative advice for his community or county on any problems that may arise related to his field of service. He must know and practice the technique of platform speaking and demonstration, how to conduct discussions, and how to support the extension program by effective publicity. Excellent opportunities for combining a major in agriculture or home economics with training in journalism, speech and dramatics, economics, sociology, and other departments, supplemented by work in extension methods, should materially assist in meeting the need for better training on the part of extension workers.

This department is a joint department within both the School of Agriculture and the School of Home Economics.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

EM 405. **Reading and Conference.** Hours to be arranged, any term.

EM 411, 412. **Extension Methods.** (G) 3 hours each term, two terms. Intensive study of the history and present organization of extension work; training in the most successful methods employed by extension specialists, county agricultural agents, home demonstration agents, 4-H club leaders, and agricultural workers in commercial fields. For senior or graduate students only. Professor Ballard.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

School of Education

Faculty

JAMES RALPH JEWELL, Ph.D., LL.D., Dean of the School of Education; Director of High-School Teacher Training.

CARL WALTER SALSER, Ed.M., Assistant Dean of the School of Education.

CLYTIE MAY WORKINGER, Placement Secretary.

RUTH LANO, Secretary, School of Education.

Education

CARL WALTER SALSER, Ed.M., Professor of Education; Head of Department.

FREDERICK MAURICE HUNTER, Ed.D., LL.D., Professor of Education.

CLAIR VAN NORMAN LANGTON, Dr.P.H., Ed.D., Professor of Physical Education.

OTHNIEL ROBERT CHAMBERS, Ph.D., Professor of Psychology.

HERBERT REYNOLDS LASLETT, Ph.D., Professor of Educational Psychology.

ERNEST WILLIAM WARRINGTON, M.A., Professor of Philosophy and Religion.

FRANK WINTHROP PARR, Ph.D., Professor of Secondary Education; Director of Supervised Teaching.

RILEY JENKINS CLINTON, Ed.D., Professor of Education.

EVA M SEEN, Ed.D., Professor of Physical Education for Women.

GLENN ALMER BAKKUM, Ph.D., Professor of Sociology.

HENRIETTA MORRIS, Sc.D., Associate Professor of Hygiene.

GRANT ALEXANDER SWAN, B.S., Assistant Professor of Physical Education.

Agricultural Education

HEBER HOWARD GIBSON, A.M., Professor of Agricultural Education; Head of Department.

RUSSEL MONROE ADAMS, M.S., Supervising Teacher in Agricultural Education.

Commercial Education

BERTHA WHILLOCK STUTZ, M.S., Associate Professor of Secretarial Science.

MINNIE DEMOTTE FRICK, B.S., Associate Professor of Secretarial Science.

BETTY JELINEK, B.S., Supervising Teacher in Commercial Education.

Home Economics Education

FLORENCE BLAZIER, Ph.D., Professor of Home Economics Education; Head of Department.

BERTHA KOHLHAGEN, B.S., State Supervisor and Teacher Trainer in Vocational Home Economics.

MAY DU BOIS, M.S., Assistant Professor of Home Economics Education.

RUTH MORRIS FOREST, M.S., Assistant State Supervisor in Vocational Home Economics.

MERLE BONNEY DAVIS, B.S., Supervising Teacher in Home Economics Education.

ANN MCCLEW, M.S., Supervising Teacher in Home Economics Education.

ESTHER WOOD BODNER, B.S., Supervising Teacher in Home Economics Education.

Industrial Education

GEORGE BRYAN COX, B.S., Professor of Industrial Education; Head of Department.

ORVILLE DANIEL ADAMS, M.S., Associate Professor of Vocational Education.

BRUCE JACKSON HAHN, B.S., Supervising Teacher in Industrial Education.

NEIL EDMUND SALING, B.S., Supervising Teacher in Industrial Education.

*Associate Faculty for 1940-41**

WINFRED MCKENZIE ATWOOD, Ph.D., Professor of Plant Physiology.

MELISSA MARGARET MARTIN, A.M., Professor of Modern Languages.

CHARLES BUREN MITCHELL, M.A., Professor of Speech.

HARRY CASE SEYMOUR, State Leader of 4-H Club Work.

EARL WILLIAM WELLS, M.A., J.D., Professor of Speech.

WILLIAM DONALD WILKINSON, Ph.D., Assistant Professor of Geology.

ROBERT RAY REICHART, M.S., Instructor in English.

General Statement

ALL professional preparation for teaching within the State System of Higher Education, except preparation for strictly elementary-school teaching, is organized under the School of Education. The school is concerned especially with the preparation of teachers for the high schools of Oregon, and with the promotion of high standards of secondary education.

The School of Education operates on both the University and the State College campuses. Preparation for high-school teaching in the various fields is divided between the two institutions in accordance with the 1932 allocation of curricula. The Director of High-School Teacher Training, with offices at Eugene, has administrative control over all high-school-teacher education within the State System.

At the State College are given major curricula preparing for teaching

*Associate Faculty: Teacher training is an enterprise in which many different departments have a share. In order to have all these departments represented in program and policy making for the preparation of teachers, the President of the State College, at the request of the School of Education, appoints each year certain faculty members from other schools on the campus to serve also as associate and advisory members of the School of Education faculty.

of biological science, general science, and physical science, mathematics, agriculture, home economics, industrial arts, secretarial science, and approved combinations of subjects, and for guidance, counseling, and personnel work.

At the University are given general education courses, professional work in educational administration, and major curricula preparing for teaching of literature, languages, arts, music, physical education, the social sciences, business administration, and approved combinations of subjects. The University also offers training to prepare teachers for work with atypical children.

In planning its curricula the School of Education has recognized three qualifications for a good teacher: (1) mastery of subject matter; (2) an understanding of child and adolescent psychology, and of professional problems and techniques; (3) a broad and liberal education.

School of Education Building. The central offices, the classrooms, the rooms and facilities for testing and advisory service of the School of Education are located in the newly remodeled, fire-proof and modernized Education Hall. In addition to lecture rooms, laboratories, and seminar rooms for the School of Education, the building also houses the departments of Psychology, Philosophy, Religion, Geology, and Mathematics. Special provisions will be made for testing and advisory work, film projection, and radio reception. Practice teaching is carried on in both the senior high school and the junior high school of Corvallis; also in neighboring high schools including Albany and Philomath.

Who Enrolls in the School of Education? As a general rule, it is desirable that students who plan to teach enroll in the School of Education in the freshman year or as soon as they have decided that teaching is their primary or major vocational choice. Students enrolled in other schools who wish also to qualify for a teacher's certificate for high-school teaching are required to confer with advisers in the School of Education so that they may meet state requirements in subject-matter fields as well as in required educational or professional subjects. Preparation in subjects which the student proposes to teach in high school is equally important with courses in education.

Student Programs. It is assumed in the School of Education that no two students will take or need exactly the same courses. Students and advisers will note that only 90 hours represent required work in the School of Education and that 102 hours are elective. Special attention is given each student in planning his work and in making necessary adjustments in it from time to time.

Guidance Clinic, Testing and Advisory Service. Members of the education faculty, supplemented by several members from other schools on the campus, constitute a guidance clinic and give much of their time to individual work with students. Frequent meetings of the clinic are held throughout the academic year. The services of the clinic are open and easily available to students in any school on the campus. The testing and advisory service conducted by the Guidance Clinic enables students to take various tests of aptitude and ability and to have expert assistance in interpreting results.

Major Requirements. Candidates for a bachelor's degree in the School of Education must submit a total of 36 term hours of work in education and psychology. On approval, 6 of these may be in psychology, and a total of 24

must represent upper-division work. Elementary Psychology (Psy 201-3 or Psy 211, or equivalent) is prerequisite to all upper-division education courses. Students who desire a high-school teachers certificate must also submit certain subject-matter groups or norms (see NORMS FOR PROSPECTIVE TEACHERS, pages 264-270). Education requirements for a state teacher's certificate are listed below.

A scholarship average within the upper 50 per cent of the State College grade range ordinarily is prerequisite to registration for upper-division teacher training courses. In admitting students into these courses, the faculty of the School of Education gives additional consideration to psychological rating, teaching personality, and in doubtful cases to marked improvement in scholarship during the sophomore or junior year.

Baccalaureate Degrees. Students majoring in education may become candidates for the following baccalaureate degrees: Bachelor of Arts, Bachelor of Science, and Bachelor of Science in Education. For the B.A. or the B.S. degree the student must fulfill all State College requirements for these degrees, besides major requirements.* For the B.S. in Ed. degree the student must fulfill general State College requirements for graduation, and the requirements for a major in education, stated above.

Special requirements: In the case of the first year of laboratory science, foreign languages, stenography or typing, the entire year sequence must be completed (e.g., Ch 101, 102, 103) before credit is allowed. If an elementary foreign language is undertaken in this institution, two years of it must be completed if it is to be counted toward graduation in the School of Education. A student with a minor in a modern language may, upon application to the dean's office, be excused from taking a year in literature.

Five-Year Program. Under Oregon law the required preparation for high-school teaching in this state will include in the future five years of college work. This requirement becomes fully effective February 10, 1943, but students qualifying for certification before that time must meet part of the fifth-year requirement (see State Teacher's Certificate, pages 262-264). The fifth-year work must include courses in education and in subject-matter fields. In the case of students who qualify for a certificate between February 10, 1939, and February 10, 1941, the required 15 term hours of fifth-year work must include a minimum of 6 term hours in education and the remainder in one or two subject-matter fields.

By proper planning of his five-year program, a student may qualify for a master's degree at the end of the fifth year. While the master's degree is not required for a certificate, holders of a master's degree usually receive preference as candidates for teaching positions.

Assistance is given students in planning their five years of study in order that the work to as large an extent as possible may constitute a single, unified program.

Graduate Work. Graduate work in education, leading to the Master of Arts, Master of Science, Master of Education, and Doctor of Education degrees, is offered at the State College through the Graduate Division. For any of the master's degrees the student must complete a graduate major in education and a minor in a subject-matter field. For the M.A. degree a reading knowledge of a relevant foreign language is required.

*For the B.A. degree a minor in one of the modern languages must be completed.

For the Ed.M. the candidate must have had at least two years of successful teaching experience.

Candidates for the Ed.D. degree must have a record of successful teaching experience. They will ordinarily include in their programs intensive work in statistics and research. Reading knowledge of French, German, or other languages may be required if it is regarded as essential to the student's program. The program of study for each candidate for the Ed.D. degree will be carefully planned and integrated with the aim of preparing men and women for immediate, effective, professional service in administrative, supervisory, and advanced teaching positions in the fields allocated at the State College.

The regulations governing graduate study are stated under GRADUATE DIVISION.

Supervised Teaching. The School of Education provides an opportunity for supervised high-school and junior high-school teaching in all the major fields allocated at the State College. Supervised teaching cannot be done at the State College in fields in which the State College does not offer major work, except that students minoring in physical education may do their supervised teaching in physical education when approved by the director of supervised teaching. Student teachers observe the application of teaching methods by expert instructors, study model lesson plans, work out their own lesson plans under the guidance of the supervisors, and teach high-school classes under close supervision. Credit for supervised teaching is granted only on the approval of the director of supervised teaching.

In addition to supervised teaching in the major fields, systematic observation is provided also in one or more minor fields.

Teacher Placement Service. A Placement Service is maintained by the School of Education for the placement of graduates of the State College who are prepared and qualified to teach in the secondary schools. The Placement Service compiles and makes available to school officials full information concerning the preparation and experience of graduates who desire teaching positions. The Placement Service also furnishes students information concerning the certification requirements and school laws of other states, and will recommend graduates for certification in other states, on the endorsement of the Dean of the School of Education and the State College Registrar. To pay part of the expense of maintaining the Placement Service, a fee of $3.00 is charged for registration; and a fee of 25 cents is charged for sending credentials to school officials when sent at the request of the student or graduate.

State Teacher's Certificate

UNDER the Oregon school law, the state superintendent of public instruction will (until February 10, 1941) grant a one-year teacher's certificate without examination to graduates of the State College who have completed: (1) a total of 15 term hours of work after graduation, not less than 6 of which must be in education courses carrying graduate

credit; (2) a total of not less than 29 term hours in upper-division education courses.* The work for certification must include:

Ed 311. Secondary Education. Any term, 3 hours.

Ed 312. Educational Psychology. Any term, 3 hours.

Ed 313. Principles of Teaching. Any term, 3 hours.

Ed 316. Oregon School Law and Oregon System of Education. Any term, 2 hours.

Ed 415. Supervised Teaching. Any term, 6 to 12 hours credit.

Hst 377. History of Oregon. Winter or spring term, 3 hours.

Ed 311, 312, 313, 316, 415, and Hst 377 must be taken in residence—they cannot be taken by correspondence. Teaching experience will not be accepted in lieu of Supervised Teaching, except as provided by the 1939 regulations of the State Department of Education. Ed 311, 312, 313 are prerequisite to all other professional work in education. These courses and Ed 316 may not be taken before the junior year. Ed 415 may not be taken before the senior year.

Application for certification must be made to the state superintendent of public instruction. An official record of the applicant's preparation, required before the certificate is issued, will be submitted to the state superintendent by the State College Registrar, upon request.

Students wishing to qualify for high-school certification and for placement after graduation, are required to confer with the officials of the School of Education not later than the end of the winter term of the sophomore year.†

The Oregon state school law provides further:

Any teacher employed in a four-year high school of this state, except as otherwise provided by law, shall meet the following requirements: From February 10, 1939, to February 10, 1941, he shall be a graduate of a standard college or university and have an additional 15 term hours of courses approved by the state board of education;‡ from February 10, 1941, to February 10, 1943, he shall be a graduate of a standard college or university and have an additional 30 term hours of courses approved by the state board of education; and after February 10, 1943, he shall be a graduate of a standard college or university and have an additional 45 term hours of courses approved by the state board of education.

The holder of a one-year state certificate issued in accordance with the provisions of this section shall, after six months' successful teaching experience in this state and upon the recommendation of the city school superintendent or county school superintendent under whose supervision the applicant last taught, receive a five-year state certificate authorizing him to teach only in the high schools or junior high schools of this state.

*By state law Elementary Psychology (Psy 201-3 or Psy 211 or equivalent) is prerequisite to all upper-division courses, but may not be counted toward fulfilling the 29-hour requirement.

†Attention is called especially to the fact that a minimum scholarship average within the upper 50 per cent of the State College grade range is expected before registration for upper-division teacher training courses. See MAJOR REQUIREMENTS pages 260-261.

‡Not less than 6 of the hours after graduation must be in education courses carrying graduate credit.

A five-year certificate may be renewed when the holder thereof has completed 15 term hours in courses approved by the state board of education in a standard college or university. When a teacher who is regularly employed by a school board has been granted a leave of absence by such board, the school months included in such leave of absence shall be counted the same as months of teaching in determining eligibility for a renewal of a five-year certificate.

The holder of a one-year state certificate, or a five-year state certificate, or a state life certificate, is authorized to act as city superintendent of the schools of any city.

The following fees are payable to the state superintendent of public instruction at the time the application for certification is made:

One-year certificate $2.00
Five-year certificate 3.00

Norms for Prospective Teachers

GRADUATES of the State College who have completed professional requirements in education and psychology will be recommended for a high-school teaching certificate and for a teaching position on completion of one major norm and one minor norm from the following lists:

Majors: Agriculture, Biological Science, General Science, Home Economics, Industrial Arts, Mathematics, Physical Science, and Secretarial Science.

Minors: Agriculture, Art, Biological Science, Business Administration, English (or English-Speech or English-Journalism), French, General Science, German, Home Economics, Industrial Arts, Mathematics, Music, Physical Education, Physical Science, Secretarial Science, Social Science, and Spanish.

A major norm must include 36 or more term hours as specified in the list of major norms given below. A minor norm must include 24 or more term hours as shown in the following list of minor norms.

As an aid in obtaining a teaching position it is recommended that the student whenever possible complete 10 or more hours in a third field. In addition to this, all students expecting to teach in high school should qualify for the supervision of at least one extracurricular activity. It will be observed that a student's major norm must be in a field of work allocated at the State College. Exceptions to this regulation may be made for students transferring from another institution with a major already completed.

Certain subject-matter courses which do not satisfy norm requirements are of great help to teachers (for example, work in oral English, extempore speaking, journalism, economics, sociology, and political science). Students should consult with their advisers in the School of Education concerning the courses offered by the several schools and departments which are of particular value to prospective teachers, and should find a place for such courses in their upper-division programs. Students preparing to teach in junior or senior high schools are advised and urged to take

J 111, Elementary Journalism, and J 313, Public Information Methods. All high-school teachers will find these courses valuable in connection with high-school newspaper work and in connection with school news in the newspapers of the local community.

Major and Minor Norms

Listed below are major and minor norms in the several fields in which subject-matter preparation for high-school teaching is offered at the State College. These major and minor norms meet the subject-certification requirements for each field as provided by the State Department of Education.

Agriculture[1]

MAJOR NORM

	Term hours
Physical Science	12
Biological Science	12
Electives in Agriculture	12
	36

MINOR NORM

Physical Science	9
Biological Science	9
Electives in Agriculture	6
	24

Biological Science

MAJOR NORM

General Zoology	9
General Botany	9
[2]Elementary Entomology	6
[2]General Bacteriology	6
Electives in the field of Biology	6
	36

Or *Human Biology:*

General Zoology	9
Evolution and Eugenics	3
Genetics	3
Principles of Bacteriology	3
Physiology	9
Elementary Human Anatomy	9
	36

MINOR NORM

General Zoology	9
General Botany	9
[2]Elementary Entomology	3
[2]General Bacteriology	3
	24

[1]These agriculture norms are for prospective teachers of general agriculture and general science and are designed to serve the following purposes:

1. To make it possible for high schools of moderate size to obtain teachers prepared to offer a combination of courses in the fields of agriculture and natural science.
2. To familiarize prospective teachers of the natural sciences with concrete situations, materials, and problems in agriculture and rural life valuable in vitalizing the instruction.
3. To prepare teachers who can offer a separate course in agriculture for farm boys mainly for its vocational and vocational guidance values.

[2]Other electives in the field of biology may be substituted when these courses are not offered.

General Science[1]

	Term hours
Major Norm	
Physical Science—lower-division work, including one year sequence	16
Biological Science—lower-division work, including one year sequence	15
Biological or Physical Science—upper-division work	6
	37
Minor Norm	
Physical Science—lower-division work, including one year sequence	16
Biological Science—lower-division work, including one year sequence	15
	31

Note: Survey courses in science are counted in General Science norms only with the written approval of the student's adviser.

Home Economics

Major Norm

	Term hours
All of the minor norm (see below)	31
Electives from at least two of the following groups to complete a total of 40 hours—	
A. *Foods*	
Food Purchasing (FN 411), 3 hours	
Experimental Cookery (FN 435), 3 hours	
Quantity Cookery and Catering (IEc 311), 3 hours	
Cafeteria Management (IEc 320), 3 hours	
Food Management (FN 412), 3 hours	
B. *Clothing*	
House Furnishing (CT 231), 3 hours	
Applied Design (CT 335), 3 hours	
Costume Design (CT 311), 3 hours	
Clothing (CT 312), 3 hours	
House Furnishing (CT 331), 3 hours	9
House Furnishing (CT 431), 3 hours	
Consumer Buying in Clothing and Textiles (CT 350), 3 hours	
C. *Household Administration*	
Note: All courses in Household Administration are open to students who have completed the minor norm. However, the following courses are particularly recommended in the order named.	
Home Management House (HAd 350), 5 hours	
Family Relationships (HAd 422), 2 hours	
Child Development (HAd 413), 3 hours	
Total	40

Minor Norm

Foods	
Dietetics (FN 225)	3
Foods (FN 220, 221, 222) for those electing chemistry *or* Foods (FN 211, 212, 213) for those not electing chemistry	9
Clothing	
Textiles (CT 250), Clothing (Selection) (CT 211), Clothing (Construction) (CT 212), for those electing required art courses; *or* Clothing Selection (CT 217), Clothing Selection and Construction (CT 218, 219), for those not electing required art courses	9
Household Administration	
Child Development (HAd 311, 312)	6
Household Management (HAd 340)	4
Total	31

[1]Students interested in teaching a year of general agriculture as well as general science may substitute 6 hours of agriculture in the general science minor norm.

Industrial Arts

MAJOR NORM

(Basic Major—Woodworking emphasis. Students desiring a different combination, or help on individual problems, should confer with the head of the Department of Industrial Arts. See page 286 for statement of the three types of program available.)

	Term hours
Methods in Woodworking (IA 112, 113)	6
Engineering Drawing (GE 111, 112, 113)	6
Lower-Division Drawing (AA 291)	3
Machine and Tool Maintenance (Wood Shop) (IA 225)	2
Wood Turning (IA 220)	2
Fiber Furniture Weaving (IA 326)	2
Millwork—Machine Woodwork (IA 311)	3
Furniture Construction (IA 313)	2
Electives in general metal-work, or additional courses in woodwork and drawing	6
Wood and Metal Finishing (IA 316)	2
Occupational Analysis (IEd 472)	3
The General Shop and Its Problems (IEd 473)	2
Written and Visual Teaching Aids (IEd 474)	3
Shop Planning and Organization (IA 411)	3
	45

Note: Students who wish to teach industrial arts in states that demand additional certification requirements should refer to the professional-technical curriculum for industrial-arts education (pages 298-299), and should confer with the head of the Department of Industrial Arts.

MINOR NORM

Methods in Woodworking (IA 112, 113)	6
Wood Turning (IA 220)	2
Fiber Furniture Weaving (IA 326)	2
Engineering Drawing (GE 111)	2
Engineering Drawing (GE 112, 113)	4
Industrial Arts Organization (Ed 330)	2
The General Shop and Its Problems (IEd 473)	2
Technical electives to be chosen with approval of department head in terms of recognized objectives	6
	26

Mathematics

MAJOR NORM

Elementary Analysis (Mth 101, 102, 103) or equivalent	12
[1]Differential and Integral Calculus or equivalent	12
Upper-division approved mathematics courses	12
	36

MINOR NORM

Elementary Analysis (Mth 101, 102, 103) or equivalent	12
[1]Differential and Integral Calculus or equivalent	12
	24

Physical Science

MAJOR NORM

General Chemistry	15
General Physics	12
General Geology or advanced courses in chemistry or physics	9–12
	36–39

MINOR NORM

General Chemistry	15
General Physics	12
	27

[1]For three terms of Calculus students may substitute two terms of Calculus and one term of either Modern Geometry, Higher Algebra, or Theory of Equations and Determinants.

Secretarial Science[1]

MAJOR NORM

	Term hours
Stenography (SS 111, 112, 113)	9
Typing (SS 121, 122, 123)	6
Constructive Accounting (BA 111, 112, 113)	12
Applied Stenography (SS 211, 212, 213)	9
Office Procedure (SS 311)	5
Business Law (BA 256)	4
	45

MINOR NORM

Stenography (SS 111, 112, 113)	9
Typing (SS 121. 122, 123)	6
Applied Stenography (SS 211, 212. 213)	9
	24

Minor Norms

Listed below are additional minor norms available at the State College. These may fulfill requirements of a minor norm taken in conjunction with a major norm. Supervised teaching is not offered at the State College in the field of any of these minor norms, except physical education. Systematic observation in Corvallis high schools is provided, however, in all these fields.

Art

MINOR NORM

	Term hours
Survey of Creative Arts (Art Appreciation) (AA 114, 115, 116)	9
Lower-Division Drawing (AA 291)	3
Lower-Division Decorative Design (AA 295)	3
Color and Composition (AA 162)	3
Elective courses in Commercial Design, Crafts, House Planning, Block Printing, Drawing	6
	24

Business Administration

MINOR NORM

Constructive Accounting (BA 111, 112, 113)	12
Typing (SS 121. 122, 123)	6
Business Law (BA 256)	4
Office Organization and Management (SS 313)	5
	27

English and Speech[2]

MINOR NORM

Literature Survey (Eng 101. 102, 103) *or* Introduction to Literature (Eng 104, 105, 106) or other Literature courses	9
Two terms of Shakespeare	6
English Composition for Teachers (Eng 324)	3
American Literature (Eng 161)	3
Electives	9
	30

French

MINOR NORM

Twenty-seven hours above RL 1, 2, 3 (first year), including:	
Second-Year French (RL 4, 5, 6)	12
French Literature (RL 311. 312, 313)	9
Electives approved by department	6
	27

[1]Students having had one year or more of typing or shorthand will receive advanced standing according to ability shown in placement test provided by the Department of Secretarial Science.

[2]Students especially interested in speech or oral English may substitute for courses in the English minor norm (with the exception of Shakespeare and English Composition for Teachers) certain courses in Extempore Speaking, Interpretation, Speech Composition, Community Drama, and Stagecraft and Lighting. Students may include 9 hours of journalism instead of speech. Such substitutions must have the approval of the student's adviser and the dean's office.

German

MINOR NORM

	Term hours
Twenty-seven hours above GL 1, 2, 3 (first year) including:	
Second-Year German (GL 4, 5, 6)	12
German Literature	9
Electives approved by department	6
	27

Music

[1]MINOR NORM

Band

Music Survey (Mus 127, 128, 129)	3
Harmony I, II, III (Mus 111, 112, 113)	9
Band Organization (Mus 331, 332, 333)	6
Band Organization (Mus 334, 335, 336)	6
	24

Orchestra

Music Survey (Mus 127, 128, 129)	3
Harmony I, II, III (Mus 111, 112, 113)	9
Orchestral Conducting (Elementary) (Mus 291, 292, 293)	6
Advanced Conducting and Orchestration (Mus 324, 325, 326)	6
	24

Glee Club and Chorus

Music Survey (Mus 127, 128, 129)	3
Harmony I, II, III (Mus 111, 112, 113)	9
[2]Individual Instruction (Voice) (Mus 190—2 terms)	2
Glee Club Conducting (Mus 433)	1
College Chorus (Mus 290—6 terms)	6
Sightsinging and Ear Training (Mus 147, 148, 149)	3
	24

For students who expect to lead glee clubs and choruses in high schools, previous piano training is essential and unless the student has had this preparation, additional work in piano may be needed. If the student is competent in accompanying, this can be adjusted.

Physical Education

MINOR NORM (MEN)

Introduction to Physical Education (PE 121, 122, 123)	6
Technique of Gymnastics (PE 174)	2
Technique of Football, Track, and Field (PE 175)	2
Technique of Minor Sports (PE 176)	2
Technique of Baseball and Basketball (PE 276)	2
Technique of Boxing and Wrestling (PE 275)	2
Technique of Swimming, Tennis, and Golf (PE 274)	2
Coaching of Football (PE 347)	
Coaching of Basketball (PE 346)	Three courses selected from this group 6
Coaching of Baseball (PE 348)	
Coaching of Track and Field (PE 349)	
Minimum hours for recommendation to coach one or more sports in connection with other teaching work	24

Students interested in teaching Physical Education or Biological Science, or both, may include a minor group in health education. All teachers of physical education in Oregon are required to have at least 12 hours in health education. Courses in health education include: PE 221; PE 358; Ed 351, 352; Ed 421, 422, 423; Bac 204, 205, 206; Bac 441; Bac 445; FN 225; HAd 225.

MINOR NORM (WOMEN)

Introduction to Physical Education (PE 121, 122, 123)	6
Physical Education Technique (Women) (PE 343, 344, 345)	9
Electives approved by the department, chosen from the following:	
Organization and Administration (PE 423), 3 hours	9
Supervised Teaching (Ed 415), 3 hours	
Tests and Measurements in Physical Education (PE 422), 3 hours	
School and Community Club Work (Ed 425), 3 hours	
Principles of Physical Education (PE 421), 3 hours	
	24

[1]Any one of the three groups of courses—Band, Orchestra, Glee Club and Chorus—satisfies the requirements for a minor norm in music.

[2]May be taken as Group Instruction in Voice (Mus 191).

Social Science

MINOR NORM

		Term hours
Any three of the following sequences:		
History of Western Civilization (Hst 201, 202, 203)	9	
History of American Civilization (Hst 224, 225, 226)	9	
Principles of Economics (Ec 201, 202, 203)	9	27
Modern Governments (PS 201, 202, 203)	12	
Elements of Sociology (Soc 201, 202, 203)	9	

Spanish

MINOR NORM

Twenty-seven hours above RL 11, 12, 13 (first year) including:	
Second-Year Spanish (RL 14, 15, 16)	12
Spanish Literature (third year) (RL 341, 342, 343)	9
Electives approved by department	6
	27

Professional Curricula in Education

THE following programs of study show the work that should be followed by students who are intending to become high-school teachers or whose special interest lies in the field of guidance, counseling, and personnel. Related work in other schools outside the School of Education is shown only when it is necessary in building the proper curriculum.

High-school graduates who plan to teach should enroll in the School of Education as freshmen. In this way requirements will be most easily and certainly met, an adviser will be available at all times, proper groups or norms will be chosen, and the most valuable supporting courses will be selected and worked into the student's program. This means the best possible basis for recommendation and placement at graduation.

Junior-college graduates from accredited institutions enter the School of Education as juniors and may complete the work in two years for the B.A. or B.S. degree. Students having had one year in junior college enter as sophomores in the School of Education.

Lower-Division students who complete the first two years of college work at the State College or the University, or at other accredited institutions, enter the School of Education as juniors. These students ordinarily will have one or two of their subject-matter groups under way and will experience little difficulty in selecting a major and a minor.

Graduates of the Colleges of Education who have completed two years of work will enter the School of Education as third-year students; those who have completed three years of work will ordinarily enter as seniors. Such students ordinarily receive full credit for all work taken in the colleges except that not more than 9 hours of credit are allowed for practice teaching from the colleges of education. Graduates of two-year colleges of education are likely to be deficient one or two terms in English and occasionally one or more terms in science. As soon as these courses have been made up the student receives the Junior Certificate and full junior standing.

STUDENTS' BASIC PROGRAM

Students will note that only 90 hours are required in the School of Education, while 102 hours are elective.

Basic Requirements:

I. 6 hours of general psychology.
3 hours of Oregon history.

II. 36 hours of education and psychology, 24 of which must be upper-division work.

III. 36 or more hours in a major teaching field accompanied by 24 or more in a minor field. A second minor is advised wherever possible.

For elective courses in education see the following pages. Students in nearly all cases are advised not to take more than the normal load, which is 16 hours per term. All students earning their expenses will do well to take less than 16 hours.

Freshman Year	Term hours F	W	S
Methods of Study (Ed 101)	3	---	---
Mental Hygiene (Ed 102)	---	3	---
Education as a Profession (Ed 211) *or* Choosing a Vocation (Ed 104)	---	---	2
English Composition (Eng 111, 112, 113)	3	3	3
Laboratory Science	3–5	3–5	3–5
Extempore Speaking (Sp 111)	---	---	3
Military Science (men)	1	1	1
[1]Physical Education	1	1	1
Sophomore Year			
Outlines of Psychology (Psy 211)	6 *or*	6 *or*	6
English Literature	3	3	3
Physical Education	1	1	1
Military Science (men)	1	1	1
Junior Year			
Secondary Education (Ed 311)	3	---	---
Educational Psychology (Ed 312)	---	3	---
Principles of Teaching (Ed 313)	---	---	3
Outlines of Economics (Ec 211 or 212)	4–3	---	---
General Sociology (Soc 212 or 211)	---	3–4	---
American National Government (PS 212)	---	---	3
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2
Senior Year			
Special Teaching Methods (Ed 408)	3 *or*	3 *or*	3
History of Education (Ed 440)	3	---	---
History of Oregon (Hst 377)	---	3 *or*	3
Supervised Teaching (Ed 415)	3–6	3–6	3–6
Measurement in Secondary Education (Ed 416)	---	---	3

Fifth Year

See pages 262-264 for the requirements for a State Teacher's Certificate effective February 10, 1939, February 10, 1941, and February 10, 1943.

SUGGESTED COURSES FOR PROSPECTIVE HIGH-SCHOOL TEACHERS

A. Senior High-School Teaching

Freshman Year	Term hours F	W	S
Methods of Study (Ed 101)	3 *or*	3 *or*	3
Mental Hygiene (Ed 102)	---	3	---
Education as a Profession (Ed 211)	---	---	2
Sophomore Year			
Outlines of Psychology (Psy 211)	6 *or*	6 *or*	6

[1]General Hygiene (PE 150), 2 term hours, is taken in place of physical education one term of the freshman year. Women take Social Ethics (PE 131) one term.

Junior Year	Term hours F	W	S
Secondary Education (Ed 311)	3	---	---
Educational Psychology (Ed 312)	---	3	---
[1]Principles of Teaching (Ed 313)	---	---	3
*History of Oregon (Hst 377)	3 *or*	3 *or*	3
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2

Senior Year			
Special Teaching Methods (Ed 408)	3 *or*	3 *or*	3
Measurement in Secondary Education (Ed 416)	3 *or*	3 *or*	3
Supervised Teaching	3–6	3–6	3–6
One or more terms from Ed 440, 460, 461, 485, 497, 498, 524	---	---	3

Fifth Year. See pages 262-264.

B. Junior High-School Teaching

Freshman, Sophomore, and Junior Years
Same as for A. Senior High-School Teaching.

Senior Year			
Special Teaching Methods (Ed 408)	3 *or*	3 *or*	3
Supervised Teaching in Junior High School	3–6	3–6	3–6
Adolescence: Growth and Development of the Individual (Ed 461)	---	3	—
The Junior High School (Ed 470)	3 *or*	3	---
Civic Education (Ed 489)	---	---	3
Character Education (Ed 490)	3	---	---

Recommended electives: Ed 440, 460, 485, 498, 524.

Fifth Year. See pages 262-264.

SUGGESTED COURSES FOR GRADUATES OF THE COLLEGES OF EDUCATION

The following courses in education are either required or suggested for graduates of the colleges of education (see Students' Basic Program and Suggested Courses for Prospective High School Teachers on pages 271-272).

Junior Year[2]	Term hours F	W	S
Secondary Education (Ed 311), Educational Psychology (Ed 312), Principles of Teaching (Ed 313)	3	3	3
History of Oregon (Hst 377)	---	3 *or*	3
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2

Senior Year			
Measurement in Secondary Education (Ed 416)	---	3	—
Special Teaching Methods (Ed 408)	3 *or*	3 *or*	3
Adolescence: Growth and Development of the Individual (Ed 461)	---	3	—
History of Education (Ed 440)	3	---	---
Supervised Teaching (Ed 415)	6–9	6–9	6–9

The remaining hours in education are elective. Recommended electives are Curriculum Construction (Ed 524) and Organization and Supervision for High-School Teachers (Ed 498).

Norms: One major and one minor norm are required. A major and two minor norms should be met, if possible.

Fifth Year. See pages 262-264.

CURRICULUM FOR GUIDANCE, COUNSELING, AND PERSONNEL WORK

The following general sequence of courses is suggested for those students looking forward to work as counselors, deans of girls, deans of boys, teachers of occupations courses, and to other phases of personnel and guidance work in connection with the public schools

[1]May be taken in senior year, but must precede Supervised Teaching.
[2]Juniors who have not had Psy 211, 6 term hours, must take it before entering Secondary Education or other upper-division education courses.

and other social agencies and organizations. Students interested in guidance and counseling must also make adequate subject-matter preparation in at least two other fields. The courses starred are required.

Freshman and Sophomore Years	Term hours F	W	S
Methods of Study (Ed 101)	3	---	---
Mental Hygiene (Ed 102)	---	3	---
Education as a Profession (Ed 211) *or* Choosing a Vocation (Ed 104)	---	---	2
English Composition (Eng 111, 112, 113)	3	3	3
Physical or Biological Science	3–4	3–4	3–4
*[1]Elementary Psychology (Psy 201, 202, 203)	3	3	3
Principles of Economics (Ec 201, 202, 203)	3	3	3
Extempore Speaking (Sp 111, 112, 113)	3	3	3
Junior Year			
*Secondary Education (Ed 311)	3	---	---
*Educational Psychology (Ed 312)	---	3	---
*Principles of Teaching (Ed 313)	---	---	3
Elements of Sociology (Soc 201, 202, 203)	3	3	3
*Adolescence: Growth and Development of the Individual (Ed 461)	---	3	---
Educational Sociology (Soc 314)	---	---	3
*History of Oregon (Hst 377)	---	3 *or*	3
*Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2
Literature (English or American)	3	3	3
Special Methods	2–3	2–3	---
Senior Year			
*Measurement in Secondary Education (Ed 416)	3 *or*	3 *or*	3
*Individual Differences (Psy 471, 472, 473)	3	3	3
*Guidance and Personnel Practices (Ed 485)	3	---	---
Current Occupational Trends (Ed 486)	---	3	---
*Counseling (Ed 487)	---	---	3
*Supervised Teaching (Ed 415)	3–6	3–6	3–6
Statistical Methods in Education (Ed 517)	---	3 *or*	3
Civic Education (Ed 489)	3	--- *or*	3
Individual investigation	---	---	---

Fifth Year

See pages 262-264 for the requirements for a State Teacher's Certificate effective February 10, 1939, February 10, 1941, and February 10, 1943. Students preparing to enter counseling and guidance should qualify for a master's degree.

Education

INSTRUCTION given in education covers the principles and the technique of teaching at the secondary and college levels, educational psychology, special methods in teaching the various major subjects in which the State College gives teacher training, the history and philosophy of education, guidance, counseling, and personnel work.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Ed 101. **Methods of Study.** 3 hours any term.
Specific methods of study as applied to various subject-matter fields; the general principles of note-taking; study schedule; fixing study habits; evaluation of the various broad fields of human learning. Professor Parr.

Ed 102. **Mental Hygiene.** 3 hours any term.
The conditions of healthy mental development and normal reactions to life and the college environment; the habits, attitudes, and proper functioning of a normal mind. Professor Chambers.

[1]Or Psy 211.

Ed 104. **Choosing a Vocation.** 2 hours spring.
Elective mainly for freshmen and sophomores undecided as to the work for which they should prepare. Undertakes systematically to assist students in studying the vocational openings and also their own personal abilities and characteristics, using tests, occupational reports, interviews, visits, clinical recommendations and all other helps in securing full information. Final vocational decision, of course, is left wholly to the individual student. Professor Salser.

Ed 211. **Education as a Profession.** 2 hours spring.
Teaching as a life work; the essential qualities of a good teacher; the teacher and the community; opportunities in departmental teaching, administration and supervision, research, adult education, vocational education; rewards, advantages, and disadvantages. Professor Parr.

UPPER-DIVISION COURSES

Ed 311. **Secondary Education.** 3 hours any term.
The problems of the high school from the standpoint of the teacher; aims, functions, and characteristics. Prerequisite: Psy 201, 202, 203, or Psy 211. Professor Parr.

Ed 312. **Educational Psychology.** 3 hours any term.
The laws of learning and their application to the classroom; motivation in learning; transfer of training; memory; forgetting; psychology of secondary school subjects. Prerequisite: Psy 201, 202, 203, or Psy 211. Professor Laslett.

Ed 313. **Principles of Teaching.** 3 hours any term.
Application of laws of psychology to teaching; significance of individual differences; types of learning; aims and functions of secondary education; socialization; supervised study; measuring results. Prerequisite: Ed 312. Professor Clinton.

Soc 314. **Educational Sociology.** 3 hours spring.
The field of sociology from the educational point of view; social institutions in their origin and development; social activities in their relation to institutions and the individual; social control or the molding of social institutions and the directing of social activities; different methods of social investigation and their comparative results. Students in the School of Education may include this course in the required 36 hours of education. Prerequisite: an introductory course in sociology. Professor Bakkum.

Ed 316. **Oregon School Law and Oregon System of Education.** 2 hours any term.
The Oregon school system and the laws on which it is based; problems of Oregon schools and plans proposed for their solution; the course of study and trends in educational development in the state. Prerequisite: junior standing. Professor Clinton.

Ed 330. **Industrial Arts Organization.** 2 hours winter.
Selection and organization of subject matter for shop work and drawing courses in secondary schools; evaluation of jobs, projects, and

class problems of several types and the formulation of general plans for teaching industrial-arts subjects. Prerequisite: Ed 313 and junior standing. Mr. Saling.

Ed 341. **Rural Education.** 3 hours winter.
Open to all students, prospective high-school teachers and others alike, who desire to acquire some foundation for a philosophy of rural life and training for leadership in rural education. New methods of utilizing the student's rural, social, and economic environment as a means of vitalizing different phases of the high-school instruction, achieving social objectives of education, and increasing farm, home, and town-country efficiencies; various forms of continuation and rural extension education for out-of-school youths and adults. Students actively participate in planning and executing studies and programs in rural education for high-school pupils, out-of-school youths, and adults. Prerequisite: junior standing. Professor Gibson.

Ed 351. **Health Education.** 3 hours fall.
The fundamental philosophy and principles of health education with emphasis on organization and administration of health education. Provision is also made for students interested in adult health education. Associate Professor Morris.

Ed 352. **Health Education.** 3 hours winter.
Continuation of Ed 351. Emphasis on the subject matter of health instruction and its use in secondary schools and in adult health education. Prerequisite: Ed 351. Associate Professor Morris.

Ed 401. **Research.** Terms and hours to be arranged.

Ed 403. **Thesis.** Terms and hours to be arranged.

Ed 405. **Reading and Conference.** Terms and hours to be arranged.

Ed 407. **Seminar.** 1 or 2 hours any term.
Prerequisite: Ed 311, 312, 313. Professor Salser and staff.

Ed 408. **Special Teaching Methods.** 3 hours any term.
Problems and methods in selecting and organizing materials for instruction; comparison and evaluation of methods, laboratory techniques, supplies, equipment; economy of time and materials. Courses include: (a) agriculture, (b) biological science, (c) commerce, (d) home economics, (e) industrial arts, (f) mathematics, and (g) physical science. Prerequisite: Ed 311, 312, 313. (Six hours maximum allowed toward certification.)

Soc 411, 412. **Social Problems.** (g) 2 or 3 hours each term, winter and spring.
See description under Department of Sociology. The contents of the work are varied from time to time to meet the needs of particular groups of students. Students in the School of Education whose work in either of the terms in this sequence covers social education may count 3 hours of credit toward the required 36 hours of education if approved by the dean. Prerequisite: basic work in general sociology. Professor Bakkum.

Ed 415. **Supervised Teaching.** Any term, 12 hours maximum.
Experience in classroom procedures along the lines of the student's

academic preparation and interests. Prerequisite: Ed 311, 312, 313. Professor Parr.

Ed 416. **Measurement in Secondary Education.** (G) 3 hours any term.
The construction and desirable uses of various standard tests and scales for measuring achievement in secondary-school subjects. Such elements of statistical method are given as are necessary for intelligent use of the tests. Prerequisite: Ed 311, 312, 313, or equivalent. Professor Clinton.

Ed 421, 422, 423. **School Health Problems.** (g) 2 hours each term.
The various factors in the maintenance of the health of school children. Fall: prevention and control of communicable diseases in relation to the school child. Winter: school sanitation; planning, proper construction, and care of school buildings. Spring: the factors affecting the health of the school child; the health of the teacher; the hygiene of carrying out various phases of instruction. Professor Langton.

Ed 425. **School and Community Club Work.** (G) 3 hours winter.
A cooperative effort to prepare teachers and others for effective club work and community leadership. Specialists in 4-H Club work and others assist through giving lectures in their respective fields. Prerequisite: Ed 311, 312, 313. Professor Seen.

Ed 431. **Construction and Use of Visual Aids.** (G) 3 hours winter.
Systematic study of the film, the slide, the chart, and other forms of supplementary visual materials; selection and use of such materials to best advantage; operation of projectors and other visual equipment. Prerequisite: Ed 311, 312, 313, or equivalent. Mr. Reid.

Ed 440. **History of Education.** (G) 3 hours fall.
A general review of the growth and development of education and its relation to the civilization of the times, with particular reference to the educational philosophies of Plato, Aristotle, Renaissance educators, Comenius, Locke, Rousseau, Pestalozzi, Froebel, Herbart, Herbert Spencer, and Dewey. Prerequisite: Ed 311, 312, 313. Professor Warrington.

Ed 460. **Psychology of Childhood.** (G) 3 hours fall or spring.
The mental development of the child; native responses; play, self-assertion, instinctive social attitudes; speech; emotions; simple mental processes; complex mental processes; mental organization. Prerequisite: Ed 311, 312, 313. Professor Laslett.

Ed 461. **Adolescence: Growth and Development of the Individual.** (G) 3 hours winter.
The processes through which the normal human being reaches maturity, acquires effective use of his bodily equipment and learning capacity, and makes satisfactory personal and social adjustments; the important physical, mental, and moral changes necessary to adolescence; educational implications of recent studies in this field. Prerequisite: Psy 201, 202, 203, or Psy 211. Professor Laslett.

Ed 464. **Vocational Legislation and Administration.** (G) 3 hours.
The problems of organization and administration of vocational educa-

tion. Intended primarily for graduate students with extended teaching experience and with the necessary technical training in agriculture, homemaking, distributive occupations, or trade and industrial subjects to qualify for possible administrative or supervisory service in vocational education. Prerequisite: Ed 488 or equivalent. Extramural or summer session. Associate Professor Adams.

Ed 470. **The Junior High School.** (G) 3 hours fall or winter.
The relationship between the junior high school and the guidance movement; the purposes and opportunities of the junior-high-school years, including the activities and organizations. Certain outstanding junior high schools are studied. Prerequisite: Ed 461 or equivalent. Professor Salser.

Ed 480. **The Conference Method in Vocational Education.** (G) 3 hours.
Designed to develop ability in conference leading. The technique of conference leading; actual practice in conducting conferences or assigned topics. Prerequisite: Ed 333 or consent of instructor. Two two-hour conference periods. Extramural or summer session. Associate Professor Adams.

Ed 485. **Guidance and Personnel Practices.** (G) 3 hours fall.
An introduction to the field of guidance and counseling. The development of the guidance movement; means and methods of assisting students with their personal and vocational problems and the policies necessary on the part of the school. Prerequisite: Ed 311, 312, 313. Professor Salser.

Ed 486. **Current Occupational Trends.** (G) 3 hours winter.
The recent and rapidly increasing materials available in the occupational and vocational world; interpretations of present trends; attention to sources of such material and to their relative value and usefulness for high-school and college students. Prerequisite: Ed 311, 312, 313. Professor Salser.

Ed 487. **Counseling.** (G) 3 hours spring.
Aims to give prospective counselors, administrators, teachers, and parents an acquaintance with mental, achievement, trade, and other tests; practice in the administration of such tests; problems of classification; methods used in educational and vocational counseling. Prerequisite: Ed 485 or 486. Professor Salser.

Ed 488. **Philosophy of Vocational Education.** (G) 3 hours winter.
The place and need of vocational education in a democracy, with special attention to the evolution of the philosophy of vocational education as a phase of the general education program. Prerequisite: Ed 311, 312, 313, or equivalent. Associate Professor Adams.

Ed 489. **Civic Education.** (G) 3 hours fall or spring.
The school as an instrument of society for transmitting its social inheritance; analysis of school organization, administration, school subjects, methods of instruction, extra-school activities, and methods of discipline with reference to their contribution to training for citizenship. Prerequisite: Ed 311, 312, 313, or equivalent. Professor Salser.

Ed 490. **Character Education.** (G) 3 hours any term.
Place of character in the social purposes of education; distinction between training and instruction; dynamic function of the feelings; conditioning of interests; function of ideals; formation of habits; integration of habits and attitudes; analysis of typical procedure. Prerequisite: Ed 311, 312, 313, or equivalent. Professor Warrington.

Ed 491. **Group Thinking.** (G) 3 hours spring.
Nature and method of democratic participation in group thought-life; the habit of reflective group thinking; forming reasoned judgment on public affairs; how diversified groups may confer in cooperative efforts to discover new roads to new and better goals; technique of leadership in such a group-thinking process. Prerequisite: Ed 490. Professor Warrington.

Ed 492. **Character Education Problems.** (G) 3 hours.
The bearing of social change on conduct; democratic participation in group thought-life; how to build the habit of group thinking; how to develop facility in forming reasoned judgment; the study of the technique of leadership in the group-thinking process; examination of successful plans now in use; application to program building and the selection of activities. Offered at present in summer session only. Prerequisite: Ed 490. Professor Warrington.

Ed 497. **Adult Education.** (G) 3 hours fall.
Development, methods, and results of adult education; the part played by public schools, extension instruction, vocational measures and methods, industrial and commercial organizations, workers' colleges, churches, clubs, radio, and other forms of adult learning. For teachers and other community leaders and workers. Professor Warrington.

Ed 498. **Organization and Supervision for High-School Teachers.** (G) 3 hours winter.
Given from the standpoint of the high-school teacher, who must understand administrative organization as well as the methods and purposes of supervision. Administrative organizations and supervisory plans are treated as they involve the classroom teacher. Prerequisite: Ed 311, 312, 313. Professor Clinton.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Ed 501. **Research.** Terms and hours to be arranged.
In addition to the regular courses listed, members of the staff supervise research and investigation by qualified graduate students. Registration by permission of the staff member or members in whose field the investigation lies. Prerequisite: graduate standing in Education. See also AEd 501, CEd 501, HEd 501, IEd 501.

Problems in Educational Psychology—Professor Laslett.
Problems in Guidance—Professor Salser.
Problems in History of Education—Professors Salser and Laslett.

Problems in Measurements—Professor Clinton.
Problems in Secondary Education—Professor Parr.
Problems in Social or Moral Education—Professor Warrington.

Ed 503. **Thesis.** Terms and hours to be arranged.

Ed 505. **Reading and Conference.** Terms and hours to be arranged.

Ed 507. **Seminar.** Terms and hours to be arranged.

Ed 511. **Recent Educational Trends and Problems.** 3 hours.
A critical survey of important trends, problems, and developments in all fields of education but with particular reference to the high school. The course devotes itself to the evaluation of movements, specializations, and opportunities for service. Required of all candidates for the High School Certificate after February 10, 1941, to comply with the recent state law. Open to graduate students and qualified seniors. Prerequisite: 24 hours of upper-division Education including supervised teaching and School Law. Assistant Dean Salser and staff.

Ed 512. **Introduction to Thesis Writing.** 2 hours fall.
Provided and recommended for students in the School of Education who are candidates for an advanced degree; open also to graduate students in other schools. Finding materials; thesis organization; types of research suited to problems; bibliography. Does not take the place of individual direction and supervision of theses by various major professors in whose fields students choose to write their thesis. Prerequisite: graduate standing. Professor Clinton.

Ed 517. **Statistical Methods in Education.** 3 hours winter or spring.
The fundamental elements only of statistical methods designed to furnish the basis for a scientific procedure in educational measurements; methods of treating collective facts, average facts, and correlated facts, as applied to giving and scoring tests, finding costs, etc. Prerequisite: Ed 416. Professor Clinton.

Ed 522. **Foreign School Systems.** 3 hours winter.
A comparative study of education in France, Germany, Great Britain, and Denmark; experiments such as those in Russia and Italy; attention devoted mainly to the developments since the World War and to the extent and effectiveness of vocational education in the countries studied. Prerequisite: Ed 440. Professor Laslett.

Ed 524. **Curriculum Construction.** 3 hours winter.
The problems of building junior and senior high-school curricula; curriculum theories and policies since 1900; principles for selecting and organizing subject matter; courses of study in various fields; principles of curriculum organization; type of programs; important studies in this field. Prerequisite: Ed 311, 312, 313, or equivalent. Professor Parr.

Ed 526. **Construction and Use of Objective Examinations.** 3 hours winter or spring.
Principles and statistics involved in the selection of test items; validity and reliability; the various types of examinations, their validity, reli-

ability, directions for administering, directions for scoring, keys, and methods of grouping results. Prerequisite: Ed 416. Professors Clinton and Laslett.

Ed 527. **Tests and Their Social Uses.** 3 hours spring.
The application of mental-test results to cultural, moral, social, and educational problems; the basic principles leading to improvement; special consideration to the problems of adjustment of students in their scholastic and personal activities. Professors Laslett and Clinton.

Ed 535. **Psychological Aspects of Vocations.** 3 hours.
Some basic psychological principles applied to (1) choice or avoidance of occupations, (2) aiding others to choose or avoid occupations, (3) adjusting or aiding others in adjusting to occupational conditions and demands, and (4) alteration of occupational conditions and demands to meet human needs. Prerequisite: Psy 211, Ed 312. Professor Chambers.

Ed 543. **History of American Education.** 3 hours spring.
Lectures, reports, and discussions treating the intellectual development of America with special reference to education. Knowledge of American history a requisite. Open to seniors and graduates who have met the practice-teaching requirement. Prerequisite: Ed 311, 312, 313, or equivalent. Professor Laslett.

Ed 546. **Philosophy of Education.** 3 hours winter.
The broad fundamental principles and problems of education, with some attempt at their solution; meaning of philosophy; philosophy of education; principal rules and formulae; value of a correct philosophy of education for the teacher and school administrator. Prerequisite: Ed 311, 312, 313. Professor Warrington.

Ed 555. **College and University Teaching.** 3 hours spring.
Mental tests in their application to college situations; objective examination; other movements in the field of college teaching. The lectures and problems studied are outlined by the members of the faculty best equipped to present them. Prerequisite: graduate standing in education. Two recitations. Professor Parr.

Ed 561. **Advanced Educational Psychology.** 3 hours.
Experimental material that seems most useful and relevant to educational psychology. Open to graduate students with preliminary training in education and psychology. Prerequisite: graduate standing in education. Professor Laslett.

Agricultural Education

THIS department is responsible for the training of teachers and supervisors of agriculture in secondary schools, for all-day students, part-time and evening schools for both young and adult farmers, and the training for leadership in rural life and education. Special attention is given to the training of directors, supervisors, teacher trainers, and teachers of agriculture as pro-

vided for by the Federal laws for vocational education commonly known as the Smith-Hughes Act and the George-Deen Act. Included within the scope of this department's work are certain field, research, and extension activities involving the preparation of instructional material for the use of agriculture instructors in cooperation with various staff members of the School of Agriculture.

The Department of Agricultural Education is a joint department within both the School of Agriculture and the School of Education.

Requirements for Teaching Agriculture. Teachers of agriculture need to have a fundamental knowledge and a high level of doing ability in most of the departmental fields of the School of Agriculture. As early as possible in his college course and not later than the first term of his junior year the prospective teacher should advise with the head of the Department of Agricultural Education regarding the courses he should select in each of the fields of agriculture. Certain qualifications essential in teaching vocational agriculture should be considered by the student when applying for admission into this field of teaching. Students who have had Smith-Hughes agriculture in high school may have greater freedom in choice of electives and may be excused from certain courses ordinarily required in order to take advanced and additional work in the various departments.

Requirements in Agriculture:

(1) Graduation from a college of agriculture of standard rank.

(2) The course requirements in agriculture and education (for Smith-Hughes teaching) can be met in either of two ways: first, by majoring in the Agricultural Education curriculum, which includes requirements in both agriculture and education; second, by pursuing one of the three other curricula in agriculture in the sophomore year and one of the major curricula in General Agriculture, Agricultural Economics, Animal Industries, or Plant Industries, during the junior and senior years. The latter plan will be approved provided sufficient electives are available for meeting the course requirements in agriculture as outlined in the Agricultural Education curriculum (School of Agriculture, page 212) as well as the requirements in education.

(3) 80 to 90 term hours of special work in agriculture are required. The student's choice of courses should depend somewhat on his previous training and experience and the recommendations of the head of the department. The suggested sequence and distribution of courses are given in the Agricultural Education curriculum on page 212. Regardless of the department in which the student majors he should have a minimum of subject-matter courses in the respective departments as follows:

(a) 12 hours in Agricultural Engineering
(b) 7 hours in Animal Husbandry
(c) 3 hours in Dairy Husbandry
(d) 6 hours in Horticulture
(e) 9 hours in Farm Crops
(f) 12 hours in Farm Management and Agricultural Economics
(g) 9 hours in Soils
(h) 3 hours in Poultry Husbandry
(i) 4 hours in Veterinary Medicine

Requirements in Education: The description of courses in education and psychology required for teaching agriculture, in addition to those in agricultural education described here, will be found on page 273-280. (For electives following graduation and meeting certification requirements consult the department head.)

Junior Year[1]	Term hours F	W	S
[2]Educational Psychology (Ed 312)	3 *or*	3	....
Secondary Education (Ed 311) (may be taken senior year)	3 *or*	3	....
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2
History of Oregon (Hst 377)	3 *or*	3 *or*	3
Special Methods in Teaching (Ed 408a)	....	....	3
Senior Year[1]			
Principles of Teaching (Ed 313)	....	....	3
The Agriculture Curriculum (AEd 417)	3	....	....
[3]Supervised Teaching (Ed 415)	3–6 *or*	3–6 *or*	3–6
Adult Education in Agriculture (AEd 418)	....	3	....
Rural Survey Methods (AEd 533)	....	....	3

Requirements for Certification of Agricultural Instructors:

(1) Vocational certificate. Granted only to full-time teachers of high-school vocational agriculture upon graduation from college and fulfillment of the four-year requirements in agriculture and education as outlined in agricultural education curriculum, page 212.

(2) Secondary school certificate. Required when teaching vocational agriculture in combination with other high-school subjects. Requirements for certification, in addition to the requirements for graduation from college, are given on pages 262-264. Any term within the senior year in which the student may take credits beyond graduation requirements in upper-division or graduate courses in agriculture or education, he should petition to apply them toward requirement for the high-school certificate.

Graduate Study and Apprentice Teaching in Agricultural Education. As the demands on teachers of agriculture the country over are becoming more exacting each year additional work after graduation in the fields of agriculture and education is desirable, and in certain states, including Oregon and Washington, is required for the regular high-school teaching certificate. To meet this demand, a fifth year of graduate work including apprentice teaching is available for a limited number of graduates of approved standing. The plan provides for the location of apprentice teachers in high-school centers near Corvallis where they may acquire credit, both by work at the College and in the field, toward a master's degree.

General Electives. Certain courses are open to all students in agriculture and others who are interested in training for leadership in rural life. Special attention is called to Ed 341, Rural Education.

DESCRIPTION OF COURSES[4]

UPPER-DIVISION COURSES

AEd 401. **Research.** Terms and hours to be arranged.

[1]The sequence of courses may be changed somewhat upon approval.
[2]Ed 312 must be preceded by Psy 211.
[3]Ed 415 may be taken any two terms.
[4]See also courses listed under Department of Education, especially Ed 341.

AEd 403. Thesis. Terms and hours to be arranged.

AEd 405. **Reading and Conference.** Terms and hours to be arranged.

AEd 407. **Seminar.** Hours to be arranged, two terms.

Ed 408a. **Special Teaching Methods.** (See Ed 408, page 275). Professor Gibson.

AEd 417. **The Agricultural Curriculum.** (G) 3 hours, fall or spring.
Determining course content and evaluating types of course organization with reference to the objectives to be attained in the field of agriculture in secondary schools. Prerequisite: Ed 313. Professor Gibson.

AEd 418. **Adult Education in Agriculture.** (G) 3 hours winter.
Problems and procedures in developing programs for both young and adult farmers groups. Students in this course participate in recruiting, organizing, and teaching evening classes in the vicinity of Corvallis. Prerequisite: Ed 313, AEd 417.

GRADUATE COURSES

AEd 501. **Research.** Terms and hours to be arranged.
Problems in agricultural education. Professor Gibson.

AEd 503. Thesis. Terms and hours to be arranged.

AEd 505. **Reading and Conference.** Terms and hours to be arranged.

AEd 507. **Seminar.** Terms and hours to be arranged.

AEd 516. **Extension Course in Teacher Training.** Hours to be arranged, any term.
Teachers of vocational agriculture in service who cannot be relieved of their professional duties to pursue courses that are offered in the summer session may make use of this course to continue their professional improvement. Personal conferences, follow-up instruction, and supervision, supplemented by correspondence and reports. Prerequisite: Ed 311, 312, 313. Professor Gibson.

AEd 533. **Rural Survey Methods.** 3 hours spring.
The technique of making agricultural and rural education surveys; methods of analyzing, interpreting, and using the material and results as a basis for evaluating and formulating programs in agricultural education; field studies required. Open to graduates with teaching experience and seniors by special permission. Prerequisite: Ed 311, 312, 313. Professor Gibson.

Commercial Education

IN conjunction with the Department of Secretarial Science the School of Education is able to meet the demand for well-prepared teachers of commercial branches in secondary schools. In the selection of their collegiate courses in both secretarial science and education, students should advise with the School of Education. The term hours in education required for a certificate to teach in accredited high schools are indicated on pages 262-264).

DESCRIPTION OF COURSES*

CEd 401. **Research.** Terms and hours to be arranged.

CEd 403. **Thesis.** Terms and hours to be arranged.

CEd 405. **Reading and Conference.** Terms and hours to be arranged.

CEd 407. **Seminar.** Terms and hours to be arranged.

Ed 408c. **Special Teaching Methods.** (See Ed 408, page 275.) Associate Professor Stutz.

GRADUATE COURSES

CEd 501. **Research.** Terms and hours to be arranged.
Problems in commercial education. Associate Professor Stutz.

CEd 503. **Thesis.** Terms and hours to be arranged.

CEd 505. **Reading and Conference.** Terms and hours to be arranged.

CEd 507. **Seminar.** Terms and hours to be arranged.

CEd 541. **Current Practices in Typewriting.** 3 hours fall.
Principles underlying the development of typing skills; motivation, supplementary materials, and special devices. Prerequisite: Ed 408c and teaching experience in typing. Associate Professor Stutz.

CEd 542. **Current Practices in Shorthand.** 3 hours winter.
Correct writing habits; correlation of sound and symbol response and the development of supplementary material through word and sentence building and transcription technique. Prerequisite: Ed 408c and experience in teaching stenography. Associate Professor Stutz.

CEd 543. **Problems in Commercial Education.** 3 hours spring.
Recent and current trends in the commercial curriculum in high school; evaluation of debatable methods and available research studies. Prerequisite: Ed 408c and teaching experience in commercial subjects. Associate Professor Stutz.

Home Economics Education

PROFESSIONAL training for prospective teachers of home economics is afforded by the Department of Home Economics Education, which is a joint department within both the School of Home Economics and the School of Education. Any student in the School of Home Economics having a scholarship record below average should confer with the Dean of the School of Home Economics before registering for teacher-training work. For information regarding the specific requirements for the State Teacher's Certificate see pages 262-264).

*See also courses in the Department of Education, especially Ed 408.

DESCRIPTION OF COURSES*

UPPER-DIVISION COURSES

HEd 401. **Research.** Terms and hours to be arranged.

HEd 403. **Thesis.** Terms and hours to be arranged.

HEd 405. **Reading and Conference.** Terms and hours to be arranged.

HEd 407. **Seminar.** Terms and hours to be arranged.

Ed 408d. **Special Teaching Methods.** (See Ed 408, page 275.) Professor Blazier.

HEd 412. **Organization and Administration of Homemaking Education.** (G) 3 hours any term.
Typical organizations of homemaking departments on both the vocational and nonvocational basis with particular attention to equipment and management. Prerequisite: Ed 408d.

HEd 413. **The Supervision of Home Projects.** (G) 2 hours spring.
The use of home projects in home economics instruction with field work in supervision of home projects. Prerequisite: Ed 408d. One recitation; 1 two-hour laboratory period. Professor Blazier.

HEd 420. **Community Problems in Nutrition.** (G) 3 hours winter.
Nutrition problems facing the high-school teacher in her contacts with the community. Field work will consist of individual and group projects worked out in cooperation with agencies interested in a nutrition-health program. Prerequisite: FN 321, Ed 313. Two recitations; 1 laboratory period. Professor Blazier.

HEd 440. **Adult Education in Home Economics.** (G) Hours to be arranged, winter.
Problems in the adult-education program authorized under the Smith-Hughes Act; field work in promoting, organizing, observing, and teaching adult classes. Prerequisite: HEd 412. Professor Blazier.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

HEd 501. **Research.** Terms and hours to be arranged.
Problems in home economics education. Professor Blazier.

HEd 503. **Thesis.** Terms and hours to be arranged.

HEd 505. **Reading and Conference.** Terms and hours to be arranged.

HEd 507. **Seminar.** Terms and hours to be arranged.

Industrial Education

JOINTLY with the Department of Industrial Arts, the Department of Industrial Education trains teachers and supervisors in industrial-arts education and in trade and industrial (Smith-Hughes vocational)

*See also courses in the Department of Education, especially Ed 408.

education. While the department is organized as a part of the School of Education, and offers no technical courses or curricula of its own, it makes use of such courses in other schools and departments as serve its needs. Special attention is called to the joint administration of curricula for teacher training in industrial-arts education and in vocational trade and industrial education. The Department of Industrial Arts (School of Engineering) is responsible for the general curricula and technical training, while the Department of Industrial Education (School of Education) is responsible for the professional teacher-training courses and applied pedagogy.

Three Programs Available. Three intensities of training are open to those interested in Industrial-Arts Education:

(1) *The four-year professional-technical curriculum,* leading to the degree of Bachelor of Science in Industrial Arts. See pages 298-300 for a statement of requirements.

(2) A *major norm,* completed in conjunction with major or minor norms in other fields, and leading to the degree of Bachelor of Science in Education. See page 267 for basic requirements.

(3) A *minor norm,* similar to a major but embracing a very much more limited program. Not recommended as a preparation for teaching other than for use in extracurricular activities.

The four-year professional-technical program, leading to the degree of Bachelor of Science in Industrial Arts, meets certification requirements of any state in the Union except those requiring graduate study as a prerequisite to certification. In such cases it furnishes an excellent foundation for the required graduate study, which may be completed at Oregon State College or elsewhere.

The major norm in Industrial Arts affords an opportunity for approximately half the training in technical industrial-arts subject matter that is available to the student in the four-year professional-technical program. It provides a program suited to the needs of teachers in the smaller schools of the state. It is also adapted to the needs and interests of those who transfer to Oregon State College from normal schools, teachers colleges, and universities with two years of nontechnical training.

The minor norm is intended as a background for superintendents, principals, and others, who desire a speaking acquaintance with industrial-arts techniques and objectives, but who do not plan to teach the work except in a very limited program. Recommendation as an industrial-arts teacher will not be given on the basis of a minor norm.

Graduate Study in Industrial Education. Many school systems, and some state departments of education, now require all teachers to present graduate study or a master's degree as a principal prerequisite to a teaching credential for the secondary schools. Since the demands upon teachers the country over are becoming increasingly more exacting each year, graduate work in industrial education brings its proportional rewards and is usually necessary for those who desire to enter the fields of supervision, administration, or teacher-education. Programs of study leading to the degree of Master of Science or Master of Education are outlined by this department for industrial-arts or industrial-education students and teachers with approved graduate standing.

Special Certificate for Two-Year Vocational Teacher Training. Provision is also made for the issuance of special certificates upon the completion of a special two-year curriculum by those who are graduates of an accredited high school or who are past 21 years of age. These special certificates fall under two classifications, as follows:

(1) To journeymen of the various trades who can meet the foregoing requirements and who desire to prepare themselves as trade teachers in accordance with the provisions of the Smith-Hughes Vocational Education Act.

(2) To others, whether tradesmen or not, who can meet the foregoing requirements and who desire preparation for the teaching of related or general continuation subjects or both.

Extramural Courses. Through cooperation with the State Board for Vocational Education and through the establishment of extension centers, provision is made whereby certain courses of this department are offered as extramural courses. Classes are taught in Portland on occasion, and other extension centers may be established as need warrants. This is especially true of those courses for the training of journeymen as vocational-industrial teachers, for the training of teachers in general continuation subjects, and for graduate or undergraduate courses adaptable to the professional advancement of the teacher in service. For further information concerning extramural courses consult the head of the Department of Industrial Education.

DESCRIPTION OF COURSES*

UPPER-DIVISION COURSES

IEd 401. **Research.** Terms and hours to be arranged.

IEd 403. **Thesis.** Terms and hours to be arranged.

IEd 405. **Reading and Conference.** Terms and hours to be arranged.

IEd 407. **Seminar.** Terms and hours to be arranged.

Ed 408e. **Special Teaching Methods.** (See Ed 408, page 275.) Mr. Saling.

IEd 470. **History of Manual and Industrial Education.** (G) 3 hours fall or winter.
Historical developments in manual and industrial education, from the philosophies of leaders from the middle ages to the present time—Socrates, Plato, Rousseau, Pestalozzi, Froebel and John Dewey—in terms of present-day aims of industrial-arts and vocational-industrial education. Prerequisite: Ed 313, 333. Assistant Professor Meyer.

IEd 471. **Teaching Supplementary Subjects.** (G) 3 hours.
Selection of content in mathematics, drawing, and science, for presentation as supplementary subjects in the Smith-Hughes vocational program; methods of organizing and presenting this subject matter in trade and industrial classes. Prerequisite: suitable preparation in mathematics, drawing, and science, and consent of instructor. Extramural or summer session. Associate Professor Adams and staff.

*See courses in the Department of Education, especially Ed 330, 408e, and courses in technical subject matter in the Department of Industrial Arts, pages 323-327.

IEd 472. **Occupational Analysis.** (G) 3 hours fall.
The breaking down, by analysis, of an occupation, trade, or job into its component subdivisions, blocks, operations, and teaching units; occupational analysis as a basis for planning a teaching procedure. Prerequisite: Ed 313, 408e. Assistant Professor Meyer.

IEd 473. **The General Shop and Its Problems.** (G) 2 hours fall.
The "general shop" type of organization; the reasons for its existence; its advantages and limitations; its probable future; content and organization of subject matter and methods of presentation and class control for general shop teaching. Prerequisite: Ed 311, 312, 313, 330. Professor Cox.

IEd 474. **Written and Visual Teaching Aids.** (G) 3 hours winter or spring.
Types of instruction sheets and visual aids as a means to more efficient teaching in large and diversified classes; evaluation of available materials; practice in the construction of diagrams, charts, models, and instruction sheets. Prerequisite: IEd 473 or equivalent. Professor Cox.

IEd 475. **Project Analysis and the Contract Plan.** (G) 2 hours.
Selection and analysis of projects suitable for various types of shop teaching; study of the contract plan; practice in the technique of preparing contracts; suggestions for their use in industrial-arts classes. Prerequisite: IEd 473 or equivalent. Professor Cox.

IEd 478. **Cooperative Part-Time Education.** (G) 3 hours.
Federal and state laws affecting part-time schools; types of pupils; desirable characteristics of teachers; work of the coordinator; individual practice and follow-up; cooperation with outside organizations. Prerequisite: Ed 488 or equivalent. Extramural or summer session. Associate Professor Adams and staff.

IEd 479. **Coordination of Part-Time Schools.** (G) 2 hours.
A study similar in nature to that of IEd 478, but with reference to the problems of evening and continuation schools and classes. Prerequisite: Ed 488 or consent of instructor. Extramural or summer session. Associate Professor Adams and staff.

IEd 482. **Supervision of Industrial Education.** (G) 2 hours.
Specific problems of supervision in the field of industrial education, with reference to both the trade and industrial and the industrial-arts education groups. Intended primarily for graduate students with extended teaching experience as a background. Prerequisite: Ed 464, 488. Extramural or summer session. Associate Professor Adams and staff.

IEd 484. **Industrial Education and Changing Conditions.** (G) 3 hours.
Current developments in industry, and trends in state and Federal programs for industrial education, with special reference to the administration of vocational-industrial education under the George-Deen Act. Prerequisite: Ed 488 or equivalent. Extramural or summer session. Associate Professor Adams.

IEd 485. **Labor, Industry, and the Apprenticeship Program.** (G) 3 hours.
The problems of labor and industry as they are reflected in the Federal and state apprenticeship program and the regulations related thereto.

Prerequisite: Ed 488 or equivalent. Extramural or summer session. Associate Professor Adams.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

IEd 501. Research. Terms and hours to be arranged. Problems in industrial education.

IEd 503. Thesis. Terms and hours to be arranged.

IEd 505. Reading and Conference. Terms and hours to be arranged.

IEd 507. Seminar. Terms and hours to be arranged.

School of Engineering and Industrial Arts

Faculty

RICHARD HAROLD DEARBORN, A.B., E.E., Dean of the School of Engineering and Industrial Arts.

BESSIE MARIE SKAALE, B.S., Secretary to the Dean.

Chemical Engineering

GEORGE WALTER GLEESON, Ch.E., Professor of Chemical Engineering; Head of Department.

EDWARD GIBSON LOCKE, Ph.D., Assistant Professor of Chemical Engineering.

EDWARD ANNE MURRAY, M.S., Instructor in Chemical Engineering.

Civil Engineering

CHARLES ARTHUR MOCKMORE, C.E., Ph.D., Professor of Civil Engineering; Head of Department.

JAMES RINALDO GRIFFITH, C.E., Professor of Structural Engineering.

BURDETTE GLENN, M.S., Professor of Highway Engineering.

GLENN WILLIS HOLCOMB, M.S., Professor of Civil Engineering; Chairman of General Engineering.

SAMUEL MICHAEL DOLAN, C.E., Associate Professor of Civil Engineering.

IVAN FREDERIC WATERMAN, C.E., Associate Professor of Civil Engineering.

FRED MERRYFIELD, M.S., Associate Professor of Civil Engineering.

RUPERT ALRED WANLESS, B.S., Assistant Professor of Civil Engineering.

*FRED GRANT ROBLEY, B.S., Instructor in Civil Engineering.

ROBERT STEVENSON AYRE, C.E., Instructor in Civil Engineering.

LEWIS BYRON MELSON, B.S., Graduate Assistant in Civil Engineering.

LAWRENCE MERTON DELONG, B.S., Graduate Assistant in Civil Engineering.

Electrical Engineering

FRED ORVILLE MCMILLAN, M.S., Professor of Electrical Engineering; Head of Department.

LAWRENCE FISHER WOOSTER, M.S., Professor of Applied Electricity.

ARTHUR LEMUEL ALBERT, M.S., E.E., Professor of Communication Engineering.

EUGENE CARL STARR, E.E., Professor of Electrical Engineering.

BEN HODGE NICHOLS, M.S., Associate Professor of Electrical Engineering.

HAROLD COCKERLINE, B.S., Assistant Professor of Electrical Engineering.

GRANT STEPHEN FEIKERT, M.S., E.E., Assistant Professor of Electrical Engineering.

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*On leave of absence.

FREDERICK ALTON EVEREST, E.E., Assistant Professor of Electrical Engineering.
FREDERIC HAROLD DICKSON, B.S., Graduate Assistant in Electrical Engineering.
BRUCE ARRINGTON WELLS, B.S., Graduate Assistant in Electrical Engineering.

Mechanical Engineering

SAMUEL HERMAN GRAF, M.E., M.S., Professor of Mechanical Engineering; Head of Department.
WALLACE HOPE MARTIN, M.E., M.S., Professor of Heat Engineering.
MARK CLYDE PHILLIPS, B.M.E., Professor of Mechanical Engineering.
CHARLES EDWIN THOMAS, M.M.E., Professor of Engineering Materials.
BENJAMIN FRANKLIN RUFFNER, Aero.E., M.S., Professor of Aeronautical Engineering; Director of Civilian Pilot Training.
JAMES CAREY OTHUS, M.E., M.S., Associate Professor of Mechanical Engineering.
WILLIAM HOWARD PAUL, M.S., Associate Professor of Mechanical Engineering.
EARL CLARK WILLEY, B.S., Assistant Professor of Mechanical Engineering.
ARTHUR DOUGLAS HUGHES, M.S., Instructor in Mechanical Engineering.
THOMAS RICHARDSON PALMERLEE, A.M., Instructor in Mechanical Engineering.
WILSON RAY CHERRY, B.S., Graduate Assistant in Mechanical Engineering.
JOE TAYLOR DOAN, B.S., Graduate Assistant in Mechanical Engineering.
MILOSH NICHOLAS POPOVICH, B.S., Graduate Assistant in Mechanical Engineering.

Mining Engineering

JAMES HERVEY BATCHELLER, B.S., (Min.E.), Professor of Mining Engineering; Head of Department.

Industrial Arts

GEORGE BRYAN COX, B.S., Professor of Industrial Arts; Head of Department; Director of Engineering Shops.
ROBERT CHARLES RHYNEARSON, M.S., Associate Professor of Industrial Arts.
EDWIN DAVID MEYER, B.S., Assistant Professor of Industrial Arts.
WILLIAM HAMILTON HORNING, Assistant Professor of Industrial Arts.
DONALD LYMAN MASON, B.S., Instructor in Industrial Arts.
ASA AUSTIN ROBLEY, B.S., Instructor in Industrial Arts.
MILTON CONWELL SHEELY, B.S., Instructor in Industrial Arts.
ALFRED CLINTON HARWOOD, Mechanician.

Curricula in Engineering and Industrial Arts

B.S., M.S., Ch.E., C.E., E.E., M.E. Degrees

Chemical Engineering
Civil Engineering
Electrical Engineering
Mechanical Engineering
Industrial Arts

FOUR-YEAR curricula leading to the degree of Bachelor of Science are offered in the School of Engineering as follows: a general curriculum in Chemical Engineering; a general curriculum in Civil Engineering with

options in Highway Engineering and Business; a general curriculum in Electrical Engineering with options in Power, Communication, and Business; a general curriculum in Mechanical Engineering with options in Aeronautical Engineering and Business; curricula in Industrial Arts Education and Industrial Administration.

Requirements for Graduation. In each of the four-year curricula offered in the School of Engineering the fulfillment of the Lower-Division group requirements for technical and professional schools is prescribed. The student must complete the upper-division work as outlined or elected in the Engineering School with the approval of the department head and the dean.

For the bachelor's degree, a total of 204 term hours including the required work in physical education and military science is required.

The requirements for the M.S., Ch.E., C.E., E.E., and M.E. degrees are printed under GRADUATE DIVISION.

Curricular Organization. The curricula offered in the Engineering School are organized into the following curricular groups:

A. Chemical Engineering as a four-year sequence course.

B. Civil, Electrical, and Mechanical Engineering including a common freshman curriculum and differentiated sophomore and upper-division curricula in these three fields.

C. Industrial-Arts Education and Industrial Administration including a common lower-division curriculum and differentiated upper-division curricula in these two fields.

Engineering curricula are organized about four general fields of knowledge or training, and the sequence of courses in each curriculum is determined for the purpose of developing strong continuity in the various fields. The four fields are: (1) general engineering science and technology; (2) mathematics and physical science; (3) language, literature, English, and social science; and (4) military education, physical education, and free electives.

Exploratory Contacts. The lower-division curricula insofar as possible have been arranged to afford early contact with engineering training for those who are undetermined in the selection of a major engineering field.

Curricular groups A and B as listed above are differentiated by their primary foundations in chemistry and physics. An undecided student who desires exploratory contact with chemical engineering should register in curricular group A, for should he decide after the first term to investigate curricular group B, he may do so without increasing his undergraduate period of training. One who, on the contrary, explores curricular group B and decides at the end of his freshman year to transfer to curricular group A will find his training necessarily extended beyond four years.

A. Chemical Engineering

Freshman Year	Term hours F	W	S
Chemical Engineering Survey (ChE 111, 112, 113)	1	1	1
Principles of Chemistry (Ch 201, 202, 203)	4	4	4
Elementary Analysis (Mth 101, 102, 103)	4	4	4
English Composition (Eng 111, 112, 113)	3	3	3
Engineering Drawing (GE 111, 112)	2	....	2
Machine Shop Practice (IA 260) *or* Forging and Welding (IA 250)	....	2	....
General Hygiene (PE 150)	—	—	2
Military Science	1	1	1
[1]Physical Education	1	1	—
	16	16	17

Sophomore Year			
Chemical Technology (ChE 211)	2	....	....
Industrial Stoichiometry (ChE 212, 213)	....	2	2
Advanced Qualitative Analysis (Ch 231)	4	—	—
Quantitative Analysis (Ch 232, 233)	—	4	4
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
Engineering Physics (Ph 111, 112, 113)	3	3	3
Military Science	1	1	1
Physical Education	1	1	1
Social Science or Language and Literature	3	3	3
	18	18	18

Junior Year			
Industrial Chemical Calculations (ChE 311, 312, 313)	4	4	4
Organic Chemistry (Ch 430, 431, 432)	4	4	4
Physical Chemistry (Ch 440, 441, 442)	4	4	4
Mechanics (Statics) (ME 212)	3	—	—
Strength of Materials (ME 311)	—	3	—
Materials of Engineering (ME 316)	—	—	3
[2]Electives	3	3	3
	18	18	18

Senior Year			
Unit Operations (ChE 411, 412, 413)	3	3	3
Manufacturing Processes (ChE 441, 442, 443)	3	3	3
Chemical Engineering Laboratory (ChE 414, 415, 416)	3	3	3
Industrial Electricity (EE 351, 352)	3	3	....
Chemical Plant Design (ChE 433)	....	....	4
Electives	3	4	3
	15	16	16

B. Civil, Electrical, and Mechanical Engineering

COMMON FRESHMAN YEAR

	Term hours F	W	S
Engineering Problems (GE 101, 102, 103)	2	2	2
Engineering Drawing (GE 111, 112, 113)	2	2	2
Elementary Analysis (Mth 101, 102, 103)	4	4	4
Engineering Physics (Ph 111, 112, 113)	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
Military Science	1	1	1
[1]Physical Education	1	1	1
	16	16	16

[1]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education.

[2]Advanced Military Science may be elected only if the social science requirements have been completed. If GL 1, 2, 3 has already been completed, Scientific German (GL 320, 321, 322) should be elected.

CIVIL ENGINEERING

Sophomore Year

	Term hours F	W	S
Plane Surveying (CE 221, 222, 223)	3	3	3
Descriptive Geometry (CE 211)	3	—	—
Field Curves (CE 231), Curves and Earthwork (CE 232)	—	3	3
Mechanics (CE 212, 213)	—	3	3
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
American National Government (PS 212)	3	—	—
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Military Science	1	1	1
Physical Education	1	1	1
	18	18	18

Junior Year

NORM

Strength of Materials (CE 351, 352)	3	3	—
Structural Analysis (CE 382)	—	4	—
Reinforced Concrete (CE 383)	—	—	4
Fluid Mechanics (CE 311)	3	—	—
Advanced Hydraulics (CE 312)	—	3	—
Hydraulic Machinery (CE 313)	—	—	3
Roads and Pavements (CE 333)	—	—	4
Materials of Engineering (ME 316)	3	—	—
Industrial Electricity (EE 351)	3	—	—
General Sociology (Soc 212), Outlines of Economics (Ec 212)	—	3	3
	12	13	14

GENERAL AND HIGHWAY OPTIONS

Junior-Year Norm	12	13	14
Electives	4	4	3
	16	17	17

BUSINESS OPTION

Junior-Year Norm	12	13	14
Accounting for Technical Students (BA 385, 386)	3	3	—
Cost Accounting for Industrials (BA 494)	—	—	3
Extempore Speaking (Sp 111)	3	—	—
	18	16	17

Senior Year

NORM

Structural Engineering (CE 481), Structural Design (CE 482)	4	4	—
Estimating and Cost Analysis (CE 460)	—	—	3
Masonry and Foundations (CE 472)	—	4	—
Sanitary Engineering (CE 412)	3	—	—
Contracts and Specifications (CE 427)	—	—	3
Engineering Geology (G 324)	—	3	—
Steam, Air, and Gas Power (ME 346)	—	—	3
	7	11	9

GENERAL OPTION

Senior-Year Norm	7	11	9
Seminar (CE 407)	1	1	—
Building Design (CE 483)	—	—	4
Hydrology (CE 411)	3	—	—
Structural Materials Laboratory (ME 415)	—	3	—
Electives	6	3	4
	17	18	17

HIGHWAY OPTION

	Term hours F	W	S
Senior-Year Norm	7	11	9
Seminar (CE 407)	1	1	....
Highway Engineering (CE 421, 422)	4	3	—
Economics of Highway Transportation (CE 425)	....	....	3
Highway Materials Laboratory (ME 414)	3	....	....
Electives	3	3	4
	18	18	16

BUSINESS OPTION

Senior-Year Norm	7	11	9
Hydrology (CE 411)	3	....	....
Seminar (CE 407)	....	1	....
Business Law (BA 256, 257, 258)	3	3	3
Personnel Management (BA 414)	4	....	....
Merchandising and Selling (SS 436)	....	3	....
Money and Banking (Ec 413)	....	....	4
	17	18	16

STRUCTURAL DESIGN IN ARCHITECTURE OPTION

B.S. Degree at University

Freshman and Sophomore Years (University)

The freshman and sophomore years in this curriculum are taken at the University in the School of Architecture and Allied Arts. It is recommended that the student in his freshman and sophomore years take the following courses, with such additions as may best fit individual cases: graphics, drawing or architectural modeling, architectural design, construction, elementary analysis, general physics, calculus, and architectural history. Students also take English composition, physical education, and the lower-division group requirements in arts and sciences.

Junior Year (State College)

	Term hours F	W	S
Plane Surveying (CE 221, 222, 223)	3	3	3
Strength of Materials (CE 351, 352)	3	3	....
Structural Analysis (CE 382)	....	4	....
Reinforced Concrete (CE 383)	....	—	4
Materials of Engineering (ME 316)	3	....	—
Structural Materials Laboratory (ME 415)	....	3	....
Practical Electricity (IA 370)	3	....	—
Welding Practice (IA 350)	....	....	1
Forging and Welding (IA 250)	....	....	2
Electives	5	3	7
	17	16	17

Senior Year (State College)

Structural Engineering (CE 481), Structural Design (CE 482)	4	4	—
Building Design (CE 483)	....	....	4
Masonry and Foundations (CE 472)	....	4	....
Fluid Mechanics (CE 311)	3	....	....
Estimating and Cost Analysis (CE 460)	....	....	3
Steam, Air, and Gas Power (ME 346)	....	....	3
Heating and Air Conditioning (ME 461)	....	....	3
Industrial Electricity (EE 351)	3	....	....
Electives	7	9	3
	17	17	16

ELECTRICAL ENGINEERING

Sophomore Year

	Term hours F	W	S
Introduction to Electrical Engineering (EE 201, 202, 203)	4	4	4
Plane Surveying (CE 226)	—	—	3
Machine Shop Practice (IA 260)	2	—	—
Forging and Welding (IA 250)	—	2	—
Foundry Practice (IA 240)	—	—	2
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Elementary Journalism (J 111)	3	—	—
Extempore Speaking (Sp 111)	—	3	—
Military Science	1	1	1
Physical Education	1	1	1
	18	18	18

Junior Year

NORM

Electrical Engineering (EE 311, 312, 313)	3	3	3
Electrical Engineering Laboratory (EE 321, 322, 323)	3	3	3
Mechanics (ME 212, 213)	3	3	—
Materials of Engineering (ME 316)	—	—	3
Heat Power Engineering (ME 331, 332)	3	3	—
Fluid Mechanics (CE 341)	—	—	3
	12	12	12

POWER AND COMMUNICATION OPTION

Norm	12	12	12
Accounting for Technical Students (BA 385)	3	—	—
American National Government (PS 212)	—	3	—
Outlines of Economics (Ec 212)	—	—	3
[1]Electives	3	3	3
	18	18	18

BUSINESS OPTION

Norm	12	12	12
Accounting for Technical Students (BA 385, 386)	3	3	—
Cost Accounting for Industrials (BA 494)	—	—	3
Electives	2	2	1
	17	17	16

Senior Year

NORM

Electrical Engineering (EE 411, 412, 413)	3	3	3
Electrical Design (EE 414, 415, 416)	1	1	1
Seminar (EE 407)	1	1	1
	5	5	5

POWER OPTION

Senior-Year Norm	5	5	5
Electrical Engineering Laboratory (EE 421, 422, 423)	3	3	3
Electrical Transients (EE 451)	3	—	—
High-Voltage Engineering (EE 452, 453)	—	3	3
Electives	5	5	5
	16	16	16

COMMUNICATION OPTION

Senior-Year Norm	5	5	5
Communication Engineering (EE 461, 462, 463)	3	3	3
Vacuum Tubes and Circuits (EE 464, 465)	3	3	—
Engineering of Sound Systems (EE 466) *or* Radio Engineering (EE 467)	—	—	3
[2]Radio Engineering Practices (EE 481, 482, 483) *or* electives	1	1	1
[1]Electives	4	4	4
	16	16	16

[1]It is recommended that students selecting the Communication Option elect Radio Communication (Ph 331, 332, 333) in either the junior or the senior year.

[2]It is recommended that students especially interested in radio engineering as a career elect Radio Speaking (Sp 234, 235, 236).

BUSINESS OPTION

	Term hours F	W	S
Senior-Year Norm	5	5	5
Electrical Engineering Laboratory (EE 421, 422, 423)	3	3	3
Vacuum Tubes and Circuits (EE 464)	3	---	---
Illumination (EE 431, 432)	---	3	3
Merchandising and Selling (SS 436)	---	3	---
Business Law (BA 256, 257, 258)	3	3	3
Outlines of Economics (Ec 212)	3	---	---
Money and Banking (Ec 413)	---	---	4
	17	17	18

MECHANICAL ENGINEERING

Sophomore Year

Descriptive Geometry (ME 211)	3	---	---
Mechanics (ME 212, 213)	---	3	3
Plane Surveying (CE 226)	3	---	---
Foundry Practice (IA 240)	2	---	---
Machine Shop Practice (IA 260)	---	2	---
Forging and Welding (IA 250)	---	---	2
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
American National Government (PS 212)	---	3	---
General Sociology (Soc 212)	---	---	3
Differential and Integral Calculus (Mth 201, 202, 203)	4	4	4
Military Science	1	1	1
Physical Education	1	1	1
	17	17	17

Junior Year

NORM

Heat Engineering (ME 321, 322, 323)	4	4	4
Mechanical Laboratory (ME 351, 352, 353)	2	2	2
Strength of Materials (ME 314, 315)	3	3	---
Mechanism (ME 312)	---	3	---
Outlines of Economics (Ec 212)	---	---	3
	9	12	9

GENERAL OPTION

Junior-Year Norm	9	12	9
Materials of Engineering (ME 316)	3	---	---
Fuels and Lubricants (ME 325)	---	---	3
Fluid Mechanics (CE 341), Hydraulic Machinery (CE 342)	3	3	---
Accounting for Technical Students (BA 385)	---	---	3
Electives	3	3	3
	18	18	18

AERONAUTICAL OPTION

Junior-Year Norm	9	12	9
Materials of Engineering (ME 316)	---	---	3
Aerodynamics (ME 342)	---	3	---
Aeropropulsion (ME 343)	---	---	3
Fluid Mechanics (CE 341)	3	---	---
Differential Equations (Mth 421)	3	---	---
Electives	3	3	3
	18	18	18

BUSINESS OPTION

Junior-Year Norm	9	12	9
Materials of Engineering (ME 316)	---	---	3
Fluid Mechanics (CE 341), Hydraulic Machinery (CE 342)	3	3	---
Accounting for Technical Students (BA 385, 386)	3	3	---
Cost Accounting for Industrials (BA 494)	---	---	3
Electives	3	---	3
	18	18	18

Senior Year

NORM	Term hours F	W	S
Machine Design (ME 411, 412)	3	3	—
Modern Materials (ME 421)	3	—	—
Industrial Engineering (ME 473)	—	—	3
	6	3	3

GENERAL OPTION	F	W	S
Senior-Year Norm	6	3	3
Machine Design (ME 413)	—	—	3
[1]Power-Plant Engineering (ME 431, 432)	3	3	—
Mechanical Laboratory (ME 451, 452)	2	2	—
[1]Mechanical Laboratory (ME 453)	—	—	2
Gas Technology (ME 422)	—	3	—
Industrial Instrumentation (ME 476)	—	—	3
Industrial Electricity (EE 351, 352, 353)	3	3	3
Electives	3	3	3
	17	17	17

AERONAUTICAL OPTION	F	W	S
Senior-Year Norm	6	3	3
Airplane Design (ME 441, 442, 443)	3	3	3
Aeronautical Laboratory (ME 456, 457)	2	2	—
Advanced Aerodynamics (ME 446)	—	—	3
Structural Analysis (CE 382, 485)	4	3	—
Electricity in Aeronautics (EE 355)	—	3	—
Airway Communication Systems (EE 356)	—	—	3
Electives	3	3	4
	18	17	16

BUSINESS OPTION	F	W	S
Senior-Year Norm	6	3	3
Mechanical Laboratory (ME 451, 452)	2	2	—
Gas Technology (ME 422)	—	3	—
Industrial Electricity (EE 351, 352, 353)	3	3	3
Business Law (BA 256, 257, 258)	3	3	3
Merchandising and Selling (SS 436)	—	3	—
General Advertising (SS 439)	—	—	3
Investments (BA 463)	—	—	3
Electives (technical)	3	—	2
	17	17	17

C. Industrial-Arts Education and Industrial Administration

LOWER-DIVISION CURRICULUM

Freshman Year	Term hours F	W	S
Pattern Making (IA 111)	3	—	—
Methods in Woodworking (IA 112, 113)	—	3	3
Foundry Practice (IA 141)	3	—	—
Forging and Welding (IA 152)	—	3	—
Machine Shop (IA 163)	—	—	3
Engineering Drawing (GE 111, 112, 113)	2	2	2
English Composition (Eng 111, 112, 113)	3	3	3
Lower-Division Courses in Science Group	3–4	3–4	3–4
Military Science	1	1	1
[2]Physical Education	1	1	1
	16–17	16–17	16–17

[1]Students interested in automotive engineering may substitute ME 491, 492, and 493 for ME 431, 432, and 453.

[2]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education.

Sophomore Year	Term hours F	W	S
Machine and Tool Maintenance (IA 325 or 365)	2	—	—
Lower-Division Drawing (AA 291)	3	—	—
Lower-Division Decorative Design (AA 295)	—	3	—
Sheet-Metal Work (IA 380) *or* Lower-Division Decorative Design (AA 295—second course)[1]	—	—	3
House Planning and Architectural Drawing (AA 178)	3	—	—
House Planning and Architectural Drawing (AA 179) *or* Descriptive Geometry (CE 211)	—	3	—
House Planning and Architectural Drawing (AA 180) *or* Machine Drawing (IA 263)	—	—	3
Modern Governments (PS 201, 202)	4	4	—
Outlines of Psychology (Psy 211)[2] *or* Outlines of Economics (Ec 211)[3]	—	—	6, 4
Business English (Eng 217) *or* Elementary Journalism (J 111)	3	—	—
Extempore Speaking (Sp 111)	—	3	—
Parliamentary Procedure (Sp 231)	—	—	3
Military Science	1	1	1
Physical Education	1	1	1
Technical electives	—	2	0–2
	17	17	17

INDUSTRIAL-ARTS EDUCATION

Junior Year

Millwork—Machine Woodwork (IA 311) *or* Production Machine Work (IA 363)	3	—	—
Heat Treating (IA 354) *or* Carpentry (IA 333)	(2) *or* 3		—
Wood and Metal Finishing (IA 316)	—	—	2
Automobile Mechanics (AE 312, 313, 314)	3	3	3
Educational Psychology (Ed 312)	3	—	—
Industrial-Arts Organization (Ed 330)	—	2	—
Special Teaching Methods (Ed 408e)	—	—	3
Secondary Education (Ed 311)	3	—	—
Principles of Teaching (Ed 313)	—	3	—
Measurement in Secondary Education (Ed 416)	—	—	3
Technical electives	2–0	3–5	3
General electives	3	3	3
	17	17	17

Senior Year

Practical Electricity (IA 370)	3	—	—
Stagecraft and Lighting (Sp 244) *or* Public Information Methods (J 313)	—	3	—
Materials of Engineering (ME 316) *or* Commercial Woods (WP 331)	—	—	3
The General Shop and Its Problems (IEd 473)	2	—	—
Written and Visual Teaching Aids (IEd 474)	—	3	—
Shop Planning and Organization (IA 411)	—	—	3
Occupational Analysis (IEd 472)	3	—	—
Supervised Teaching (Ed 415)	—	3	3
History of Manual and Industrial Education (IEd 470)	3	—	—
History of Oregon (Hst 377)	—	3	—
Oregon School Law and Oregon System of Education (Ed 316)	—	—	2
Technical electives	3	2	2
Electives	3	3	4
	17	17	17

[1]Technical option to be selected according to intended goal.
[2]Required of students majoring in industrial-arts education.
[3]Required of students majoring in industrial administration.

INDUSTRIAL ADMINISTRATION[1]

Junior Year	Term hours F	W	S
Millwork—Machine Woodwork (IA 311) *or* Production Machine Work (IA 363)	3	—	—
Time and Motion Studies (IA 361)	—	2	—
Materials of Engineering (ME 316)	—	3	—
Practical Electricity (IA 370)	3	—	—
Metallography and Pyrometry (ME 481) *or* Commercial Woods (WP 331)	(3) *or*	(3) *or*	3
Elements of Organization and Production (BA 221)	4	—	—
Elements of Finance (BA 222)	—	4	—
Elements of Marketing (BA 223)	—	—	4
Accounting for Technical Students (BA 385, 386), Cost Accounting for Industrialists (BA 494)	3	3	3
Technical electives	1	2	4
General electives	3	3	3
	17	17	17

Senior Year	F	W	S
Occupational Analysis (IEd 472)	3	—	—
Seminar (IA 407)	—	2	—
Production Engineering (IA 462, 463)	—	3	3
Personnel Management (BA 414)	4	—	—
Business Statistics (BA 470)	—	3	—
Money and Banking (Ec 413)	—	—	4
Labor Problems (Ec 425)	—	—	4
Business Law (BA 256, 258)	4	4	—
Technical electives	3	2	3
General electives	3	3	3
	17	17	17

General Engineering

ENGINEERING courses required in the common freshman year for civil, electrical, and mechanical engineering are grouped in the Department of General Engineering. The courses are taught by members of the civil, mechanical, and electrical engineering departmental staffs, who for purposes of coordination and unified effort work as a committee in planning and supervising the instruction.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

GE 101, 102, 103. **Engineering Problems.** 2 hours each term.
Lectures and problems dealing in an elementary way with the general field of engineering. The aim is fourfold: to inform the student concerning the problems and occupations in the various engineering fields; to unify the purpose of all courses in the engineering curricula; to assist the student in the acquisition of elementary knowledge in the fields of civil, mechanical, and electrical engineering; and to train the student in engineering habits of thinking and expression. Parallel with Ph 111, 112, 113. One lecture; 2 two-hour problem periods.

[1]See statement under Department of Industrial Arts of objectives controlling the make-up of curricula in industrial-arts education and industrial administration, and for the types of training for which they are designed (pages 322-323).

GE 111. **Engineering Drawing.** 2 hours fall or winter.
Training in the use of drafting instruments and in the art of lettering; introduction to elementary principles of orthographic projection. Intended for students who have had no previous college training in mechanical drawing. The instruments and materials for this course cost about $17.00. The instruments are used in all later drawing courses. Three two-hour drawing periods.

GE 112. **Engineering Drawing.** 2 hours winter or spring.
Continuation of orthographic projection; methods of dimensioning and checking drawings; use of auxiliary planes of projection; section drawings; isometric drawing; working drawings of machine parts; tracings from drawings. Prerequisite: GE 111 or equivalent. Three two-hour drawing periods.

GE 113. **Engineering Drawing.** 2 hours spring.
A continuation of GE 112. Freehand orthographic and perspective sketching; practical application of drawing principles to working drawings; use of charts and diagrams. Prerequisite: GE 112. Three two-hour drawing periods.

Chemical Engineering

THE curriculum in chemical enginering is designed to give a broad training in the principles fundamental to chemical industry. It aims to lay a foundation for responsible work in laboratory and plant, and to prepare the student for graduate work in either chemical engineering or chemistry. The course is equally applicable in preparation for research, design, control, operation, or technical sales. The student is first given a thorough foundation in chemistry, mathematics, English, and physics. This is followed by professional subject matter that falls into three groups: (1) courses that provide a knowledge of the more advanced principles of chemistry; (2) courses in engineering subjects; and (3) courses that deal with chemical engineering as a separate entity. The last group includes a thorough study of the unit operations of chemical engineering and their applications to chemical processes.

The course is designed to give a broad training in fundamentals, rather than specialized training for a narrow field. A corresponding breadth of opportunity is presented, including the entire field of chemical industry as well as allied lines. Many positions of responsibility, particularly in research and development work, demand a more extensive training than can be given in four years, and students with the proper qualifications are advised to pursue graduate work leading to advanced degrees.

Equipment. The Department is housed in the Chemistry building, where laboratory facilities have been provided for instruction in both chemical enginering and industrial chemistry. Laboratories have been designed to facilitate pilot plant studies of typical chemical problems, and equipment is available for studies in the unit operations of chemical engineering. Instruments commonly employed to obtain engineering data are available, as well as an adequate supply of the usual reagents and chemical apparatus.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

ChE 111, 112, 113. **Chemical Engineering Survey.** 1 hour each term.
The profession of chemical engineering; engineering procedures and methods. One lecture; 1 two-hour computation period.

ChE 211. **Chemical Technology.** 2 hours fall.
Fundamentals of chemical engineering; graphical analysis; instrumentation; control of process variables; applications in the solution of typical problems. One lecture; two recitations.

ChE 212, 213. **Industrial Stoichiometry.** 2 hours each term, winter and spring.
Elementary quantitative interpretation and application of data to various industrial chemical processes. One lecture; two recitations.

UPPER-DIVISION COURSES

ChE 311, 312, 313. **Industrial-Chemical Calculations.** 4 hours each term.
Application of chemical and chemical-engineering principles to industrial processes and problems. Three lectures; 1 three-hour computation period. Assistant Professor Locke.

ChE 401. **Research.** Terms and hours to be arranged.
Fundamental training in the accepted methods of conducting a scientific investigation. Term report required.

ChE 403. **Thesis.** Terms and hours to be arranged.
Elective on approval for undergraduates.

ChE 405. **Reading and Conference.** Terms and hours to be arranged.
Advanced problems dealing with selected unit operations or industrial chemical processes. Term report required.

ChE 407. **Seminar.** 1 hour any term.
Reports on selected topics. One period.

ChE 411, 412, 413. **Unit Operations.** (g) 3 hours each term.
Quantitative treatment of the unit operations of chemical engineering; application of the fundamental principles of the operations to typical engineering problems. Three lectures; 1 two-hour computation period. Professor Gleeson.

ChE 414, 415, 416. **Chemical Engineering Laboratory.** (g) 3 hours each term.
Quantitative laboratory study of the unit operations of chemical engineering; emphasis placed on preparation of technical reports. One lecture; 1 four-hour laboratory period. Professor Gleeson, Assistant Professor Locke, Mr. Murray.

ChE 421, 422, 423. **Industrial Chemistry.** (G) 2 hours each term.
The more important industrial chemical processes with particular attention to industries of the West Coast. Prerequisite: one year upper-division chemistry or chemical engineering. Mr. Murray.

ChE 433. **Chemical Plant Design.** (g) 4 hours spring.
Problems in the design of a chemical plant or chemical-engineering equipment; application of the fundamentals of mechanics, materials

of engineering, and the unit operations to a selected problem; design-room procedures. Term report required. Two lectures; 2-two-hour computation periods. Professor Gleeson.

ChE 441, 442, 443. **Manufacturing Processes.** (g) 3 hours each term.
Industrial technique employed in the solution of problems typical of organic and inorganic process industries; emphasis placed on application of typical reactions of organic chemistry; the fundamentals of physical chemistry, including reaction kinetics, thermodynamics, and catalysis. Materials of construction, process variables, and economic factors are stressed. Two lectures, 1 recitation. Assistant Professor Locke.

ChE 444, 445. **Process Laboratory.** (G) 3 hours each term, fall and spring.
Laboratory study of selected unit processes. Designed to emphasize the fundamentals of the subject. Prerequisite: organic chemistry. One lecture; 1 four-hour laboratory period. Staff.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

ChE 501. **Research.** Terms and hours to be arranged.
Investigation of a selected problem in chemical engineering or applied chemistry for an advanced degree.

ChE 503. **Thesis.** Terms and hours to be arranged.

ChE 505. **Reading and Conference.** Terms and hours to be arranged.
Conference and problems dealing with the unit operations of chemical engineering or industrial chemical processes at graduate level. Reference work required.

ChE 507. **Seminar.** Terms and hours to be arranged.

ChE 512. **Economic Balance.** (G) 3 hours winter.
Solution of typical chemical engineering and applied chemistry problems from the standpoint of economic considerations; optimum conditions of design and operation determined from cost studies and probable returns. Two lectures, 1 recitation. Professor Gleeson.

ChE 513. **Petroleum Refining.** (G) 3 hours spring.
Processes by which crude petroleum is converted into commercial products; special attention to application of fundamental operations of absorption, distillation, cracking, etc. Two lectures; 1 recitation. Professor Gleeson.

Civil Engineering

THE curriculum in civil engineering is organized to train young men in those principles of engineering science and technology that are basic and common to the fields of geodesy and surveying, highways, railroads, irrigation and drainage, river and harbor improvements, structures, hydraulics, sanitation, and municipal engineering, and to permit some latitude of choice in the three general fields of structures, hydraulics,

and highways. The civil engineer's problems in the development of the Northwest are directly related to the structural, hydraulic, and highway fields. The curriculum is planned to prepare graduates for advancement to responsible positions in these fields.

Highway engineering is offered as an option in the civil-engineering curriculum and is differentiated from that curriculum only in the senior year. The aim in these courses is to meet the demand in this state and throughout the Northwest for men equipped to take charge of road and street construction and maintenance work.

Thorough theoretical instruction is accompanied by as much laboratory and field practice as possible. In the study of highways, special reference is made to the conditions and needs of Oregon.

Equipment. The department is provided with quarters and equipment for adequately and thoroughly performing its work. The third floor of Apperson Hall is devoted to classrooms and drawing rooms. A large room on the ground floor of Industrial Arts Building houses the surveying instruments, and the entire middle third of the Engineering Laboratory is occupied by hydraulic equipment. The equipment of the instrument room consists of 25 transits, 25 levels, and 7 plane tables, together with the necessary auxiliary supply of stadia, level, and line rods, hand levels, tapes, and other minor equipment.

The equipment of the hydraulic laboratory is adequate for the execution of all basic experimental work in the field of hydraulic engineering. The machinery installed is modern and complete. It is extensive enough so that all the theoretical studies of the classroom may be verified by the performance of machines in the laboratory. Classified on the factors of quantity of water, pressure under which water is available, square feet of floor space, and value of equipment, it ranks among the leading hydraulic laboratories of the United States. The major items of the equipment are two direct-connected 8-inch centrifugal pumps operated by 40-horsepower motors; a 35-inch Pelton impulse wheel with oil-pressure governor; a 14-inch spiral-cased Francis-type reaction turbine with Pelton governor; a large pressure tank five feet in diameter by twenty feet high; and two 16,000-pound capacity weighing tanks mounted upon direct reading scales.

The department is equipped with modern testing laboratories, including the best cement and highway-testing machinery, thus affording students in civil engineering the opportunity of studying by direct observation and experiment the strength and properties of the various engineering materials.

The structural division is equipped with the most modern apparatus for the mechanical analysis of statically indeterminate structures including a twelve-gage, three-microscope Beggs Deformeter set, and a Gottchalk Continostat.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

CE 211. **Descriptive Geometry.** 3 hours fall or winter.

Principles of orthographic projection; applications to the graphical solution of engineering problems. Prerequisite: GE 112. One recitation; 2 three-hour drawing periods.

CE 212. **Mechanics (Statics).** 3 hours winter.
Applied mechanics for engineering students; forces and force systems with reference to the equilibrium of rigid bodies, including simple framed structures; methods of finding centers of gravity and moments of inertia and their practical applications; numerous problems having engineering application. Prerequisite: differential calculus. One recitation; 2 two-hour computing periods.

CE 213. **Mechanics (Dynamics).** 3 hours winter or spring.
Continuation of CE 212. Principles and problems in kinetics; force as a factor causing motion; work, energy, friction, and impact studied and illustrated by means of numerous problems. Prerequisite: CE 212. One recitation; 2 two-hour computing periods.

CE 221. **Plane Surveying.** 3 hours fall.
Theory, use, and adjustment of level and transit; measurement and subdivision of land. One recitation; 2 three-hour periods field work.

CE 222. **Plane Surveying.** 3 hours winter.
Continuation of CE 221. Surveying problems as related to subdivision of public land, farm and city surveying; special problems and methods; further practice in use of instruments; note-keeping. Prerequisite: CE 221. One recitation; 2 three-hour periods field work.

CE 223. **Plane Surveying.** 3 hours spring.
Use of stadia and of plane table; topographical mapping and drawing; determination of meridian by stellar and by solar observation. Prerequisite: CE 222. One recitation; 2 three-hour field periods.

CE 226. **Plane Surveying.** 3 hours fall or spring.
Theory, use, and adjustment of engineer's level and transit. One recitation; 2 three-hour periods field work.

CE 231. **Field Curves.** 3 hours winter.
Instruction and field work in simple curves and compound curves as related to railroads, highways, and canals. Prerequisite: CE 221. Two recitations; 1 three-hour period field work.

CE 232. **Curves and Earthwork.** 3 hours spring.
Instruction and field work in easement, and parabolic curves as related to railroads, highways, and canals; complete survey of a transportation line; reconnaissance, preliminary, and location surveys; estimates of quantities. Prerequisite: CE 231. One recitation; 2 three-hour periods field work.

UPPER-DIVISION COURSES

CE 311. **Fluid Mechanics.** 3 hours fall or winter.
Principles underlying the application of mechanics to compressible and incompressible fluids; laboratory measurements of pressure and flow of fluids in closed and open channels. Prerequisite: CE 212; Mth 203. Two recitations; 1 three-hour laboratory period. Professor Mockmore, Associate Professor Merryfield, Assistant Professor Wanless.

CE 312. **Advanced Hydraulics.** 3 hours winter.
Continuation of CE 311. Special hydraulic problems, including the laws of hydraulic similitude. Prerequisite: CE 311. One recitation; 2 two-hour laboratory periods. Professor Mockmore, Associate Professor Merryfield.

CE 313. **Hydraulic Machinery.** 3 hours spring.
Operation, characteristics, efficiency, theory, design, and installation of pumps and turbines; laboratory studies. Planned particularly for civil-engineering students. Prerequisite: CE 311. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 321. **Precise Surveying and Geodesy.** 3 hours fall.
Precise leveling, triangulation, base-line measurement, stellar and solar observations, aerial mapping. Prerequisite: CE 223. One recitation; 2 three-hour periods field work. Associate Professor Waterman.

CE 322. **Elementary Hydraulics.** 3 hours winter.
Principles underlying pressure and flow of water; laboratory measurements of flow through orifices, weirs, pipes, and open channels. Planned particularly for agricultural-engineering students. Prerequisite: Mth 103. Two recitations: 1 three-hour laboratory period. Professor Mockmore, Associate Professor Merryfield.

CE 331. **Navigation.** 3 hours spring.
Fundamental laws of navigation; longitude, latitude, spherical trigonometry; commercial fllight routes; flight instruments. Professor Griffith.

CE 333. **Roads and Pavements.** 4 hours spring.
Fundamental principles of location, construction, and maintenance of roads; materials used in road and street building. Professor Glenn.

AE 341. **Use of Explosives.** 2 hours winter.
Taught cooperatively by departments of Agricultural Engineering and Civil Engineering. The use of explosives, hand stump-pullers, horse stump-pullers; tractor and donkey engine for removing stumps, charpitting, stump burning, and chemical treatment; what is being done in other states; clearing, terracing, and leveling of lands. One recitation; 1 three-hour laboratory period. Professor Glenn.

CE 341. **Fluid Mechanics.** 3 hours fall or spring.
Similar to CE 311 for students in electrical and mechanical engineering. Prerequisite: CE 212 or ME 212; Mth 203. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 342. **Hydraulic Machinery.** 3 hours winter.
Application of the principles of hydraulics to the performance and design of pumps and turbines and the layout of pumping and power plants. Prerequisite: CE 311 or 341. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 351, 352. **Strength of Materials.** 3 hours each term, fall and winter.
General principles of mechanics applied to the elements of engineering structures to determine their strength and fitness; tensile and crushing strengths of various engineering materials; stresses in beams and girders under different systems of loading and support; supporting strength of columns; application of torsion to shafts. Prerequisite: CE 212 or ME 212; Mth 203. One recitation; 2 two-hour computing periods. Associate Professor Waterman.

CE 382. **Structural Analysis.** 4 hours fall or winter.
Graphical and algebraic analysis of statically determinate structures such as simple beams, cranes, roof and bridge trusses. Aeronautical-

option students study airplane drag and fuselage trusses. Prerequisite: CE 212 or ME 212. Two recitations; 2 two-hour laboratory periods. Professors Griffith, Holcomb, Glenn, Assistant Professor Wanless.

CE 383. **Reinforced Concrete.** 4 hours spring.
Study and design of the elements of reinforced concrete including beams, slabs, girders, and columns by various methods such as the transformed sections, graphical, and commercial short-cut methods. Prerequisite: CE 351, 382. Two recitations; 2 two-hour laboratory periods. Professors Griffith and Holcomb.

CE 401. **Research.** Terms and hours to be arranged.

CE 403. **Thesis.** Any term, hours to be arranged.
Elective on approval to undergraduates whose records indicate ability and initiative to complete special projects.

CE 405. **Reading and Conference.** Terms and hours to be arranged.
Readings or research with reports on special topics. Professor Mockmore.

CE 407. **Seminar.** 1 hour fall and winter.
Presentation of abstracts and discussion of articles in the current periodicals. Professor Mockmore.

CE 408. **Nomography.** 1 hour spring.
Study and application of the laws affecting the construction of nomographic charts and the derivation of equations by such devices. Graphical and mathematical methods are applied to three and four variable equations. One recitation. Professor Griffith.

CE 411. **Hydrology.** (G) 3 hours fall.
Precipitation, storage, and run-off; field studies in standard methods of measurement. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 412. **Sanitary Engineering.** (G) 3 hours fall.
Fundamental processes and operations of the conditioning of water as applied to water supply and sewage disposal. Prerequisite: CE 311. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 421. **Highway Engineering.** (g) 4 hours fall.
Highway and street design—theory of structural design for rigid slab and flexible type pavements; subgrade stabilization; drainage design; methods of construction and maintenance of various types of roads; cost data; study of modern highway research. Prerequisite: CE 333. Two recitations; 2 three-hour laboratory periods. Professor Glenn.

CE 422. **Highway Engineering.** (g) 3 hours winter.
Traffic surveys; methods of modern traffic control: signals, signs, zoning, intersection design, traffic routing, etc.; highway safety: accident records, characteristics of accident driver's, operator's qualifications, motor vehicle laws, pedestrian control. Prerequisite: CE 333. Two recitations; 1 three-hour laboratory period. Professor Glenn.

CE 425. **Economics of Highway Transportation.** (G) 3 hours spring.
Economics of highway planning—fundamentals in highway economics; cost, benefit, and revenue factors; motor vehicle operation costs; economic theory of highway development and extensions. Prerequisite: CE 333. Three recitations. Professor Glenn.

CE 426. **Highway Administration and Finance.** (G) 3 hours spring.
Development of highway systems; organization of state and national highways; principles of highway finance; Federal aid; technical functions of various highway units. Prerequisite: CE 333. Professor Glenn.

CE 427. **Contracts and Specifications.** (g) 3 hours spring.
General principles and laws of contracts as applied to engineering. Assistant Professor Wanless.

CE 438. **Municipal Engineering and City Planning.** (G) 3 hours spring.
Modern city streets, boulevards, and transportation systems; drainage and sanitation; water supply; lighting. Professor Glenn.

CE 451. **Water-Power Engineering.** (G) 3 hours any term.
Development of water power; storage and load; characteristics of modern turbines; selection of turbines; practical problems in design. Prerequisite: CE 313, or 342. One recitation; 2 three-hour laboratory periods. Professor Mockmore.

CE 452. **Water Supply.** (G) 3 hours any term.
Quality and quantity of water necessary for a municipal supply and of works for its collection, purification, and distribution. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 454. **Sewage Disposal.** (G) 3 hours spring.
The several processes for the disposal and treatment of sewage: problems and considerations encountered in the design and operation of sewage-treatment plants. Prerequisite: CE 311. Two recitations; 1 three-hour laboratory period. Associate Professor Merryfield.

CE 460. **Estimating and Cost Analysis.** (g) 3 hours spring.
Procedure in quantity surveying; general and detailed considerations in establishing unit prices; subcontracts, overhead cost and profit; methods of preparing estimates in construction. Two recitations; 1 three-hour laboratory period. Professor Mockmore.

CE 472. **Masonry and Foundations.** (g) 4 hours winter.
Study and design of masonry foundations, walls, piers, dams, and arches. Prerequisite: CE 383. Two recitations; 2 three-hour laboratory periods. Associate Professor Waterman.

CE 481. **Structural Engineering.** (g) 4 hours fall.
Study and design of elements of riveted steel including members in tension, compression, and in flexure, with their connections; consideration to the design and detail of riveted-steel structures such as industrial roof trusses, and plate-girder bridges. Prerequisite: CE 351, 382. Two recitations; 2 three-hour laboratory periods. Professor Griffith.

CE 482. **Structural Design.** (g) 4 hours winter.
Study and design of timber members in tension, compression, and flexure, with their connections; consideration to the design and details

of simple timber structures such as roof and bridge trusses. Prerequisite: CE 351, 382. Two recitations; 2 three-hour laboratory periods. Professor Griffith.

CE 483. **Building Design.** (G) 4 hours spring.
Study and design of building elements constructed of welded steel and reinforced-brick masonry; methods of such fabrication and construction. Prerequisite: CE 472, 481. Two recitations; 2 three-hour laboratory periods. Professor Griffith.

CE 485. **Structural Analysis.** (G) 3 hours winter.
Study and stress analysis of statically indeterminate structures such as continuous beams and rigid frames; mechanical and algebraic methods of analysis. Prerequisite: CE 382. One recitation; 2 three-hour laboratory periods. Professor Griffith.

CE 486. **Stress Analysis.** (G) 3 hours spring.
Elastic deflections and methods of analysis of statically indeterminate stresses. Prerequisite: CE 382. Two recitations; 1 three-hour laboratory period. Professor Mockmore.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

CE 501. **Research.** Terms and hours to be arranged.

CE 503. **Thesis.** Terms and hours to be arranged.

CE 505. **Reading and Conference.** Terms and hours to be arranged.

CE 507. **Seminar.** Terms and hours to be arranged.

Electrical Engineering

THE curriculum is designed to train the young engineer in the fundamental principles of electrical engineering. Both electrical theory and practice are presented by means of lectures, recitations, laboratory courses, and inspection trips. Experience with actual conditions can be acquired only in the field during vacation and after graduation. For this reason, and in order to afford mutual contact between the student and the men in his profession, the student is urged to spend his vacation periods in some phase of electrical industry.

As noted on pages 296-297, the work in the senior year is divided into the Power, Communication, and Business options. The student selects the program in which his interests lie.

The Power Option includes courses dealing with machines and electronic devices for generating, transmitting, distributing, and utilizing electrical energy. Emphasis is placed on the technical problems involved in high-voltage transmission.

The Communication Option provides courses for the students whose interests are in the field of wire communication, radio, sound reproduction,

television, and related work. Instruction is available to seniors particularly interested in radio broadcasting to enable them to qualify for a government license.

The Business Option offers courses in business administration and law for those students whose interests lie in the field of management rather than in the more technical fields.

Equipment. The electrical-engineering laboratories are located in Apperson Hall. Laboratory equipment is available for demonstrating and verifying the fundamental electrical principles and theory and also for original research in some of the important fields. This equipment is located in the electric-power, communications, electrical-measurements, high-voltage, standardizing, and battery laboratories.

The power laboratory is equipped with alternating and direct-current machinery and electronic power apparatus.

The communications laboratory is well provided with equipment for making studies involving currents, voltages, and frequencies of the magnitudes used in both wire and wireless communication; for studying radio and television apparatus, electronic devices, electroacoustic equipment, and similar apparatus. Standardized oscillators and measuring equipment are available for studying frequencies from 20 to 50,000,000 cycles per second. The facilities of Radio Station KOAC, including the 1,000-watt Western Electric transmitter, and the extensive sound-amplifying equipment of the State College group-address systems are also available for instructional and experimental purposes.

The measurements laboratory has adequate facilities designed for laboratory work on basic electrical theory during the sophomore year.

The high-voltage laboratory is equipped with apparatus for 60-cycle potentials up to 200,000 volts and impulse or "lightning" voltage waves of adjustable shape and magnitude up to 600,000 volts. This laboratory is also provided with a high-voltage Dufour cathode-ray oscillograph, sphere gap voltmeters, surge-voltage recorders, high-voltage rectifiers, and other apparatus necessary for the usual high-voltage tests.

The standardizing laboratory is provided with instruments for the precise measurement of potential, current, and power over wide ranges and for the standardization and calibration of electrical measuring instruments and meters.

The battery laboratory contains both lead-acid and alkaline storage batteries and charging equipment for maintenance and testing.

Oscillographs and oscilloscopes of the Duddell type and also of the high-voltage and low-voltage cathode-ray types are available for the study of transients and other phenomena in any of the laboratories.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

EE 201, 202, 203. **Introduction to Electrical Engineering.** 4 hours each term.

Fundamental electrical phenomena; their application to electrical engineering. One lecture; 2 two-hour computation periods; 1 three-hour laboratory period.

UPPER-DIVISION COURSES

EE 311, 312, 313. **Electrical Engineering.** 3 hours each term.
The electric circuit; direct- and alternating-current machines, their theory and characteristics. Professor Wooster.

EE 321, 322, 323. **Electrical Engineering Laboratory.** 3 hours each term.
A laboratory course coordinated with EE 311, 312, 313. One lecture; 1 three-hour laboratory period. Professor Starr.

EE 351, 352, 353. **Industrial Electricity.** 3 hours each term.
Fundamental electrical principles and electrical equipment emphasizing the applications to industry. Prerequisite: Junior Certificate. Two recitations; 1 three-hour laboratory period. Professor Wooster, Assistant Professor Everest, Graduate Assistant Wells.

EE 355. **Electricity in Aeronautics.** 3 hours winter.
Fundamentals of electrical engineering as applied to aircraft and aerial navigation. Special attention to instruments; circuits; starting, lighting, and ignition systems. Prerequisite: Junior Certificate. Two recitations; 1 three-hour laboratory period. Assistant Professor Everest.

EE 356. **Airway Communication Systems.** 3 hours spring.
Systems of electrical communication used in air transportation. Prerequisite: Junior Certificate. Two recitations; 1 three-hour laboratory period. Professor Albert, Assistant Professor Everest.

EE 401. **Research.** Terms and hours to be arranged.

EE 403. **Thesis.** 3 hours each term.
Elective on approval for undergraduates whose records indicate ability to initiate and complete special projects.

EE 405. **Reading and Conference.** Terms and hours to be arranged.

EE 407. **Seminar.** 1 hour each term.
Presentation of abstracts and discussion of articles in the current electrical periodicals. One two-hour period. Professor McMillan.

EE 411, 412, 413. **Electrical Engineering.** (g) 3 hours each term.
Analysis of electric-power generation, transmission, and distribution with special reference to economic and financial problems. Professor Dearborn.

EE 414, 415, 416. **Electrical Design.** (g) 1 hour each term.
Design and computations supplementary to EE 411, 412, 413. One three-hour computation period. Associate Professor Nichols.

EE 421, 422, 423. **Electrical Engineering Laboratory.** (G) 3 hours each term.
A study of direct- and alternating-current machinery and electronic power apparatus to determine the fundamental characteristics and coordinate them with theory including generation, regulation, conversion, rectification, and control of alternating currents. One lecture; 1 three-hour laboratory period. Professor Starr.

EE 431, 432. **Illumination.** (G) 3 hours each term, winter and spring.
Light sources and their application to exterior and interior illumination. One lecture; three recitations. Professor Wooster.

EE 442. **Electrical Transportation.** (g) 3 hours winter.
Application of electricity to street and interurban railways; traffic conditions; rolling stock; speed time curves. Assistant Professor Cockerline.

EE 443. **Railway Electrification.** (g) 3 hours spring.
Factors governing the electrification of trunk lines. Assistant Professor Cockerline.

EE 451. **Electrical Transients.** (G) 3 hours fall.
A theoretical and experimental study of both direct- and alternating-current single-energy and double-energy transients in circuits and machines having both fixed and variable circuit constants. Two lectures; 1 four-hour laboratory period. Professor McMillan.

EE 452, 453. **High-Voltage Engineering.** (G) 3 hours each term, winter and spring.
Experimental investigation and study of dielectric phenomena in high-voltage engineering. Special attention to the electric field, the ionization and conduction of electricity through gases, corona problems encountered in high-voltage power transmission, and the characteristics of liquid and solid dielectrics. Two lectures; 1 four-hour laboratory period. Professor McMillan.

EE 455. **Electrical Characteristics of Transmission Circuits.** (G) 3 hours winter.
Transmission theory; electrical characteristics of transmission lines and electrical networks. Two lectures; 1 three-hour laboratory period. Professors McMillan and Starr.

EE 461, 462, 463. **Communication Engineering.** (G) 3 hours each term.
Fundamental theory of electrical communication; commercial telephone, telegraph, radio, and television systems. Special attention to communication instruments and measurements; design of equipment; long-line transmission theory, networks, and wave filters. Two lectures; 1 three-hour laboratory period. Professor Albert.

EE 464, 465. **Vacuum Tubes and Circuits.** (G) 3 hours each term, fall and winter.
Thermionic vacuum tubes, phototubes, and other electronic devices; their uses in electrical circuits. Two lectures; 1 three-hour laboratory period. Professor Albert.

EE 466. **Engineering of Sound Systems.** (G) 3 hours spring.
Microphones, amplifiers, loud speakers, and other similar apparatus; engineering problems involved in the design, installation, and operation of sound systems. Two lectures; 1 three-hour laboratory period. Professor Albert.

EE 467. **Radio Engineering.** (G) 3 hours spring.
Transmission and reception of radio and television signals, including the design of transmitters, antennas, and associated equipment. Prerequisite: EE 313, 462, 465. Two lectures; 1 three-hour laboratory and computation period. Assistant Professor Everest.

EE 473. **Electrical Problems.** (G) 3 hours spring.
Advanced problems in electrical engineering, unbalanced circuits, symmetrical components, and equivalent networks. Professor Wooster.

EE 481, 482, 483. **Radio Engineering Practices.** 1 hour each term.
Engineering and operating practices employed in modern radio broadcasting. Radio Station KOAC, employing a 1,000-watt transmitter operating on 550 kc., is used as a practical laboratory, and the instruction is given by the engineer-in-charge. Prepares for the examination that must be passed to obtain the first-class radio-telephone operator's license issued by the Federal Communications Commission. Open to seniors in electrical engineering, and to others with adequate preparation. One lecture; 1 two-hour laboratory period. Assistant Professor Feikert.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

EE 501. **Research.** Terms and hours to be arranged.

EE 503. **Thesis.** Terms and hours to be arranged.

EE 505. **Reading and Conference.** Terms and hours to be arranged.

EE 507. **Seminar.** Terms and hours to be arranged.

Mechanical Engineering

THE curriculum in mechanical engineering is planned to prepare young men for useful and responsible positions in power plants, various manufacturing enterprises, oil refineries, the metal industries, heating and ventilating, refrigerating, air conditioning, and in the automotive and aeronautical industries.

Equipment. The department has drafting and computing rooms supplied with the necessary desks, boards, and lockers. The laboratories are equipped for tests and demonstrations in steam, gas, and aeronautical engineering, and on engineering materials. This equipment is located in the Engineering Laboratory, Mines Building, and the old power house.

The steam laboratory contains two turbines and four engines of different types, installed in such a way that complete tests for economy and efficiency can be made. Other steam engines, permanently installed, are used for the more elementary work. A horizontal water-tube boiler furnishes the steam for laboratory purposes and for heating the building, and is provided with the necessary facilities for testing. The college heating plant, consisting of three 5,000-square-foot boilers and necessary auxiliaries, is also provided with testing facilities.

A special laboratory has been equipped for tests on domestic heating, ventilating, and air-conditioning apparatus. Several small boilers fired by oil burner, coal stoker, and sawdust burner have been provided and fitted for experimental tests and research. A gas-fired air-conditioning unit is also available.

The internal-combustion engine laboratory contains gas and gasoline engines, two semi-Diesels, a full Diesel connected to generator, a four-cylinder 120-horsepower two-stroke-cycle oil engine, both fully equipped for testing, a 100-horsepower Sprague electric dynamometer, and automobile engines installed with necessary facilities for complete tests for economy and efficiency. Several other gasoline engines are available for the more elementary work, together with the usual accessories, auxiliaries, and instruments for testing and analysis of tests; also a standard ASTM-CFR fuel test unit equipped for both gasoline and Diesel oil rating.

The aeronautical laboratory includes a selection of modern aircraft engines, both air and water cooled; a complete airplane of the Navy fighter type; and numerous wing panels, tail surfaces, instruments, and miscellaneous airplane parts. A small water channel for the study of fluid flow is also available.

Approximately 14,000 square feet of floor space is devoted to engineering materials affording separate laboratories for structural materials, cement and concrete, bituminous and nonbituminous highway materials, soil mechanics, photoelasticity, oils, fuels, and the microscopic examination, radiography, spectrum analysis, and heat treatment of metals. The equipment is modern and is well arranged for the work of instruction and research.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

ME 211. **Descriptive Geometry.** 3 hours fall.
Theory and problems on the projection of points, lines, surfaces, and solids. The work is made as practical as possible so as to reveal to the student its value in solving drafting-room problems. Prerequisite: GE 111, 112. One recitation; 2 three-hour drawing periods. Professor Phillips, Assistant Professor Willey.

ME 212. **Mechanics (Statics).** 3 hours fall or winter.
Forces and force systems with reference to the equilibrium of rigid bodies; simple framed structures; methods of finding centers of gravity and moments of inertia and their practical applications: numerous problems having engineering application. Prerequisite: differential calculus. Two recitations; 1 two-hour computing period. Professor Thomas, Associate Professor Othus, Mr. Hughes, Mr. Palmerlee.

ME 213. **Mechanics (Dynamics).** 3 hours winter or spring.
Continuation of ME 212. Principles and problems in kinetics; force as a factor causing motion; work, energy, friction, and impact studied and illustrated by means of numerous problems. Prerequisite: ME 212. Two recitations; 1 two-hour computing period. Professor Thomas, Associate Professor Othus, Mr. Hughes, Mr. Palmerlee.

UPPER-DIVISION COURSES

ME 311. **Strength of Materials.** 3 hours winter.
General principles of mechanics applied to the elements of engineering structures to determine their strength and fitness; tensile and crushing strength of various engineering materials; stresses in beams and girders under different systems of loading and support; supporting strength of columns; application of torsion to shafts in transmis-

sion of power. Prerequisite: ME 212. Two recitations; 1 two-hour computing period. Professor Thomas, Mr. Palmerlee.

ME 312. **Mechanism.** 3 hours winter.
Mechanical movements; velocity ratios; transmission of motion by link works; gearing, cams, and belting. One recitation; 2 three-hour laboratory periods. Professor Phillips, Assistant Professor Willey.

ME 314, 315. **Strength of Materials.** 3 hours fall and winter.
Course content similar to ME 311 with the addition of stresses in curved beams, impact stresses, eccentric loading, and theories of failure. Prerequisite: ME 213. Two recitations; 1 two-hour computing period. Professor Thomas, Associate Professor Othus, Mr. Palmerlee.

ME 316. **Materials of Engineering.** 3 hours any term.
Materials of engineering construction with special references to the methods and specifications adopted by the American Society for Testing Materials and other national engineering organizations. One lecture; 1 three-hour laboratory period. Professor Thomas, Mr. Palmerlee, Mr. Dolan, Mr. Popovich.

ME 321, 322, 323. **Heat Engineering.** 4 hours each term.
Combustion and boilers; thermodynamic processes involved in the transformation of heat energy into work; steam cycles; gas laws; air-compressor cycle; gas and vapor mixtures; internal-combustion engine cycles; steam turbines; refrigeration cycle; and problems involving special applications of thermodynamic principles. Prerequisite: Mth 202; Ph 113; Ch 103. Three recitations; 1 three-hour problem or laboratory period. Professor Martin, Associate Professor Paul, Mr. Hughes.

ME 325. **Fuels and Lubricants.** 3 hours spring.
Preparation and processing of solid and liquid fuels; refining of petroleum for production of motor fuels and lubricants; calorimeter and other standard tests on fuels, including octane and cetane rating on gasoline and Diesel oil; tests on bearings and lubricants. Prerequisite: ME 321, 322. Two lectures; 1 three-hour laboratory period. Associate Professor Paul, Mr. Popovich.

ME 331, 332. **Heat Power Engineering.** 3 hours each term, fall and winter.
Brief descriptive survey of the heat power plant and principal auxiliaries; physical properties and laws of gases; application to the air compressor, air motor, automobile engine, and Diesel engine; introduction to study of vapors; use of steam tables, humidity, steam cycles; a flow sheet for a modern central station sketched; function of each piece of equipment; fuels; combustion; evolution of the boiler furnace; types and characteristics of boilers; furnace and boiler efficiency; superheaters; economizers; air pre-heaters; feed water heaters; condensers; heat transfer; flow of gases and vapors; steam turbines; power-plant piping. Prerequisite: Mth 202, Ph 113. Two recitations; 1 three-hour computation or laboratory period. Mr. Hughes.

ME 342. **Aerodynamics.** 3 hours winter.
Elementary aerodynamic theory and phenomena; characteristics of airfoils and airfoil combinations; factors affecting stability, control, and performance. Prerequisite: junior standing. Professor Ruffner.

ME 343. **Aeropropulsion.** 3 hours spring.
Screw propeller theories; factors influencing selection of engines, pro-

pellers, and power-plant accessories for specific airplane; power-plant installation. Prerequisite: ME 342. Two recitations; 1 three-hour laboratory period. Professor Ruffner.

ME 346. **Steam, Air, and Gas Power.** 3 hours spring.
Elementary principles of thermodynamics; properties of steam; fuels and their combustion; boilers; and auxiliaries. Prerequisite: GE 101, 102; Mth 202. Two recitations; 1 three-hour computation or laboratory-demonstration period. Mr. Hughes.

ME 351, 352, 353. **Mechanical Laboratory.** 2 hours each term.
Basic sequence in machine testing. Proper application of instruments such as gages, engine indicators, planimeters, calorimeters, gas analyzers, flow meters, and dynamometers; tests of common machines and the interpretation of test results; preparation of the usual types of engineering reports. Must be taken parallel to ME 321, 322, 323. One recitation; 1 three-hour laboratory period. Mr. Hughes, Mr. Palmerlee.

ME 363. **Refrigeration and Cold Storage.** 3 hours spring.
Principles and practice of refrigeration and cold storage. An elementary course specially planned to meet the needs of students in dairy manufacturing, horticulture, food industries, and other industries that use refrigeration. Prerequisite: algebra and elementary physics. Two recitations; 1 three-hour computation or laboratory period. Professor Martin.

ME 401. **Research.** Terms and hours to be arranged.

ME 403. **Thesis.** 3 hours any term.
Elective on approval for undergraduates whose records indicate ability and initiative to complete special projects.

ME 405. **Reading and Conference.** Terms and hours to be arranged.
Readings or research, with reports, on special topics.

ME 407. **Seminar.** 1 hour spring.
Practice in effective writing and speaking on engineering and allied subjects. New developments in mechanical engineering. The work supplements that of the prescribed courses. Professor Graf.

ME 411, 412, 413. **Machine Design.** (g) 3 hours each term.
Application of the principles of mechanism, mechanics, and strength of materials to design of machine elements; problems involving riveted joints; screws; shafts and shafting; belt and rope drive; pulleys; gearing; bearings; machine frames; analysis of force and energy problems; fly-wheels; engine balancing; dynamic loads; vibrations; computations and drawings necessary to the design of one or more complete machines. Prerequisite: ME 315. One recitation; 2 three-hour design periods. Associate Professor Othus.

ME 414. **Highway Materials Laboratory.** (g) 3 hours fall.
Particularly for students specializing in highway engineering. Different road and paving materials and binders tested and their relative values determined; sheet-asphalt mixtures and bituminous mortars studied to determine the effects of various changes in the grading of the aggregates; samples of various types of roads and pavements analyzed for density, composition, and grading, with special reference to their conformity with specifications. One lecture; 1 four-hour laboratory period. Professor Thomas.

ME 415. **Structural Materials Laboratory.** (g) 3 hours winter.
Plain and reinforced concrete beams and columns; methods of reinforcing; design of concrete mixtures; stress distribution under unsymmetrical loads; riveted and welded joints; thermal conductivity of concrete; stresses in structures by strain gage. Prerequisite: ME 316. One lecture; 1 four-hour laboratory period. Professor Thomas.

ME 416. **Stress Analysis.** (G) 3 hours fall.
Designed to give a working knowledge of methods of solving problems in strength of materials which the usual methods of analysis will not satisfy. Emphasis on localized stresses and statically indeterminate conditions. Prerequisite: ME 315. Professor Ruffner. Mr. Palmerlee.

ME 417, 418. **Photoelasticity.** (G) 3 hours each term, winter and spring.
Experimental determination of stresses in components of mechanisms and structures by use of photoelastic methods; theory and operation of apparatus with laboratory exercises to illustrate. Prerequisite: ME 316, 416. One lecture, 1 four-hour laboratory period. Professor Ruffner, Mr. Palmerlee.

ME 419. **Soil Mechanics.** (g) 3 hours spring.
Evaluation and utilization of soil materials for engineering applications, with special reference to highway subgrades, earth-dam construction, and foundation support. Prerequisite: ME 316, CE 351, ME 311 or 314. One lecture, 1 four-hour laboratory period. Professors Graf and Thomas.

ME 421. **Modern Materials.** (G) 3 hours fall.
Late developments in engineering materials by critical reviews of recent and current literature; light and other special alloys; welding; surface processing for hardness, corrosion resistance, and appearance; endurance limits and creep; heat treating and fabrication; special properities and their applications in design. Prerequisite: ME 311, or 314, 316. Professor Graf, Mr. Palmerlee.

ME 422. **Gas Technology.** (G) 3 hours winter.
Manufactured and natural gas production, transmission, and distribution; industrial applications; problems of the industry including some reference to rate making and regulation. Prerequisite: ME 323. Professor Graf.

ME 431, 432. **Power-Plant Engineering.** (g) 3 hours each term, fall and winter.
Performance of steam and internal-combustion engine power plants from the design standpoint; heat transfer in engineering apparatus; selection of equipment to secure proper unification and efficient operation as well as economic balance. Prerequisite: ME 323. Two recitations; 1 three-hour problem or design period. Professor Martin.

ME 441, 442, 443. **Airplane Design.** (g) 3 hours each term.
Design of airplanes for specific duties; estimation of weights, balance, stability, and performance; computation of loadings and design of major structural parts. Prerequisite: ME 342. One recitation; 2 three-hour laboratory periods. Professor Ruffner.

ME 446. **Advanced Aerodynamics.** (G) 3 hours spring.
Fundamental theory of fluid flow, infinite and finite wing theory as developed by Kutta-Joukowski, Prandtl, and others. Prerequisite: ME 342. Professor Ruffner.

ME 451, 452. **Mechanical Laboratory.** (g) 2 hours each term, fall and winter.
Testing of steam turbines, heating and ventilating equipment, a complete boiler plant, and internal-combustion engines; fundamentals of boiler-water treatment and control; calculation and analysis of test results; preparation of reports. Prerequisite: ME 353. One four-hour laboratory period. Professor Martin, Mr. Hughes, Mr. Popovich.

ME 453. **Mechanical Laboratory.** (g) 2 hours spring.
Special problems selected on basis of interest of student and equipment available. Prerequisite: ME 452. Periods arranged according to project. Professor Martin, Mr. Hughes.

ME 456, 457. **Aeronautical Laboratory.** (g) 2 hours each term, fall and winter.
Visual studies of flow about wings, fuselages, and other bodies; calibration of aeronautical instruments; aerodynamic and structural tests of airplane parts; elements of wind tunnel testing. Prerequisite: ME 342, 353. One four-hour laboratory period. Professor Ruffner.

ME 461. **Heating and Air Conditioning.** (G) 3 hours spring.
Modern methods of heating, ventilating, and air conditioning; approved systems of heating by means of air, steam, and hot water; methods of computing radiating surface; effective methods of ventilation; general design, construction, and operation of heating and air-conditioning plants. Prerequisite: ME 323. One recitation; 2 three-hour laboratory periods. Professor Phillips.

ME 462. **Refrigeration.** (G) 3 hours spring.
Thermodynamics of refrigeration; systems in use and principal characteristics of each; fundamentals of design; principal applications with special reference to the industries of the Northwest. Prerequisite: ME 323. Two recitations; 1 three-hour laboratory period. Professor Martin.

ME 473. **Industrial Engineering.** (G) 3 hours spring.
Especially arranged for engineering students. Various industrial organization systems and their methods of operation, including apprenticeship courses, labor problems, and process work; problems of engineering contracts and specifications; engineering phraseology; modern legal standards. Professor Graf, Mr. Palmerlee.

ME 476. **Industrial Instrumentation.** (G) 3 hours spring.
Basic principles of apparatus for measurement, or both measurement and control of pressure, temperature, speed, process duration, dimensional tolerances, fluid flow, liquid level, moisture content, gas composition, and solution concentration; instruments demonstrated and specific industrial applications discussed. Prerequisite: ME 421, 422, 452, or equivalent. Lecture and demonstration. Professor Graf.

ME 481. **Metallography and Pyrometry.** (G) 3 hours fall or winter.
Designed to give a working knowledge of the methods of study of structure of metals and alloys. Correlation of thermal and mechanical treatment with structure and physical properties of iron and steel; calibration and use of various types of pyrometers; heat treatment; preparation of specimens; etching; studying structure under the microscope; making photomicrographs; physical tests, whenever possible, to show the effects on strength, ductility, hardness, or other mechanical properties of the different thermal treatments or other industrial processes. Prerequisite: ME 316. One lecture; 1 four-hour laboratory period. Professor Graf, Mr. Popovich.

ME 482. **Metallography.** (G) 3 hours spring.
Alloy equilibrium diagrams; preparation of difficult specimens; high-power photomicrography; correlation of thermal, electrical, and magnetic properties of iron and some of its alloys with micro-structure; dilatometry as related to heat-treatment; structure and treatment of special steels and other alloys; metal radiography. Prerequisite: ME 481. One lecture; 1 four-hour laboratory period. Professor Graf.

ME 491, 492, 493. **Automotive Engineering.** (G) 3 hours each term.
Fall: correlation of fuel and lubricant characteristics with engine performance; fuel induction systems, interpretation of exhaust gas analyses, and power-plant testing. Winter: automobile body and chassis engineering; tractive resistance. Spring: fleet operation, maintenance, and economics. Prerequisite: ME 321, 322, 323. Two lectures; 1 three-hour laboratory or problem period. Associate Professor Paul.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

ME 501. **Research.** Terms and hours to be arranged.
Problems may involve assembling and correlating existing data on some specific subject; design; analysis of experimental data; or research. Detailed written reports. Graduate Staff.

ME 503. **Thesis.** Terms and hours to be arranged.
Graduate Staff.

ME 505. **Reading and Conference.** Terms and hours to be arranged.
Readings or research, with reports, on special topics. Graduate Staff.

ME 507. **Seminar.** 1 hour each term.
Discussion of research problems and projects of the Engineering Experiment Station; critical reviews of developments in the fields of science and technology. Professor Graf.

C. A. A. Civilian Pilot Training

The course of study prescribed by the Civil Aeronautics Authority for the flight training program authorized by the Civilian Pilot Training Act of 1939 is restricted to students of sophomore rank or above and requires approval of the Director of Civilian Pilot Training, successfully passing the prescribed physical examination, and payment of a special fee of $40.00. Work consists of scheduled

ground school instruction given on the campus, and flying lessons given at a nearby airport. The course leads to the Pilot Certificate of Competency.

CA 241, 242, 243. **Civilian Pilot Training.** 2 hours each term.
History of aviation; civil air regulations; navigation; meteorology; parachutes; aircraft and theory of flight; engines; instruments; radio uses and forms; individual flying instruction. Professor Ruffner in charge.

Mining Engineering

MINING engineering courses provide instruction in those principles of engineering technology that are basic and common to the fields of ore excavation (mining), ore dressing (beneficiation), and smelting (metal production)—the whole field, in fact, of the mineral industry. The courses in metallurgy and mining engineering are service courses open to all students properly qualified. As a result of the action of the State Board of Higher Education in 1932, no degree is offered in mining engineering. Not all of these courses are offered in any one year. Those offered in the current year are so designated in the descriptions of courses.

Equipment. The department has lecture rooms, laboratories, and offices in the Mines Building. The assaying and metallurgical laboratories are completely equipped with the necessary apparatus for efficiently conducting experimental metallurgical operations, crushing, and grinding. Ore-dressing laboratories affording modern metallurgical testing equipment are located in the basement. Adequate class and drafting-room facilities are available in this building.

Courses in scientific and economic geology are taught in the Department of Geology, as described under SCHOOL OF SCIENCE.

COURSES IN METALLURGY

LOWER-DIVISION COURSE

Met 263. **Assaying.** 3 hours spring.
Commercial methods of wet and dry assay ores, metallurgical products. Prerequisite: Ch 233 or equivalent. One recitation; 2 three-hour laboratory periods.

UPPER-DIVISION COURSES

Met 461. **General Metallurgy.** (g) 3 hours fall.
Properties of metals, alloys, fuels, refractories; pyrometallurgy, hydrometallurgy, electrometallurgy; general operations. Prerequisite: Ch 233 or equivalent.

Met 462. **Metallurgy of the Base and Precious Metals.** (g) 4 hours winter.
Metallurgy of gold, silver, copper, lead, and zinc; iron and steel. Prerequisite: Met 461.

Met 471, 472. **Fire Assaying.** (g) 2 hours each term, fall and winter.
Testing reagents; sampling ores; fire assay methods for precious and base metals; bullion assays. Prerequisite: Ch 233 or equivalent. Two three-hour laboratory periods. Offered 1940-41. Professor Batcheller.

Met 481, 482, 483. **Ore Dressing.** (g) 3 hours each term.
The principles of crushing and concentrating ore minerals; various treatment processes. Prerequisite to Met 481, 482; G 201, 202, 203, or their equivalent. Prerequisite to Met 483: Met 482, Ch 233, 340. Three recitations first two terms; 2 recitations, 1 three-hour laboratory period third term. Met 481, 482 offered 1940-41. Professor Batcheller.

Met 491, 492. **Ore-Dressing Laboratory.** (g) 3 hours each term, fall and winter.
Laboratory work in connection with Met 481, 482. Prerequisite: Met 471, 472, 481, 482. One seminar period; 4 two-hour laboratory periods.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

COURSES IN MINING ENGINEERING

LOWER-DIVISION COURSES

MiE 141, 142. **Mineral Industry Survey.** ½ hour each term, winter and spring.
Engineering problems an integral part of a general survey of our mineral resources.

MiE 243. **Excavation, Explosives, and Blasting.** 3 hours spring.
Special methods of surface excavations.

UPPER-DIVISION COURSES

MiE 405. **Reading and Conference.** (g) Terms and hours to be arranged.
Readings and reports on special topics. Offered 1940-41. Professor Batcheller.

MiE 407. **Seminar.** (g) 1 hour each term.
Discussion of current problems, practices, developments, trends.

MiE 433. **Mining Machinery, General Mining Operations.** (g) 3 hours spring.
Machinery and equipment required in mining operations; their application to specific field uses. Students should consult with the department before registering. Prerequisite: GE 111, 112, 113. Offered 1940-41. Professor Batcheller.

MiE 441. **Mining Methods.** (g) 4 hours fall.
General considerations involved in choice of methods used to develop and mine mineral deposits. Prerequisite: GE 111, 112, 113.

MiE 442, 443. **Mining Engineering.** (g) 3 hours each term, winter and spring.
Continuation of MiE 441 with reference to correlation of various operations involved, ventilation, transportation, drainage, power-plant design, mining law; problem analysis. Prerequisite: MiE 441 or equivalent. Three recitations winter term; one lecture, 2 three-hour laboratory periods spring term.

MiE 453. **Mine Surveying.** (g) 3 hours spring.
Surveying problems met with in mining-engineering practice; determination of true meridian; two weeks of field work at end of term in actual mining-survey work. Prerequisite: CE 221, GE 111, 112, 113. Two recitations; 1 three-hour laboratory period. Offered 1940-41. Professor Batcheller.

MiE 461. **Mine Economics and Mining Law.** (g) 3 hours fall.
Mining costs and legal phases. Students should consult with the department before registering.

MiE 462. **Mine and Power Equipment.** (g) 3 hours winter.
Mining machinery, power installation, their correlation. Students should consult with the department before registering. Prerequisite: MiE 433.

MiE 463. **Mine-Plant Design.** (g) 2 hours spring.
Advanced problem study. Students should consult with the department before registering. Prerequisite: MiE 433, 442. Two three-hour laboratory periods.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Industrial Arts

INDUSTRIAL-arts education aims to aid in the promotion of industry by providing technical training for those who plan to follow industrial careers and for those who expect to teach industrial-arts subjects. In meeting these aims and purposes, the work of the department falls under three main divisions of training:

(1) Industrial-Arts Education: Preparing teachers of industrial subjects.
  (a) Industrial-arts teachers in secondary schools.
  (b) Trade and industrial instructors.
(2) Industrial Administration: Preparing for service as junior executives in industry.
  (a) Technical operations, sales, and service.
  (b) Production management.
(3) Service courses in shop work for engineering students.

Training in technical operations and the technology of industrial processes is fundamental in all three fields and forms the main part of the work of the first two years in groups (1) and (2) above. Each of these two fields of major choice offers a great number of specific objectives through different avenues of training.

The **Curriculum in Industrial-Arts Education** (pages 298-299) is designed to give the type of training required for successful teaching in the public schools and for entrance into college teaching. The work of the last two years is given over mainly to the science and philosophy of education and to applied principles of pedagogy. These courses are based upon and interpreted through the technical background formed during the first two

years. While a strong motivating thread of technical training is present throughout the four-year curriculum, during the junior and senior years notable opportunity is provided for election of both technical and nontechnical subjects that will meet needs of students following different avenues of training. At least one minor norm must be elected in another field.

The **Curriculum in Industrial Administration** (page 300) is based on a combination of instruction in the fundamental manufacturing processes and the principles of business administration. Specialization during the junior and senior years involves further study of industrial organization and management, labor problems, cost accounting, and production control. This curriculum is designed to meet the increasing demand for workers in industry who are trained in the basic sciences and in the fundamentals of industrial organization and management, and who through their knowledge of technical and industrial operations can work more quickly and efficiently into junior executive positions. Provision is made for election of both technical and nontechnical subjects that will meet the needs of individual students.

Facilities. The Department of Industrial Arts is housed in the Industrial Arts Building and the Foundry. Both are modern, well-lighted structures, with a combined floor space of approximately twenty-five thousand square feet. The principal subdepartments include Drafting, Woodwork and Furniture Construction, Millwork in Wood, Wood and Metal Finishing, Pattern Making, Foundry, Forging and Welding, Machine Shop, and Sheet Metal. Each of these subdepartments is provided with individual shops of ample size and is equipped along modern and approved lines. In addition the facilities and equipment of other departments, such as Art and Architecture, Agricultural Engineering (Farm and Automobile Mechanics), Technical Forestry, Mechanical Engineering, the School of Science, and the Corvallis Public Schools contribute toward the enrichment of curricular opportunities for industrial-arts students. The supervised teaching for those majoring in industrial-arts education is done in the Corvallis Public Schools. The program for the last two years of work is administered jointly with the Department of Industrial Education (see SCHOOL OF EDUCATION).

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

IA 111. **Pattern Making.** 3 hours fall.
Fundamentals of pattern making; relation of pattern making to drafting, design, foundry and machine-shop operation. One lecture; 6 laboratory hour-periods.

IA 112, 113. **Methods in Woodworking.** 3 hours each term, winter and spring.
Woodworking, with special reference to tool technique, applied design, and craftsmanship in new and individual projects. Primarily an elementary course, with incidental reference to course outlines and methods of teaching, illustrated by the technique used. Prerequisite: IA 111 or approval of the department. One lecture; 6 laboratory hour-periods.

IA 141. **Foundry Practice.** 3 hours fall.
Constitution, properties, and design limitations of castings in gray iron, malleable iron, and steel; methods used in the production of castings. One lecture; 2 three-hour laboratory periods.

IA 152. **Forging and Welding.** 3 hours winter.
Bending, shaping, upsetting, and welding of iron; hardening and tempering steel; brazing; elementary acetylene and electric welding; suggestions for care of equipment and for organization of instructional materials. One lecture; 2 three-hour laboratory periods.

IA 163. **Machine Shop.** 3 hours spring.
Use of basic machine tools; suggestions for courses of study and teaching. One lecture; 2 three-hour laboratory periods.

IA 220. **Wood Turning.** 2 hours winter.
Tool processes and lathe technique: designing, turning, and finishing of individual projects of merit. Prerequisite: IA 111, 112, or equivalent. One lecture, 5 laboratory hour-periods.

IA 240. **Foundry Practice.** 2 hours any term.
Introductory course for engineering students covering constitution properties, and design limitations of castings in iron and steel; practice in foundry methods. Not open to students majoring in industrial arts. One lecture; 1 four-hour laboratory period.

IA 250. **Forging and Welding.** 2 hours any term.
Principles and practice of forging and welding, including gas, electric, thermit, and hammer welding, in line with modern manufacturing processes. Intended primarily for engineering students. Not open to students majoring in industrial arts. One lecture; 1 four-hour laboratory period.

IA 260. **Machine Shop Practice.** 2 hours any term.
Manipulation of basic machine tools, with prescribed projects. Correlation of engineering, managerial, and manufacturing problems. Not open to students majoring in industrial arts. One lecture; 1 four-hour laboratory period.

IA 261. **Machine Shop Practice.** 2 hours winter.
Manipulation of basic machine tools with individual projects. Survey of machines used for quantity production. Prerequisite: IA 163 or 260. Six laboratory hour-periods.

IA 263. **Machine Drawing.** 3 hours spring.
Application of the elements of machine design through the designing and drawing of machine parts, jigs, and special fixtures. Given in cooperation with the machine shop and intended primarily for industrial-arts students. One lecture; 8 drafting hour-periods.

UPPER-DIVISION COURSES

IA 311. **Mill Work—Machine Woodwork.** 3 hours fall.
A production course in machine woodworking in which jobs are selected and the class personnel so organized that the work follows closely those methods used in factory production. Prerequisite: IA 112. One lecture; 2-three-hour laboratory periods. Assistant Professor Meyer.

IA 312. **Furniture Design.** 2 hours fall.
A study of types and periods of furniture and an application of the principles of design to the technique of furniture and cabinet drawing. Prerequisite: GE 112, AA 295 or equivalent. One lecture, 5 laboratory hour-periods. Mr. Robley.

IA 313, 314. **Furniture Construction.** 2 hours each term, winter and spring.
The designing and construction of furniture and cabinet work, according to the needs and ability of the individual student. Prerequisite: IA 311, 312. Six laboratory hour-periods. Assistant Professor Meyer.

IA 315. **Upholstering and Seat Weaving.** 2 hours spring.
A study of typical upholstering processes including the construction of frames and foundations with and without springs. Seat and panel weaving with cane and fiber. Prerequisite: IA 112 or equivalent. One lecture; 5 laboratory hour-periods. Assistant Professor Meyer.

IA 316. **Wood and Metal Finishing.** 2 hours spring.
A study of materials, processes, and methods of application on old and new work for both wood and metal surfaces; brush and spray application of all types of finishing materials; special attention to the modern lacquer and synthetic finishes for both furniture and automobile work. Prerequisite: IA 112 or equivalent. One lecture; 5 laboratory hour-periods. Assistant Professor Meyer.

IA 321. **Wood Turning.** 1 hour winter.
Advanced course. A continuation of IA 220. Emphasis upon more intricate cuts and turning processes, special chucking devices and fancy turning. Prerequisite: IA 220. One three-hour laboratory period. Assistant Professor Meyer.

IA 325. **Machine and Tool Maintenance (Wood Shop).** 2 hours fall.
Methods of care and maintenance of woodworking tools, machines, and supplementary equipment; band-saw brazing, saw sharpening, sharpening and setting of planer, jointer, tenoner, and shaper knives, and the repair and maintenance of hand tools. Prerequisite: IA 112 or 220. Two lectures; 4 laboratory hour-periods. Assistant Professor Meyer.

IA 326. **Fiber Furniture Weaving.** 2 hours winter.
The construction of frames and the weaving of art-fiber furniture, with suggestions for the use of this material in public-school teaching. Prerequisite: IA 112 or equivalent. Six laboratory hour-periods. Professor Cox.

IA 332. **Pattern Making.** 2 hours winter.
Advanced course. A continuation of IA 111, with emphasis upon the problems in the making of patterns for more complicated machine parts and upon factors influencing production cost of these parts. Six laboratory hour-periods. Assistant Professor Meyer.

IA 333. **Carpentry.** 3 hours winter.
The fundamentals of house carpentry, involving discussion of forms and foundations and the practical application of problems in framing, use of steel square, exterior and interior finish, and estimating. Prerequisite: IA 112. One lecture; 6 laboratory hour-periods. Assistant Professor Meyer.

IA 342. **Foundry Practice.** 2 hours winter.
A study of equipment used in school and home work shops, including sources of materials, construction of furnaces, sand conditioning, and ornamental pattern construction. Prerequisite: IA 141 or 240. One lecture, 1 four-hour laboratory period. Mr. Mason.

IA 343. **Brass and Alloy Foundry.** 2 hours spring.
Making ornamental castings of brass, bronze, and aluminum; molding, melting, pouring, cleaning, polishing, and coloring projects of individual choice. Prerequisite: IA 141 or 240. One lecture; 1 four-hour laboratory period. Mr. Mason.

IA 350. **Welding Practice.** 1 hour fall or spring.
The problems of electric and acteylene welding, with reference to intricate and specialized operations. Conducted on an investigational basis. Prerequisite: IA 152 or 250. One lecture; 2 laboratory hour-periods. Assistant Professor Horning.

IA 352. **Blacksmithing.** 3 hours fall.
Farm blacksmithing problems, including the usual basic operations in forging and welding. Intended primarily for Vocational Agriculture majors. One lecture; 2 three-hour laboratory periods. Assistant Professor Horning.

IA 353. **Ornamental Iron Work.** 2 hours spring.
Craftsmanship in wrought-iron work; designing and making of wrought-iron furnishings, lamps, light fixtures, etc. Prerequisite: IA 152 or 250. Six laboratory hour-periods. Assistant Professor Horning.

IA 354. **Heat Treating.** 2 hours fall.
Methods and materials for heat treating; practical application of the principles of hardening, tempering, annealing and case hardening. Prerequisite: IA 152 or IA 250. One lecture; 4 laboratory hour-periods. Assistant Professor Horning.

IA 357. **Metal Crafts.** 3 hours spring.
Diversified metal crafts; advanced sheet-metal work, metal spinning, and craft work in iron, copper, and Britannia metal; processes applied to projects of practical value and artistic merit. Prerequisite: AA 295; IA 343, 353, or 380. One lecture, 6 laboratory hour-periods. Mr. Robley.

IA 361. **Time-and-Motion Studies.** 2 hours winter.
Use of time studies as an aid in management; methods and procedure for determining time-and-motion standards. Prerequisite: IA 163 or 260. One lecture; 4 laboratory hour-periods. Associate Professor Rhynearson.

IA 362. **Machine Shop.** 2 hours spring.
Manipulation of basic machine tools and the performance of operations requiring accomplished skills; individual projects and problems; application of jigs, fixtures, and dies used in modern manufacturing industries. Prerequisite: IA 261. Six laboratory hour-periods. Associate Professor Rhynearson.

IA 363. **Production Machine Work.** 3 hours fall.
Problems in design of tools, jigs, fixtures, and dies in relation to quantity production; individual problems and projects in tool design and die

making. Prerequisite: IA 261. One lecture; 6 laboratory hour-periods. Associate Professor Rhynearson.

IA 365. **Machine and Tool Maintenance (Machine Shop).** 2 hours fall.
Maintenance and repair problems for mechanical equipment. Methods and procedures in tool and cutter sharpening. Prerequisite: IA 163 or 260. Two lectures; 4 laboratory hour-periods. Associate Professor Rhynearson.

IA 370. **Practical Electricity.** 3 hours fall.
Electrical wiring problems, including signal, light, and power circuits, and a study of underwriters' specifications for electrical installation; designing and making electrical projects suited for use in public-school teaching. One lecture; 6 laboratory hour-periods. Professor Cox.

IA 380. **Sheet-Metal Work.** 3 hours spring.
Projects in sheet-metal work and pattern drafting involving the fundamental machine and hand-tool operations; equipment and supplies needed in the school shop. Prerequisite: GE 112. One lecture; 6 laboratory hour-periods. Mr. Robley.

IA 405. **Reading and Conference.** Terms and hours to be arranged.
Readings and investigations on special problems involving techniques and processes in the industrial subjects. Staff.

IA 407. **Seminar.** 2 hours winter.
Current practices in industry and manufacturing; term report on assigned subjects within the field of specialization. Prerequisite: IA 361, 363. Associate Professor Rhynearson.

IA 411. **Shop Planning and Organization.** (G) 3 hours spring.
Planning and organizing the physical plant for different types of school shops. Prerequisite: Ed 415. One lecture; 6 laboratory hour-periods. Professor Cox.

IA 462, 463. **Production Engineering.** (G) 3 hours each term, winter and spring.
Principles of management applied to production problems; planning and despatching, personnel organization, and use of records. Prerequisite: IA 163 or 260, IA 361. One lecture; 6 laboratory hour-periods. Associate Professor Rhynearson.

GRADUATE COURSE

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit. Graduate courses in industrial education are listed under SCHOOL OF EDUCATION.

IA 505. **Reading and Conference.** Terms and hours to be arranged.
Readings and investigations, with reports, on special problems involving methods, techniques, and processes used in the industrial subjects. Professor Cox

School of Forestry

Faculty

George Wilcox Peavy, M.S.F., Sc.D., LL.D., Dean of the School of Forestry; Professor of Forestry.

Earl George Mason, M.F., Assistant Dean; Professor of Forestry.

Adelaide Liddle, Secretary to the Dean.

Logging Engineering

Henry Richard Patterson, Jr., B.S., Professor of Logging Engineering; Head of Department.

Clarence Joseph Budelier, B.S., Instructor in Logging Engineering.

Gene Knudson, B.S., Graduate Assistant in Logging Engineering.

Wayne Gurley, B.S., Graduate Assistant in Logging Engineering.

Technical Forestry

Thurman James Starker, B.S., Professor of Forestry; Head of Department.

Harry Ira Nettleton, M.F., Assistant Professor of Forestry.

Walter Fraser McCulloch, M.S., Assistant Professor of Forestry.

George Harwood Schroeder, M.S., Assistant Professor of Forestry.

Charles Herbert Willison, Jr., M.F., Assistant Professor of Forestry.

Clarence Wilfred Richen, B.S., Instructor in Forestry.

Henry James Vaux, M.S., Instructor in Forestry.

Lyle Baker, B.S., Graduate Assistant in Technical Forestry.

Franklin Longwood, B.S., Graduate Assistant in Technical Forestry.

Wood Products

Robert Murray Evenden, M.S., Assistant Professor of Wood Products.

Glenn Voorhies, M.S., Assistant Professor of Wood Products.

Arthur Newberg, B.S., Research Assistant in Wood Products.

General Statement

OREGON'S immense timber resources and the vast area of land within the state suited to no other use than the continued production of timber crops point to a very definite obligation on the part of the Oregon State School of Forestry. That obligation is to train men so to manage these great properties that the maximum product may be received from them, that this maximum production may be continuous, and that the product itself may be economically and most efficiently utilized. Oregon has an interest in forestry greater than any other state in the Union. The state has within its limits an area of 22,000,000 acres which, be-

cause of peculiarities of soil, topography, and climate, appears to be permanently classified as forest land. The economic interests of the state unquestionably demand that this great basic resource should be kept at work producing that which it is best adapted to grow. Under present methods of utilization, Oregon has approximately 400 billion feet of standing timber, the largest amount possessed by any state, and an amount equaling fully 20 per cent of the total stand remaining in the United States.

Majors. The School of Forestry offers curricula in three distinct fields of the forestry profession: logging engineering, technical forestry, and wood products.

LOGGING ENGINEERING. The logging engineer is the product of the Pacific Northwest. Farsighted men in the industry, realizing the peculiar engineering requirements of their business, requested the school of forestry to train men for service in this branch of the lumber industry. The Department of Logging Engineering was organized in response to this request. The logging engineer is trained in timber appraising, in topographic surveying in rough country, in the preparation of topographic and relief maps from field data, in the location and construction of logging railroads, in bridge design, and in making topographic logging plans. The four-year curriculum in Logging Engineering, prepared in consultation with some of the ablest timbermen in the state, leads to the degree of Bachelor of Science in Logging Engineering.

TECHNICAL FORESTRY. In technical forestry the school has a dual responsibility. It has its obligation to the Federal Government in training men to be of service in helping to manage the National Forests, which now include an area of more than 160,000,000 acres. This is a very definite responsibility for the reason that the nation normally is cutting its timber crop four times as rapidly as a new crop is being grown. This fact points to a time, not far distant, when the country will be without reasonably priced timber. History has very clearly shown that adequate timber supplies have made a decided contribution to the general welfare. Closely related to the problem of an adequate timber supply is the problem of the use of uncultivated lands. The school has its more immediate obligation to the State of Oregon in preparing men to aid in solving the forestry problems which are involved chiefly in the reforestation and protection of the commonwealth's 10,000,000 acres of privately owned timberlands. An industry that normally has a pay roll of 47,000 men and annually produces wealth in excess of $100,000,000 is one that every economic and social consideration dictates should be conserved and perpetuated. This accomplishment is one of the chief objectives of the School of Forestry. The four-year curriculum leads to the degree of Bachelor of Science in Forestry.

A major option is offered in FOREST RECREATION, preparing students for professional and administrative service in the development and use of national and state forests for recreational purposes. Students in this option pursue the regular technical forestry curriculum except during the junior year when they follow a special program of study.

WOOD PRODUCTS. Sawing logs into boards can no longer be regarded as the sole objective of the sawmill man. His business involves such problems as the design of his plant for efficient operation, the organization and management of the plant, kiln-drying of lumber, refinement of manufacture, human efficiency, and scientific merchandising. In response to the demands of the industry for men with basic training along these lines, a carefully

selected group of subjects is offered young men desiring to enter the wood-products field. The four-year curriculum leads to the degree of Bachelor of Science in Wood Products.

Four-Year and Five-Year Curricula. In the freshman and sophomore years all students in forestry pursue the same program of studies, following which they may elect one of the three majors on either a five-year or a four-year basis.

FOUR-YEAR CURRICULA (B.S. DEGREE). For the bachelor's degree the student is required to complete 204 term hours of collegiate work. Every student before graduation must have completed the requirement of 9 term hours in each of two groups in liberal arts and sciences. A minimum of 70 professional hours is required by the School of Forestry. No student will be recommended for graduation who has not had at least six months of practical field work which is in line with his objective and which has been accepted as satisfactory by the faculty of the School of Forestry.

FIVE-YEAR CURRICULUM (B.S., M.F. DEGREES). The forester is being called upon more and more to serve as planner and coordinator in the use of wild land. It is not enough to determine merely the kind of use for which the land is inherently best suited. An appropriate balance must be sought between farm, pasture, forest, range, recreation, wildlife, watershed, and other uses, in the light of sound national requirements for products and service. In this light the forester who enters the practice of his chosen field must be better prepared in the basic and social sciences. To compete successfully, he should have a broader training. To meet this demand for men trained in the broader field, the five-year curriculum, including four years of undergraduate work leading to the degree of Bachelor of Science and a graduate year leading to the degree of Master of Forestry is strongly recommended.

Advanced Degrees. The degrees of Master of Forestry and Master of Science are offered to graduates of the State College, or other colleges of equal rank, who have met the State College requirements for graduate study. The graduate program and thesis for the Master of Forestry degree are designed to fit the student for administrative or professional work in forestry, logging engineering, or wood products. The work for the Master of Science degree develops the student for research work in his particular field.

The degree of Forest Engineer is offered to graduates of the School of Forestry who have had at least five years of successful forestry practice following graduation. A satisfactory thesis must be presented and application for the degree must be made not later than January 1 preceding the commencement at which the degree is conferred.

The requirements for advanced degrees are given in full under GRADUATE DIVISION.

Minors. Graduates of the School of Forestry often are employed in work that combines forestry with related fields. Students desiring training for such work may take a minor in the field of their choice. Minors most commonly selected by students majoring in technical forestry are fish and game management, grazing, soil conservation, recreation, entomology, and pathology; students majoring in wood products may take a minor in pulp and paper.

Summer Employment. The principal operations of the lumber industry of the United States are in the Pacific Northwest. This fact creates conditions which make it possible for students who are physically fit to find employment in the logging camps and in sawmills. The United States Forest Service has adopted a definite policy of employing forestry students during vacation periods. Because of this policy students expecting to engage in forestry work are enabled to obtain valuable field experience at reasonable pay without incurring the costs incident to traveling long distances.

Equipment. The School of Forestry is housed in the Forestry Building, a thoroughly modern three-story structure 80 feet wide by 136 feet long. The building contains roomy laboratories for work in silviculture, dendrology, mensuration, forest protection, wood technology, drafting, lumber grading, and logging devices and equipment. These laboratories are well equipped with appropriate instruments and apparatus. Through the courtesy of the manufacturers of logging equipment much valuable logging machinery has been accumulated for demonstration purposes. Lumber-manufacturing concerns have generously supplied the school with wood products made from various species of Oregon trees. All available publications dealing with general forestry, logging, or lumber manufacture are provided for the use of students. A dry-kiln of commercial size, completely equipped for research in lumber seasoning, is available for use of students in wood products.

Actual field work, essential in preparing men for work in forestry and logging engineering, is made possible by the fact that large areas of timbered lands are easily accessible from the State College. Some of the largest lumber-manufacturing and pulp-and-paper plants in the Northwest are located within two or three hours' ride from Corvallis. Located as it is in the heart of the greatest timbered region of the United States, the School of Forestry possesses unique advantages for preparing men for service in professional forestry, logging engineering, and wood products.

Lands. A State forest of 75,000 acres, located within 75 miles of the campus, has been placed, by law, at the disposal of the School of Forestry for scientific management. An area of 160 acres of logged and second-growth fir, presented to the school by the Spaulding Logging Company, lies within ten miles of the campus. Mrs. Mary J. L. McDonald of San Francisco gave the school for demonstration purposes 640 acres of timbered land lying near Prospect in the Crater Lake region. Mrs. McDonald also made possible the acquisition of 4,800 acres of second-growth Douglas fir, lying within seven miles of the campus and known as the McDonald Forest. This area is devoted to experimental work in reforestation, and also serves as a base for laboratory work in surveying, mapping, timber estimating, and logging-railroad location. A tract of cut-over land, 180 acres in extent, is devoted to arboretum and experimental planting purposes. A forest nursery on the arboretum tract, financed by the United States Forest Service and the State Board of Forestry, is operated under the supervision of the school. A full-time nurseryman is required for this project.

Through the generosity of John W. Blodgett, prominent timberman, a tract of 2,400 acres of cut-over land in Columbia County has been presented to the School of Forestry. This area is to be devoted to research work in reforestation.

Curricula in Forestry

Logging Engineering
Wood Products

Technical Forestry
Forest Recreation

LOWER-DIVISION CURRICULUM

Freshman Year	Term hours F	W	S
General Forestry (F 111)	3	---	---
Forest Protection (F 112)	---	3	---
Forest Problems (F 114)	2	---	---
Tree Identification (F 153)	---	---	4
General Botany (Bot 201, 202)	3	3	---
Forest Engineering: Forest Surveying Instruments (LE 123)	---	---	3
Intermediate Algebra (Mth 100)	4	---	---
Trigonometry (Mth 106)	---	4	---
Elements of Statistics (Mth 109)	---	---	4
English Composition (Eng 111, 112, 113)	3	3	3
Military Science	1	1	1
[1]Physical Education	1	1	1
	17	15	16
Sophomore Year			
Mensuration: Felled Timber (F 221), Mensuration: Standing Timber (F 222)	4	4	---
[2]Forest Engineering (LE 224, 225, 226)	5	5	5
Qualitative Physics (Ph 211. 212)	3	3	---
Wood Utilization (WP 330)	---	---	4
Outlines of Economics (Ec 212)	3	---	---
Descriptive General Chemistry (Ch 130)	---	---	3
National Government (PS 201)	---	4	---
State and Local Governments (PS 202)	---	---	4
Military Science	1	1	1
Physical Education	1	1	1
	17	18	18

UPPER-DIVISION CURRICULA[3]

LOGGING ENGINEERING

B.S. Degree

Junior Year			
Bridge Design (LE 381)	3	---	---
Logging Methods (LE 392)	---	3	---
Logging Machine Design (LE 386)	---	---	3
Engineering Geology (G 324)	3	---	---
Silviculture (F 345)	---	3	---
Commercial Woods (WP 331)	---	---	3
Extempore Speaking (Sp 111)	---	---	3
Business Law (BA 256, 257)	4	4	---
Accounting for Technical Students (BA 385, 386)	---	3	3
Cost Accounting for Industrials (BA 494)	---	---	3
Timber Transportation (LE 374)	4	---	---
Electives	3	5	3
	17	18	18
Senior Year			
Timber Transportation (LE 474, 475, 476)	4	4	4
Logging Plans (LE 471, 472, 473)	5	5	5
Forest Policy (F 411)	4	---	---
Forest Economics (F 412, 413)	---	4	4
Seminar (F 407)	1	1	1
Electives	3	3	3
	17	17	17

Recommended Electives: Logging Equipment (LE 382), Lumber Seasoning (WP 494), Production Control (WP 312), Personnel Management (BA 414), Labor Problems (Ec 425), Transportation (Ec 435), Differential and Integral Calculus (Mth 201, 202, 203), Steam Air, and Gas Power (ME 346), Dietetics (FN 225), Principles of Forest Entomology (Ent 321).

[1]General Hygiene (PE 150), 2 term hours, is taken in place of physical education one term of the freshman year.

[2]Students expecting to major in wood products may take approved courses in lieu of this subject.

[3]In any of the curricula the student may take one or more minors in liberal arts and sciences according to his needs and interests. Students in the five-year curriculum (pages 334-335) have a broader opportunity to elect additional courses according to individual aims and aptitudes.

TECHNICAL FORESTRY

B.S. Degree

Junior Year	Term hours F	W	S
Identification of Woods (WP 334)	—	4	—
Mensuration: Timber Growth (F 223)	—	—	4
Dendrology (F 353)	4	—	—
Logging Methods (LE 392)	—	3	—
Silviculture (F 341 342, 343)	4	4	4
Forest Fire Control (F 331)	3	—	—
Accounting for Technical Students (BA 385)	—	—	3
Range and Pasture Botany (Bot 314)	3	—	—
Extempore Speaking (Sp 111)	—	—	3
Electives	3	6	3
	17	17	17
FOREST RECREATION OPTION			
Silviculture (F 341, 343)	4	—	4
Forest Wildlife Management (FG 310, 311, 312)	3	3	3
Extempore Speaking (Sp 111)	—	—	3
Landscape Architecture (LA 279)	—	3	—
Plant Materials (LA 326)	3	—	—
Landscape Architecture (LA 379)	—	—	3
Forest Sanitation (Bac 361)	3	—	—
Electives	4	11	4
	17	17	17
Senior Year			
Forest Policy (F 411)	4	—	—
Forest Economics (F 412, 413)	—	4	4
Wood Properties, Seasoning, and Grading (WP 397)	—	4	—
Forest Management: Recreation (F 421), Forest Management: Regulation (F 422), Forest Management: Forest Plans (F 423)	3	3	3
Forest Administration (F 311, 312, 313)	3	3	3
Seminar (F 407)	1	1	1
Electives	6	3	6
	17	18	17
MINORS			
Entomology			
Principles of Forest Entomology (Ent 321), Forest Entomology (Ent 322, 323)	3	3	3
Advanced Forest Entomology (Ent 423)	4 *or*	(4) *or*	(4)
Entomological Nomenclature and Literature (Ent 352)	—	3	—
Aquatic Entomology (Ent 341)	—	—	4
Fish and Game Management			
Forest Wildlife Management (FG 310, 311, 312)	3	3	3
Range and Pasture Botany (Bot 314)	3	—	—
Range Livestock Management (AH 419, 420)	—	3	3
Management of Game Fish (FG 454)	—	3	—
Management of Big Game (FG 457)	—	3	—
Grazing			
Systematic Botany (Bot 313)	—	—	4
Principles of Plant Ecology (Bot 341)	—	4	—
Principles of Plant Physiology (Bot 331)	—	—	4
Range Improvement and Maintenance (FC 319)	—	3	—
Range Livestock Management (AH 419, 420)	—	3	3
Pathology			
Elementary General Chemistry (Ch 101, 102, 103)	3	3	3
Systematic Botany (Bot 313)	—	—	4
Principles of Plant Pathology (Bot 351)	4	—	—
Plant Pathological Technique (Bot 451)	3	—	—
Microtechnique (Bot 472)	—	3	—
Science			
Engineering Geology (G 324)	3	—	—
Principles of Forest Entomology (Ent 321)	3	—	—
Forest Pathology (Bot 315)	—	3	—
Principles of Plant Ecology (Bot 341)	—	4	—
Forest Soils (Sls 214)	—	—	3
Soil Conservation			
Range Improvement and Maintenance (FC 319)	—	3	—
Cover Crop and Soil-Erosion Prevention Plants (FC 320)	—	2	—
Soil Conservation Engineering (AE 471)	3	—	—
Soil Conservation (Sls 413)	—	3	—

WOOD PRODUCTS

B.S. Degree

Junior Year	Term hours F	W	S
Identification of Woods (WP 334)	---	4	---
Forest Management Problems (F 325)	---	---	3
Wood Grading (WP 333)	---	4	---
Accounting for Technical Students (BA 385, 386)	3	3	---
Cost Accounting for Industrials (BA 494)	---	---	3
Business Law (BA 256, 257, 258)	3	3	3
Money and Banking (Ec 413)	---	---	4
Timber Mechanics (WP 332)	4	---	---
Extempore Speaking (Sp 111)	3	---	---
Electives	4	3	5
	17	17	18

Senior Year			
Forest Policy (F 411)	4	---	---
Forest Economics (F 412, 413)	---	4	4
Lumber Seasoning (WP 494)	4	---	---
The Lumber Plant (WP 495)	---	4	---
Lumber Merchandising (WP 496)	---	---	4
Production Control (WP 312)	---	---	4
International Trade (Ec 440)	4	---	---
Forest Administration: Control (F 313)	---	3	---
Seminar (F 407)	1	1	1
[1]Electives	4	5	4
	17	17	17

MINORS

Business Administration			
Elements of Finance (BA 222)	---	4	---
Investments (BA 463)	---	---	3
Production Management (BA 413)	4	---	---
Money and Banking (Ec 413)	---	---	4
Thesis (BA 403)	---	5	---
Business and Agricultural Statistics (BA 469)	3	---	---
Pulp and Paper			
Principles of Chemistry (Ch 201, 202, 203)	4	4	4
Organic Chemistry (Ch 226, 227)	5	5	---
Quantitative Analysis (Ch 234)	---	---	5
Pulp and Paper Chemistry (Ch 460, 461, 462)	3	3	3

FIVE-YEAR UNDERGRADUATE AND GRADUATE CURRICULUM

B.S., M.F. Degrees

Freshman and Sophomore Years

See LOWER-DIVISION CURRICULUM, page 332.

Junior Year	Term hours F	W	S
Identification of Woods (WP 334)	---	4	---
Mensuration: Timber Growth (F 223)	---	---	4
Dendrology (F 353)	4	---	---
Fire Protection (F 331)	3	---	---
Logging Methods (LE 392)	---	3	---
Forest Pathology (Bot 315)	---	3	---
Forest Soils (Sls 214)	---	---	3
Engineering Geology (G 324)	3	---	---
Accounting for Technical Students (BA 385)	---	---	3
Range and Pasture Botany (Bot 314)	3	---	---
Principles of Plant Ecology (Bot 341)	---	4	---
Extempore Speaking (Sp 111)	---	---	3
Electives	4	3	4
	17	17	17

[1]Recommended Electives: General Advertising (SS 439), Steam, Air, and Gas Power (ME 346), Materials of Engineering (ME 316), Fuel and Lubricant Testing (ME 325), Differential and Integral Calculus (Mth 201, 202, 203), Business English (Eng 217), Merchandising and Selling (SS 436), Personnel Management (BA 414), Business and Agricultural Statistics (BA 469).

Senior Year	Term hours F	W	S
Silviculture (F 341, 342, 343)	4	4	4
Forest Administration (F 311, 312, 313)	3	3	3
Forest Wildlife Management (FG 310, 311, 312)	3	3	3
Wood Properties, Seasoning, and Grading (WP 397)	---	4	---
Landscape Architecture (LA 279, 379)	3	---	3
Electives	4	3	4
	17	17	17
Graduate Year			
Forest Management (F 422, 423, 523)	3	3	3
Forest Policy (F 411)	4	---	---
Forest Economics (F 412)	---	4	---
Forest Management (F 521)	3	---	---
Silviculture (F 542)	---	3	---
Thesis (F 503)	3	3	3
Seminar (F 507)	1	1	1
Electives	1	1	8
	15	15	15

Logging Engineering

COURSES in logging engineering are designed to prepare men to deal with the woods problems peculiar to the lumber industry of the Pacific Northwest. Emphasis is placed upon the preparation of logging plans and the transportation of timber from the woods to the mills.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

LE 123. **Forest Engineering: Forest Surveying Instruments.** 3 hours any term.

Measurement of distance, direction, and elevation. Two recitations; 1 three-hour laboratory period.

LE 224. **Forest Engineering: Elements of Forest Mapping.** 5 hours fall or winter.

Theory and use of engineer's transit and level; survey of definite areas; direct and indirect leveling; computing and plotting of field data. Three recitations; 1 two-hour laboratory period; 1 four-hour field period.

LE 225. **Forest Engineering: Forest Surveys.** 5 hours any term.

Public land surveys; mapping of definite area by approved methods; drafting of field data; free-hand lettering; theory of photographic surveying. Three recitations; 1 two-hour laboratory period; 1 four-hour field period.

LE 226. **Forest Engineering: Forest Surveys and Structures.** 5 hours winter or spring.

Theory and application of triangulation; solar and polar observations; forest improvements, including roads, trails, shelters, bridges, and communication systems. Three recitations; 1 two-hour laboratory period; 1 four-hour field period.

UPPER-DIVISION COURSES

LE 370. **Field Work.** 1 to 6 hours.

Practical field work on some modern logging operation, performed by the student between the sophomore and junior years or between the junior and senior years. A satisfactory report based on approved outline must be submitted. (See Section 18, Academic Regulations.)

LE 374. **Timber Transportation.** 4 hours spring.
Survey of the problem; development of methods; small operations. Two lectures; 2 three-hour laboratory periods. Professor Patterson.

LE 381. **Bridge Design.** 3 hours fall.
Design of wood structures as applied to logging transportation systems; details, specifications, and cost estimates. One recitation; 2 two-hour laboratory periods. Professor Patterson.

LE 382. **Logging Equipment.** 3 hours winter.
Rigging; logging power-units; construction equipment; camp layouts. One lecture; 2 two-hour laboratory periods. Professor Patterson.

LE 386. **Logging Machine Design.** 3 hours. winter.
Details of standard equipment, rigging, and tools constructed in camp shops. One lecture; 2 two-hour laboratory periods. Professor Patterson.

LE 392. **Logging Methods.** 3 hours any term.
Relation between logging and forest production; felling and bucking; skidding, loading, hauling; relative merits of various methods. Three lectures. Professor Patterson.

LE 471. **Logging Plans.** 5 hours fall.
Control of area; instrument control; surveying timbered area; preparation of topographic and relief maps; cruising. One recitation; 1 three-hour field period; 1 nine-hour field period. Mr. Budelier.

LE 472. **Logging Plans.** (g) 5 hours winter.
Preparation of plans; complete set of working plans for the area from data obtained in LE 471; logging-area limits; transportation systems; landings and machine settings; volumes for individual shows; detailed costs per thousand and a logging report for the area. Prerequisite: LE 392, 471, and 474. Three recitations; 2 two-hour laboratory periods. Professor Patterson.

LE 473. **Logging Plans.** (g) 5 hours spring.
Management control: organization, planning, standardization of employment, wage payment, purchasing, stores, tool storage and issuing, plant layout, plant maintenance, production control. Prerequisite: LE 474. Three recitations; 2 two-hour laboratory periods. Professor Patterson.

LE 474. **Timber Transportation.** (g) 4 hours fall.
Motor truck transportation; logging railroads; miscellaneous systems. Two lectures; 2 two-hour laboratory periods. Professor Patterson.

LE 475. **Timber Transportation.** (g) 4 hours winter.
Economic theory of location and construction of transportation systems; grades; alignment, etc. Prerequisite: LE 474. One lecture; 1 nine-hour field period. Mr. Budelier.

LE 476. **Timber Transportation.** (g) 4 hours spring.
Structures and materials for use with transportation systems; costs of surveys, construction, operation, and maintenance on a per-thousand basis; preliminary and final reports. Prerequisite: LE 475. One lecture; 1 nine-hour field period. Mr. Budelier.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

LE 501. Research. Terms and hours to be arranged.

LE 503. Thesis. Terms and hours to be arranged.

LE 505. Reading and Conference. Terms and hours to be arranged.

LE 507. Seminar. Terms and hours to be arranged.

Technical Forestry

BASIC training for the practice of forestry, particularly in the Northwest, is afforded in the courses in technical forestry. The scientific methods involved in measuring, tending, and utilizing the forest crop are stressed.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

F 111. General Forestry. 3 hours any term.
Preliminary survey of the entire field of forestry including the development of forestry in the United States and the origin and distribution of our public domain. May be elected by students in other schools. Three lectures or recitations.

F 112. Forest Protection. 3 hours any term.
A preliminary study of the field of forest protection with special emphasis given to the training and knowledge needed to fit the first-year forester for work in a forest protection organization. Two lectures or recitations; 1 three-hour laboratory period.

F 114. Forest Problems. 2 hours any term.
Practical application of classroom work to the solving of elementary field problems. One lecture; 1 three-hour laboratory period.

F 153. Tree Identification. 4 hours fall or spring.
Field characteristics and classification of principal timber trees of the Pacific Coast, their commercial range, local occurrence, size, growth, form; climate, soil, and moisture requirements; resistance; relative tolerance and reproduction. Two lectures; 1 two-hour laboratory period; 1 three-hour field period.

F 211. General Forestry. 3 hours fall.
Sustained yield; forest protection; lumbering; tree identification. (Not open to forestry students.)

F 212. Forest Administration. 3 hours winter.
The administrative control of the National Forests; the policies of the United States Forest Service in regard to fire, trespass, timber, grazing, lands, research, public relations, and accounts. (Not open to forestry students.)

F 221. Mensuration: Felled Timber and Its Products. 4 hours any term.
The cubic contents; scaling and grading logs; piece and cord measurements. Three recitations; 1 three-hour field or laboratory period.

F 222. **Mensuration: Standing Timber.** 4 hours any term.
The volume of individual trees; timber cruising. Three recitations; 1 three-hour field period.

F 223. **Mensuration: Timber Growth.** 4 hours fall.
Growth of even-aged stands; growth of many-aged stands; growth of individual trees. Three recitations; 1 three-hour field period.

UPPER-DIVISION COURSES

F 311. **Forest Administration: Land Use.** 3 hours any term.
Application of principles and techniques of economic planning to the problem of coordinating forest land uses with one another and with other forms of land use. Mr. Vaux.

F 312. **Forest Administration: Laws.** 3 hours any term.
Critical survey of state forest laws; Federal laws dealing with forest lands and their administrative interpretation. Assistant Professor Evenden.

F 313. **Forest Administration: Control.** 3 hours any term.
Personnel work and financial control on public and private forest property. Assistant Professor Evenden.

F 325. **Forest Management Problems.** 3 hours spring.
Growth and yield studies for application to even and uneven aged forest stands; coordinating logging methods with sustained yield timber production. Two lectures or recitations; 1 three-hour laboratory period. Assistant Professor Nettleton.

F 331. **Fire Protection.** 3 hours fall.
Fire prevention; presuppression; suppression. Two lectures or recitation; one three-hour laboratory period. Assistant Professor Schroeder.

F 341. **Silviculture: Forest Ecology.** 4 hours any term.
Factors affecting distribution and succession of forest vegetation. Three recitations; 1 three-hour field period. Assistant Professor McCulloch.

F 342. **Silviculture: Forest Practices.** 4 hours any term.
Treatment of stands to insure perpetuation of forest resources. Three recitations; 1 three-hour field period. Assistant Professor McCulloch.

F 343. **Silviculture: Forestation.** 4 hours any term.
Nursery practice; establishment and maintenance of plantations. Three recitations; 1 three-hour field period. Assistant Professor McCulloch.

F 345. **Silviculture.** 3 hours winter.
Silvicultural practices requisite for insuring reproduction following logging; seed trees; selection cuttings; justifiable regeneration costs. For students in logging engineering. Professor Starker.

F 353. **Dendrology.** 4 hours fall or spring.
Classification and identification of forest trees, including forest ecology and taxonomy; silvical characteristics and distribution of commercial species; life history and requirements of trees. Two recitations; 2 two-hour laboratory periods. Professor Starker.

F 370. **Field Work.** 1 to 6 hours.
Practical field work performed by the student between the sophomore and junior years or between the junior and senior years, in connec-

tion with some technical forestry work carried on by private interests, the state, or by the Forest Service. A report based on an approved outline must be submitted. Staff.

F 401. **Research.** Terms and hours to be arranged.

F 403. **Thesis.** Terms and hours to be arranged.

F 405. **Reading and Conference.** Terms and hours to be arranged.

F 407. **Seminar.** 1 hour each term.

F 411. **Forest Policy.** (g) 4 hours any term.
Forestry in the economic and sociological life of the country. Three lectures; 1 three-hour laboratory period. Assistant Professor Evenden.

F 412. **Forest Economics.** (g) 4 hours any term.
The economic forces that control and regulate the forest enterprises. Three lectures; 1 three-hour laboratory period. Professor Mason.

F 413. **Forest Economics.** (g) 4 hours spring.
The valuation of forest properties. Three lectures; 1 three-hour laboratory period. Mr. Vaux.

F 417, 418. **Regional Forestry.** 2 hours each term fall and winter.
Survey of the field of technical forestry. Of special interest to those who plan to enter the Federal or State Forest Service. Professor Starker.

F 421. **Forest Management: Recreation.** (g) 3 hours fall or spring.
Forest recreation, its importance and nature; planning the use of the forest for recreational purposes, dovetailing the recreational use with other forest uses. Two lectures; 1 three-hour laboratory period. Assistant Professor Willison.

F 422. **Forest Management: Regulation.** (g) 3 hours fall or winter.
Determination of rotation; regulation of a forest. Two lectures; 1 three-hour laboratory period. Assistant Professor Willison.

F 423. **Forest Management: Forest Plans.** (g) 3 hours winter or spring.
The selection of forest lands; forest organization and working plans. Two lectures; 1 three-hour laboratory period. Assistant Professor Willison.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

F 501. **Research.** Terms and hours to be arranged.

F 503. **Thesis.** Terms and hours to be arranged.

F 505. **Reading and Conference.** Terms and hours to be arranged.

F 507. **Seminar.** Terms and hours to be arranged.

F 511. **Forest Economics.** One term, 3 hours.
Taxation of forest lands, the effects of taxation on lumbering and sustained yield. Prerequisite: F 411, 412 or equivalent. Professor Mason.

F 512. **Forest Economics.** 3 hours.
Forest fire damage appraisal; insurance of timberlands. Prerequisite: F 411, 412 or equivalent. Professor Mason.

F 521. **Forest Management.** 3 hours.
Forest fire plans, their preparation and execution. Prerequisite: F 421, 422, 423, or equivalent. Assistant Professor Schroeder.

F 541, 542, 543. **Silviculture.** 3 hours each term.
Advanced approach in silvics in the treatment of stands. Research methods used in silviculture and sample-plot work. Prerequisite: F 221, 222, 223; F 341, 342, 343. One lecture; 1 four-hour laboratory period. Professor Starker.

Wood Products

COURSES in wood products are designed to meet the needs of men who desire to prepare themselves for service in the wood-manufacturing industry. Especial attention is given to manufacturing conditions existing in the Pacific Northwest.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

WP 312. **Production Control.** 4 hours winter.
Production-control systems as applied to sawmills. Three lectures; 1 two-hour laboratory period. Assistant Professor Evenden.

WP 330. **Wood Utilization.** 4 hours any term.
Adaptation to commercial uses; chief wood-using industries and relative amounts of principal commercial species used annually; adaptation of wood to special purposes; substitutes for wood; minor uses of wood; by-products. Three lectures; 1 two-hour laboratory period. Assistant Professor Voorhies.

WP 331. **Commercial Woods.** 3 hours spring.
Identifying woods commonly used; seasoning, gluing, and preservation of woods. Designed primarily to meet requirements of woodworkers and engineers. Two lectures; 1 two-hour laboratory period. Assistant Professor Voorhies.

WP 332. **Timber Mechanics.** 4 hours fall.
Mechanical properties of principal commercial timber; obtaining strength data; use of strength data. Two recitations; 2 two-hour laboratory periods. Assistant Professor Voorhies.

WP 333. **Wood Grading.** 4 hours winter.
Basic grades and standard commercial grading rules. Two lectures; 2 two-hour laboratory periods. Assistant Professor Voorhies.

WP 334. **Identification of Woods.** 4 hours fall or winter.
Wood structure; identification of important commercial woods; physical and structural properties. Two lectures; 2 two-hour laboratory periods. Professor Starker.

WP 397. **Wood Properties, Seasoning, and Grading.** 4 hours any term.
Mechanical and physical properties of wood; principles of lumber seasoning; lumber grading. Abbreviated course for students not ma-

joring in wood products. Three lectures; 1 two-hour laboratory period. Assistant Professor Voorhies.

WP 494. **Lumber Seasoning.** (g) 4 hours fall.
Air seasoning; fundamental principles underlying seasoning and kiln-drying of woods; kiln-drying methods and their merits; effect of kiln-drying upon wood structure; types of kilns; study of recording instruments used. Field trips required. Two lectures; 2 two-hour laboratory periods. Assistant Professor Voorhies.

WP 495. **The Lumber Plant.** (g) 4 hours winter.
Various types of modern mills; electrical versus steam mills; machinery and power of small and large plant; lumber-handling devices; examination of up-to-date mills and reports on them. Three lectures; 1 two-hour laboratory period. Assistant Professor Voorhies.

WP 496. **Lumber Merchandising.** (g) 4 hours spring.
Lumber salesmanship; selling agencies; trade associations; standardization of sizes and grades; trade-marking; advantages of wood construction. Assistant Professor Evenden.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

WP 501. **Research.** Terms and hours to be arranged.

WP 503. **Thesis.** Terms and hours to be arranged.

WP 505. **Reading and Conference.** Terms and hours to be arranged.

WP 507. **Seminar.** Terms and hours to be arranged.

WP 594. **Lumber Seasoning.** 3 hours.
Studies in research technique in seasoning; advanced studies in technical problems. Prerequisite: WP 494. Assistant Professor Voorhies.

School of Home Economics

Faculty

AVA BERTHA MILAM, M.A., Dean of the School of Home Economics.
EMMA DENYER HAMNER, B.S., Secretary.

Clothing, Textiles, and Related Arts

*ALMA CATHERINE FRITCHOFF, M.A., Professor of Clothing, Textiles, and Related Arts; Head of Department.

EDITH RHYNE, M.A., Associate Professor of Clothing, Textiles, and Related Arts; Acting Head of Department.

ELIZABETH CECILIA WILEY, A.M., Associate Professor of Clothing, Textiles, and Related Arts.

GERTRUDE STRICKLAND, B.S., Assistant Professor of Clothing, Textiles, and Related Arts.

BERNICE BAND, M.A., Assistant Professor of Clothing, Textiles, and Related Arts.

DORRIS JACQUELINE BRIER, M.S., Instructor in Clothing, Textiles, and Related Arts.

CLARA WILLIAMS EDABURN, M.A., Instructor in Clothing, Textiles, and Related Arts.

HARRIET BRANDT HUTCHINSON, B.S., Graduate Assistant in Clothing, Textiles, and Related Arts.

Extension Methods

FRANK LLEWELLYN BALLARD, B.S., Professor of Extension Methods.
AZALEA LINFIELD SAGER, M.A., Professor of Extension Methods.

Foods and Nutrition

JESSAMINE CHAPMAN WILLIAMS, M.A., Professor of Foods and Nutrition: Head of Department.

MARGARET LOUISE FINCKE, Ph.D., Associate Professor of Foods and Nutrition.

AGNES KOLSHORN, M.A., Associate Professor of Foods and Nutrition.

*EVRA ALTA GARRISON, M.A., Assistant Professor of Foods and Nutrition.

LILLIAN CATHERINE TAYLOR, M.A., Assistant Professor of Foods and Nutrition.

VIVIAN MAE ROBERTS, M.S., Instructor in Foods and Nutrition.

ANDREA JOHNSEN OVERMAN, M.Sc., Instructor in Foods and Nutrition.

MILDRED MARGUERITE ARNOLD, M.S., Instructor in Foods and Nutrition.

VIRGINIA LANDQUIST, B.S., Research Assistant in Foods and Nutrition.

ELIZABETH ABBOTT REDELINGS, B.S., Research Assistant in Foods and Nutrition.

*On leave of absence.

Home Economics Education

FLORENCE BLAZIER, Ph.D., Professor of Home Economics Education; Head of Department.

BERTHA KOHLHAGEN, B.S., State Supervisor and Teacher Trainer in Home Economics Education.

MAY DU BOIS, M.S., Assistant Professor of Home Economics Education.

RUTH MORRIS FOREST, M.S., Assistant State Supervisor in Home Economics Education.

MERLE BONNEY DAVIS, B.S., Supervising Teacher in Home Economics Education.

ESTHER WOOD BODNER, B.S., Supervising Teacher in Home Economics Education.

ANN MCCLEW, M.S., Supervising Teacher in Home Economics Education.

Home Economics Research

MAUD MATHES WILSON, A.M., Professor in Charge.

HELEN E MCCULLOUGH, A.M., Assistant Professor of Home Economics Research.

Household Administration

SARA WATT PRENTISS, M.A., Professor of Child Development and Parent Education; Head of Department.

VERA HASKELL BRANDON, Ph.D., Professor of Child Development.

ELEANOR MAY SPIKE, M.S., Associate Professor of Household Administration; Director of Home Management Houses.

ELIZABETH GERTRUDE PADDOCK, M.A., Assistant Professor of Child Development and Director of Nursery School.

EDNA MARJORIE VAN HORN, M.A., Assistant Professor of Household Administration.

CAROLYN GASKINS SULLIVAN, B.S., Graduate Assistant in Household Administration.

PEARL HORNING, B.S., Graduate Assistant in Household Administration.

Institution Economics

MELISSA HUNTER, M.A., Professor of Institution Economics; Head of Department; Director of Dormitories.

GEORGIA CHAPMAN BIBEE, B.S., Assistant Professor of Institution Economics; Supervisor of Memorial Union Dining Service.

NELMA LAURA SAYLOR, B.S., Graduate Assistant in Institution Economics.

*Home Economics Extension**

AZALEA LINFIELD SAGER, M.A., Professor of Extension Methods; State Leader of Home Demonstration Agents.

LUCY ADA CASE, M.A., Associate Professor of Foods and Nutrition; Extension Specialist in Nutrition.

IZOLA DOROTHY JENSEN, M.A., Assistant Professor and Extension Specialist in Community Social Organization.

*Extension work in home economics is a part of the Federal Cooperative Extension Service. The resident-instruction and extension staffs cooperate closely in the upbuilding of Oregon home and family life.

JOAN PATTERSON, B.Arch., Assistant Professor and Extension Specialist in Home Management.

LUCY ROCENA LANE, M.A., Assistant Professor and Extension Specialist in Clothing and Textiles.

BUENA MARGASON MARIS, M.A., Assistant Professor and Extension Specialist in Family Relationships.

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General Statement

ALL problems of the home and family life fall within the field of home economics. The School of Home Economics seeks to serve, directly or indirectly, every Oregon home. Through resident teaching the school makes its direct contribution to the life of the commonwealth. Students are trained for the responsibilities of homemaking and parenthood, for education, administration and management, and for other work in home economics and allied fields. Through research and extension, closely coordinated with the resident teaching, effort is constantly directed toward the solution of home problems.

Training in homemaking, important in the education of every young woman, is fundamental in all the work of the school. Curriculum A provides especially for those whose main object in attending college is preparation for home life. Students in this curriculum may also prepare for teaching and other earning fields related to home economics. Courses in English, art, history, modern languages, science, and other departments of general training, supplement the technical courses in this curriculum, which aims to provide a liberal as well as a technical education. The true homemaker not only must be trained in the science, the art, and the economics of the household, but also must have a well-rounded personality, with intelligent interests, trained judgment, and cultivated tastes, enabling her to solve the problems of the changing modern home, with its complex social and civic relationships. Similar in objective to Curriculum A, Curriculum C is planned for students who enter the School of Home Economics at the beginning of the junior year following two years of general lower-division work. The student's four-year program is thus divided into two distinct parts, two years devoted to general studies and two years devoted largely to home economics.

In Curriculum B, the work is largely prescribed for the first two years. In the junior and senior years the student may specialize in some field, such as home-economics teaching, home-economics extension, hospital dietetics, institutional management, or commercial fields of clothing or foods. Each of these in turn offers a variety of possibilities.

For students who are undecided which curriculum they wish to enter, or who do not plan to become candidates for a degree, programs of study are outlined covering one year or more of work and including those subjects of most value to the individual, rather than as preparation for advanced study.

For homemakers, special students, and students registered in other schools on the campus, the school offers service and special courses. Minors in home economics may be outlined for students in other schools.

Eleventh Annual Home-Interests Conference. The eleventh annual Oregon Conference for the Study of Home Interests, cooperatively conducted at the State College by the School of Home Economics and the Home Economics Extension Service, will be held in February 1941. The State Home Economics Extension Council also will meet at that time.

Home-Economics Research. Home-economics research is concerned with all problems of the modern home. Funds available for home economics Extension Service, will be held in February 1941. The State Home tion and that supported by the General Research Council, are now being used for studies in the fields of nutrition and housing. The major project now under way in the field of housing is that of the standardization of dimensions of space units of the house and its equipment. Nutrition studies now under way deal with the Vitamin B_1 content of frozen vegetables, the availability of calcium in cauliflower, and ascorbic acid metabolism of college students; and the losses of calcium, phosphorus, and Vitamin C in the freezing and subsequent cooking of vegetables.

Training in methods of research is included in graduate courses offered in the departments of Foods and Nutrition; Clothing, Textiles, and Related Arts; Household Administration; Institution Economics; and Home Economics Education.

Home-Economics Extension. The School of Home Economics cooperates with the Federal Cooperative Extension Service of the State College and with the United States Department of Agriculture in the upbuilding of Oregon home and family life. Members of the home-economics faculty prepare correspondence courses in home-economics subjects which form a part of the program of the divisions of Federal Cooperative Extension and General Extension. Resident-instruction staff members also teach courses in home economics in the annual summer short course for 4-H club members.

Special courses in home economics extension are described under the Department of Extension Methods.

Major Curricula. Undergraduate curricula leading to the bachelor's degree are offered in the School of Home Economics as follows:

CURRICULUM A, a four-year curriculum combining a general cultural education with training in the principles of homemaking. Students wishing to teach home economics, or enter home economics journalism, may register in this curriculum..... Pages 346-347

CURRICULUM B, a four-year curriculum preparing for homemaking and for home economics teaching, institutional management, extension work, and commercial fields, especially in foods or textiles. In the first two years the work is prescribed, giving the necessary foundation for any of the professional fields. In the last two years opportunity for specialization is afforded. Completion of this curriculum meets the subject-matter requirements of the State Board for Vocational Education for teachers (See page 262 for teaching certification requirements.).....Pages 347-348

CURRICULUM C, a general curriculum in home economics extending through the junior and senior years, based on a liberal-arts curriculum completed in lower division or junior college. Students must complete enough courses in home economics to meet the institutional requirements for a major in home economics.....Page 348

Requirements for Graduation. For the B.A. or B.S. degree in home economics a minimum of 192 term hours must be completed. The work should be distributed as suggested by the following curricula. At least 45 term hours in upper-division courses are required. Transfers from other institutions are required to complete at least 18 term hours in home economics at this institution. For the B.A. degree, 36 term hours in arts and

letters must be completed, including requirements in a foreign language, preferably French or German. See page 76.

Graduate Work. All departments of the School of Home Economics offer graduate work leading to the master's degree (M.A., M.S.). For the requirements for graduate work and advanced degrees see GRADUATE DIVISION.

Facilities. Modern facilities for carrying on all phases of home-economics work are provided in the Home Economics Building, the Home Management Houses, the Nursery School, and the Memorial Union Dining Service. Several food laboratories, a nutrition laboratory, and animal laboratories are maintained, together with facilities for instruction in family cookery and table service. Seven laboratories provided with modern equipment are devoted to clothing, textiles, and related arts. The Memorial Union dining-room facilities afford opportunity for training in different types of food service, including table d'hote, tearoom, banquet, and catering service. The central kitchen and cold-storage rooms are equipped with modern labor-saving and power equipment. The halls of residence for men and for women are available for study of housing problems. The Nursery School and two of the three home-management houses, Kent and Withycombe, are located on the campus; Dolan House is near the campus.

The supervised teaching is carried on in the public schools of Corvallis, the plant and equipment of the high schools being used by the student-teacher group.

The Home Economics Extension Department, through which the School of Home Economics maintains direct relationship with the homemakers and the 4-H club girls of the state, provides guidance to undergraduate and graduate students who wish to specialize in this field. The department supervises apprenticeship training in counties located near the State College.

Curricula in Home Economics[1]

B.A., B.S. Degrees

Curriculum A

Freshman Year	Term hours F	W	S
Color and Composition (AA 160, 161)	3	3 *or*	(3)
[2]House Planning and Architectural Drawing (AA 178) *or* Landscape Architecture (LA 279)	(3) *or*	(3) *or*	3
[3]Group requirement in Science group	3	3	3
English Composition (Eng 111, 112, 113)	3	3	3
Introduction to Home Economics (HAd 101)	1	----	----
History of Western Civilization (Hst 201, 202, 203)	3	3	3
Social Ethics (PE 131)	—	—	—
[4]Appreciation of Music (Mus 121)	1	—	—
General Hygiene (PE 150)	2	—	—
Physical Education	—	1	1
[5]Electives	—	3	3
	16	16	16

[1]See Suggested Elective Combinations, pages 349-351.

[2]House Planning and Architectural Drawing (AA 178), 2 hours, and Landscape Architecture (LA 279), 2 hours, may be substituted for either of the three-hour courses listed.

[3]May be deferred to sophomore year.

[4]Mus 122, 123, are recommended electives.

[5]Students who have not had sufficient preparation in clothing are required to take CT 111 in their freshman year as a prerequisite to CT 212. For exemption from CT 111 the student must pass the clothing placement test given at the opening of the fall term.

Sophomore Year

	Term hours F	W	S
Foods (FN 211, 212, 213)	3	3	3
Textiles (CT 250)	3 *or*	(3) *or*	(3)
Clothing (Selection) (CT 211), Clothing (Construction) (CT 212)	(3) *or*	3 *or*	3
Outlines of Psychology (Psy 211)	6	—	—
Dietetics (FN 225)	—	3	—
Outlines of Economics (Ec 211)	—	4	—
[5]Elementary Human Physiology (Z 211)	—	—	5
Physical Education	1	1	1
Electives	3	2	3
	16	16	15

Junior Year

Literature	3	3	3
General Sociology (Soc 211)	—	4	—
Food Purchasing (FN 411)	—	—	3
House Furnishing (CT 331)	3	—	—
Household Management (HAd 340)	—	4	—
Child Development (HAd 311, 312)	3	3	—
Electives	6	3	10
	15	17	16

Senior Year

Electives in home economics (upper division)	6	—	—
Home Management House (HAd 350)	—	5	—
Political Science	3	—	—
Electives	8	11	16
	17	16	16

Curriculum B

Freshman Year

Color and Composition (AA 160, 161)	3	3 *or*	(3)
[1]House Planning and Architectural Drawing (AA 178) *or* Landscape Architecture (LA 279)	(3) *or*	(3) *or*	3
History of Western Civilization (Hst 201, 202, 203)	3	3	3
[2]Elementary General Chemistry (Ch 101, 102), Elements of Organic Chemistry (Ch 121)	3	3	4
English Composition (Eng 111, 112, 113)	3	3	3
Social Ethics (PE 131)	—	—	—
[3]Appreciation of Music (Mus 121)	1	—	—
Introduction to Home Economics (HAd 101)	1	—	—
General Hygiene (PE 150)	—	—	2
Physical Education	1	1	—
[4]Electives	—	3	—
	15	16	15

Sophomore Year

Foods (FN 220, 221, 222)	3	3	3
Textiles (CT 250)	3 *or*	(3) *or*	(3)
Clothing (Selection) (CT 211), Clothing (Construction) (CT 212)	(3) *or*	3 *or*	3
Elements of Biochemistry (Ch 250)	4	—	—
[5]Elementary Human Physiology (Z 211)	—	—	5
Extempore Speaking (Sp 111) *or* Elementary Journalism (J 111)	3	—	—
Outlines of Economics (Ec 211)	—	—	4
Outlines of Psychology (Psy 211)	—	6	—
Physical Education	1	1	1
Electives	3	3	—
	17	16	16

[1]House Planning and Architectural Drawing (AA 178), 2 hours, and Landscape Architecture (LA 279), 2 hours, may be substituted for either of the three-hour courses listed.

[2]May be deferred to sophomore year.

[3]Mus 122, 123 are recommended electives.

[4]Students who have not had sufficient preparation in clothing are required to take CT 111 in their freshman year as a prerequisite to CT 211. For exemption from CT 111 the student must pass the clothing placement test given at the opening of the fall term.

[5]Or Physiology (Z 306, 307), 6 hours.

Junior Year	Term hours F	W	S
Literature	3	3	3
Costume Design (CT 311)	3	—	—
Clothing (CT 312) *or* Applied Design (CT 335)	—	3	—
General Bacteriology (Bac 204)	—	—	3
Household Management (HAd 340)	—	—	4
Nutrition (FN 320, 321)	—	3	3
General Sociology (Soc 211)	4	—	—
[1]Child Development (HAd 311, 312)	3	3	—
Electives	3	5	4
	16	17	17

Senior Year			
Family Relationships (HAd 422)	2	—	—
Home Management House (HAd 350)	—	5	—
House Furnishing (CT 331)	3	—	—
Political Science	—	—	3
Electives	11	11	12
	16	16	15

Curriculum C

A minimum of 45 term hours in home economics is required. Of the required 45 term hours 39 are prescribed; the remaining 6 elective term hours are to be chosen from the options listed.

During the freshman and sophomore years the student must have taken an approved program in arts and sciences leading to the Junior Certificate or equivalent. Courses in home economics need not have been taken, but students who find it possible to take a year (9 term hours) of foods or of clothing and textiles, or both, will be enabled to elect a wider range of advanced courses in home economics during their junior and senior years.

Junior Year	Term hours F	W	S
Dietetics (FN 225)	3	—	—
Foods (FN 211, 212, 213) *or* (FN 220, 221, 222)	3	3	3
Textiles (CT 250), Clothing (CT 211, 212) *or* Clothing Selection (CT 217), Clothing Selection and Construction (CT 218, 219)	3	3	3
House Furnishing (CT 331 *or* 231)	(3)	*or* 3	*or* (3)
Outlines of Economics (Ec 211)	—	4	—
Outlines of Psychology (Psy 211)	6	—	—
Electives	1	3	10
	16	16	16

Senior Year			
Home Economics courses to be chosen from the options listed below	3	—	3
Household Management (HAd 340)	4	—	—
[1]Child Development (HAd 311, 312)	3	3	—
Home Management House (HAd 350)	—	—	5
General Sociology (Soc 212)	—	3	—
Political Science	—	3	—
Electives	6	7	8
	16	16	16

[1]Or HAd 320, 425.

Senior Options

From the following options 6 term hours must be chosen in order to complete the minimum of 45 required term hours in home economics.

	Term hours
Nutrition (FN 320, 321)	6
Food Purchasing (FN 411)	3
Food Management (FN 412)	3
Nutrition in Disease (FN 420)	3
Experimental Cookery (FN 435)	3
Readings in Nutrition (FN 481)	3
Child Development (HAd 413)	3
Nursery School (HAd 425)	3
Costume Design (CT 311)	3
Clothing (CT 312)	3
Applied Design (CT 335)	3
Applied Design (CT 435)	3
Consumer Buying in Clothing and Textiles (CT 350)	3
Advanced Textiles (CT 450)	3
Dress Design (CT 411)	3
Commercial Clothing (CT 412)	3
House Furnishing (CT 431)	3
Family Relationships (HAd 422)	2
Problems of the Consumer-Buyer (HAd 442)	3
Economics of the Family (HAd 441)	3
Household Equipment (HAd 330)	3
House Planning in Relation to Function (HAd 443)	2
Quantity Cookery and Catering (IEc 311)	3
Institutional Organization and Administration (IEc 430)	2
Institutional Equipment (IEc 420)	3
Institutional Marketing (IEc 440)	2
Institution Experience (IEc 450)	4

Suggested Elective Combinations

Home economics students wishing to prepare for certain earning phases of home economics may elect any of the following groups of courses.

COMMERCIAL WORK IN CLOTHING, TEXTILES, AND RELATED ARTS

For students interested in commercial work in the fields of clothing, textiles, and related arts the following courses are suggested.

	Term hours
French	12
General Chemistry	6
Organic Chemistry	4
Lower-Division Drawing	6
Consumer Buying in Clothing and Textiles (CT 350)	3
Dress Design (CT 411)	3
Commercial Clothing (CT 412)	3
Clothing for Children (CT 420)	3
House Furnishing (CT 431)	3
Applied Design (CT 435)	3
Merchandising and Selling (SS 436)	3
Educational Psychology (Ed 312)	3
Principles of Teaching (Ed 313)	3
Journalism	3
Speech	3
Advanced Textiles (CT 450)	3
Radio Speaking (Sp 234)	3

COMMERCIAL WORK IN FOODS AND NUTRITION

For students in Curriculum B preparing for commercial positions, such as journalism, radio, or food demonstration work, the following courses are required:

	Term hours
[1]Extempore Speaking (Sp 111)	3
[1]Elementary Journalism (J 111)	3
Experimental Cookery (FN 435)	3
Food Purchasing (FN 411)	3
Food Management (FN 412)	3
Household Equipment (HAd 330)	3
Educational Psychology (Ed 312)	3
[1]General Bacteriology (Bac 204, 205)	6
General Advertising (SS 439)	3

[1]One of these is required of all students in Curriculum B.

Suggested Electives	Term hours F	W	S
Voice and Diction (Sp 120)	3	—	—
Radio Speaking (Sp 234)	3	—	—
Nutrition of the Infant and Child (FN 421)	3 *or*	3 *or*	3
Quantity Cookery and Catering (1Ec 311)	3	—	—
Economics of the Family (HAd 441)	—	3	—
Principles of Teaching (Ed 313)	3 *or*	3 *or*	3
Merchandising and Selling (SS 436)	—	3	—

CHILD DEVELOPMENT AND NURSERY SCHOOL

Specialization in this field involves at least one year of graduate study leading to a master's degree. Students are advised to plan their undergraduate and graduate programs as a unit, including special courses in biology, psychology, and sociology, as well as the usual home-economics requirements. The following courses are required for students in this field:

	Term hours
Nutrition of the Infant and Child (FN 421)	3
[1]Elementary Human Physiology (Z 211)	5
or General Physiology (Z 411, 412, 413)	9
First Aid (PE 358)	2
Child Development (HAd 413)	3
Family Relationships (HAd 422)	2
Parent Education (HAd 423)	2
Nursery School (HAd 425)	3
Clothing for Children (CT 420)	3
[2]Applied Statistics (Mth 341, 342)	6
Character Education (Ed 490)	3
Adult Education (Ed 497)	3
Individual Differences (Psy 471, 472, 473)	9
Speech Defects (Sp 250)	3

The following courses are suggested as desirable electives:

House Planning in Relation to Function (HAd 443)	2
Adult Education in Home Economics (HEd 440)	3
Adolescence: Growth and Development of the Individual (Ed 461)	3
Group Thinking (Ed 491)	3
Character Education Problems (Ed 492)	3
The Family (Soc 312)	3
Social Problems (Soc 411, 412)	4–6
Radio Speaking (Sp 234)	3
Extension Methods (EM 411, 412)	6
Evolution and Eugenics (Z 314)	3
Play and Games (PE 240)	1
Nature, Function, and Organization of Play (PE 435)	3
Psychology of Childhood (Ed 460)	3

HOME ECONOMICS TEACHING

For students preparing to teach home economics the following sequence is suggested. Additional electives should be taken to meet the requirements for certification (see pages 262-264 for requirements). For State Teachers' Certificate, 6 hours of general psychology should be taken in the sophomore year as it is prerequisite to upper-division courses in education.

These requirements for certification are not requirements for graduation in home economics. For those who wish to teach in Smith-Hughes or other subsidized vocational departments Curriculum B is required including Sp 111 and CT 312.

	Term hours F	W	S
Secondary Education (Ed 311)	3	—	—
Educational Psychology (Ed 312)	3	—	—
Principles of Teaching (Ed 313)	—	3	—
Oregon School Law and Oregon System of Education (Ed 316)	2 *or*	2 *or*	2
History of Oregon (Hst 377)	—	—	3
Organization and Administration of Homemaking Education (HEd 412)	3 *or*	3 *or*	3
Special Teaching Methods (Ed 408d)	3 *or*	3 *or*	3
Supervised Teaching (Ed 415) (hours to be arranged)	—	—	—

[1]Or Physiology (Z 306, 307).
[2]Or Statistical Methods in Education (Ed 517).

INSTITUTION ECONOMICS AND DIETETICS

For students in Curriculum B preparing for positions as dietitians in hospitals, dormitories, cafeterias, hotels, and tearooms, the following courses are required.

	Term hours		
	F	W	S
General Bacteriology (Bac 204, 205)	3	3	—
Constructive Accounting (BA 111)	4	—	—
Educational Psychology (Ed 312)	3	—	—
Principles of Teaching (Ed 313)	—	3	—
Quantity Cookery and Catering (IEc 311)	3	—	—
Physiological Chemistry (Ch 330, 331)	—	2	3
Nutrition in Disease (FN 420)	—	—	3
Institutional Organization and Administration (IEc 430)	2	—	—
Institutional Equipment (IEc 420)	—	3	—
Institutional Marketing (IEc 440)	—	—	2
Institution Experience (IEc 450)	—	—	4

Suggested electives: Food Purchasing (FN 411), Food Management (FN 412), Experimental Cookery (FN 435), Basal Metabolism (FN 422), Nutrition of the Infant and Child (FN 421), Readings in Nutrition (FN 481), Personnel Management (BA 414).

HOME ECONOMICS EXTENSION

For students preparing for positions in the field of home economics extension the following courses are suggested as electives.

Junior Year	Term hours		
	F	W	S
Educational Psychology (Ed 312)	—	3	—
Problems of the Consumer-Buyer (HAd 442)	3	—	—
Applied Design (CT 335)	—	—	3
Principles of Teaching (Ed 313)	—	—	3
Elementary Journalism (J 111)	3	—	—
Public Information Methods (J 313)	—	3	—
Community Drama (Sp 247)	3	—	—
Speech Defects (Sp 250)	—	—	3
Senior Year			
Extempore Speaking (Sp 111)	3	—	—
Family Relationships (HAd 422)	—	—	2
Extension Methods (EM 411, 412), Reading and Conference (EM 405)	3	3	3
Food Purchasing (FN 411)	3	— *or*	3
House Planning in Relation to Function (HAd 443)	—	—	2
Nursery School (HAd 425)	3 *or*	3 *or*	3
Nutrition of the Infant and Child (FN 421)	3 *or*	3 *or*	3
Household Equipment (HAd 330)	—	3 *or*	3

SUGGESTED MINORS

Suggested outlines of minors in various fields, such as arts and sciences, physical education, journalism, speech and dramatics, languages, business administration and secretarial science, are supplied to students on request.

Clothing, Textiles, and Related Arts

OFFICES, classrooms, and laboratories of the Department of Clothing, Textiles, and Related Arts are located in the Home Economics Building. All necessary furnishings and equipment are available for thorough instruction in textiles, clothing, tailoring, costume design, house decoration, and applied design.

DESCRIPTION OF COURSES

REQUIRED

Curriculum A: CT 211, 212, 250, 331.
Curriculum B: CT 211, 212, 250, 311, 312 or 335, 331.
Curriculum C: CT 211, 212, 250, 331 or 217, 218, 219, 231.

ELECTIVE

Curriculum A: CT 311, 312, 335, 411, 412, 420, 431, 435, 450.
Curriculum B: CT 335, 411, 412, 420, 431, 435, 450.
Curriculum C: CT 311, 312, 335, 411, 412, 420, 431, 435, 450.

For students in education, secretarial science, etc.: CT 217, 218, 219, 231, 235, 250.

Students planning to register for clothing courses CT 111, 212, 312 should keep in mind, when planning their wardrobes for the college year, that these courses require a certain amount of clothing construction. Students in clothing and textiles courses who do not wish to make garments for themselves may be furnished material through orders given the department.

LOWER-DIVISION COURSES

CT 111. **Elementary Clothing and Textiles.** 3 hours any term.
Fundamental processes of hand and machine sewing; design and construction of simple garments and household articles. Required of all home-economics students who have not had sufficient high-school work in clothing, or its equivalent, to enter CT 212. Six periods laboratory work.

CT 211. **Clothing (Selection).** 3 hours any term.
The artistic and economic factors in the selection of adult clothing; wardrobe needs of the college girl. Prerequisite: AA 160, 161. Two lectures; 1 two-hour laboratory period.

CT 212. **Clothing (Construction).** 3 hours any term.
Pattern study; commercial patterns and their alterations; development of original designs from basic patterns; fundamental principles of dress selection and construction applied to wool and silk materials. Prerequisite: CT 111 (or its equivalent); CT 211. Three two-hour laboratory periods.

CT 217. **Clothing Selection.** 3 hours fall or winter.
Aims to develop good taste in dress and to give an appreciation in selection of clothing from standpoint of beauty, health, and economy. Required in Curriculum C and elective for students in other schools.

CT 218, 219. **Clothing Selection and Construction.** 3 hours each term, winter and spring.
Principles of selection and construction applied in the planning and construction of garments. Elective for students, other than those majoring in home economics, who wish to cover briefly the field of dress selection and construction. Prerequisite: CT 217. Three two-hour laboratory periods.

CT 231. **House Furnishing.** 3 hours.
Aims to develop appreciation of beauty and suitability in home furnishings and some knowledge of the materials and processes involved. Elective for students other than those majoring in home economics. Two recitations; 1 two-hour laboratory period.

CT 235. **Applied Design.** 3 hours.
Decorative art involving a consideration of line, form, and color as applied to problems in weaving, block print, batik, etc. Elective for students in other schools, and for home-economics students in Curriculum C. One lecture; 2 two-hour laboratory periods. Offered alternate years. Not offered 1940-41.

CT 250. **Textiles.** 3 hours any term.
Standard fabrics from the standpoint of the consumer with the aim of developing good judgment in the buying and use of clothing and

house-furnishing materials; properties and uses of different textile fibers and fabrics. Prerequisite: chemistry desirable but not required. Two lectures; 1 two-hour laboratory period.

UPPER-DIVISION COURSES

CT 311. **Costume Design.** 3 hours any term.
Principles of art applied in the selection and design of appropriate costumes; historic costume and its relation to modern dress. Prerequisite: CT 212, 250. One lecture; 2 two-hour laboratory periods. Professor Fritchoff.

CT 312. **Clothing.** 3 hours any term.
Principles of tailoring and draping used as a means of developing independence, initiative, orginiality in designing, planning, and constructing garments. Prerequisite: CT 311. Three two-hour laboratory periods. Assistant Professor Strickland.

CT 331. **House Furnishing.** 3 hours any term.
Points to be considered in selecting and furnishing a small home from the standpoint of comfort, beauty, and economy. Prerequisite: CT 212, 250. One recitation; 2 two-hour laboratory periods. Assistant Professor Band.

CT 335. **Applied Design.** 3 hours any term.
Decorative art involving careful consideration of line, form, and color, original designs executed in various media for clothing and house-furnishing accessories; weaving, block printing, batik, and screening. Prerequisite: CT 212, 250. Three two-hour laboratory periods. Assistant Professor Band.

CT 350. **Consumer Buying in Clothing and Textiles.** 3 hours.
Problems in the production and consumption of textiles and clothing, with emphasis on the economic principles involved. Prerequisite: CT 212, 250; Ec 211. Associate Professor Wiley.

CT 401. **Research.** Terms and hours to be arranged.

CT 403. **Thesis.** Terms and hours to be arranged.

CT 405. **Reading and Conference.** Terms and hours to be arranged.

CT 407. **Seminar.** Terms and hours to be arranged.

CT 411. **Dress Design.** (G) 3 hours.
Aim is to give practical help and inspiration to students and teachers of dressmaking and design. Designing, modeling, and creative work; development of historical costume and its relation to modern fashions. Prerequisite: CT 312, 335. One lecture; 2 two-hour laboratory periods. Professor Fritchoff.

CT 412. **Commercial Clothing.** (G) 3 hours.
Selecting, designing, fitting, and constructing garments for different types of figures; organization of work from trade standpoint; emphasis on speed, economy, effectiveness, selling features, etc. Prerequisite: CT 312, 335. One lecture; 2 two-hour laboratory periods. Assistant Professor Strickland.

CT 420. **Clothing for Children.** (G) 3 hours.
Selection and construction of clothing for children at all ages, from

the standpoint of health, beauty, and cost. Prerequisite: CT 312. One lecture, 2 two-hour laboratory periods. Assistant Professor Strickland.

CT 431. **House Furnishing.** (G) 3 hours.
(Advanced course.) Historic periods of decoration with emphasis on their backgrounds; furniture and decorative textiles and their practical application to the home. Prerequisite: CT 331, 335. Two lectures; 1 two-hour laboratory period. Assistant Professor Band.

CT 435. **Applied Design.** (G) 3 hours.
For students desiring more advanced work in applied design. Prerequisite: CT 331, 335. One lecture; 2 two-hour laboratory periods. Assistant Professor Band.

CT 450. **Advanced Textiles.** (G) 3 hours.
Aims to give a scientific background for those interested in doing advanced work in textiles. Recent investigation and research in the textile field. Prerequisite: CT 331, 335, Ch 121. Two lectures; two hours laboratory. Associate Professor Rhyne.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

CT 501. **Research.** Terms and hours to be arranged.

CT 503. **Thesis.** Terms and hours to be arranged.

CT 505. **Reading and Conference.** Terms and hours to be arranged.

CT 507. **Seminar.** Terms and hours to be arranged.

Extension Methods

INSTRUCTION in this department is intended to supplement that of the subject-matter departments in the training of students for positions as home demonstration agents, county agents, 4-H club agents, extension specialists, and for similar types of work in which extension methods are commonly used.

The extension worker must be well trained not only in the subject matter of her field but also in the methods by which extension work is successfully carried on. She must be able to give or know how to obtain authoritative advice for her community or county on any problem that may arise related to her field of service. She must know and practice the technique of platform speaking and demonstration, how to conduct discussions, and how to support the extension program by effective publicity. Excellent opportunities for combining a major in agriculture or home economics with training in journalism, speech and dramatics, economics, sociology, and other departments, supplemented by work in extension methods, should materially assist in meeting the need for better training on the part of extension workers.

This department is a joint department within both the School of Agriculture and the School of Home Economics.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

EM 405. **Reading and Conference.** Terms and hours to be arranged. Students carry on individual study in special fields of extension methods under guidance of instructor. Professors Ballard and Sager.

EM 411, 412. **Extension Methods.** (G) 3 hours each term. Intensive study of the history and present organization of extension work; training in the most successful methods employed by extension specialists, county agricultural agents, home demonstration agents, 4-H club leaders, and agricultural workers in commercial fields. For senior or graduate students only. Professors Ballard and Sager.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Foods and Nutrition

LABORATORIES with modern equipment, five for foods instruction, accommodating eighteen students each, are provided. Two dining rooms and small kitchens are used in meal service in the department and for occasions by the school. For work in nutrition one chemical laboratory, one basal-metabolism laboratory, and laboratories for animal experimentation are provided.

DESCRIPTION OF COURSES

Required
Curriculum A: FN 211, 212, 213, 225, 411.
Curriculum B: FN 220, 221, 222, 320, 321.
Curriculum C: FN 211, 212, 213, 225 or 220, 221, 222, 225.

Elective
Curriculum A: FN 412.
Curriculum B: FN 411. 412, 420, 421, 422, 423, 435, 481.
Curriculum C: FN 320, 321, 411, 412, 420, 421, 435, 481.

For students in education, pharmacy, etc.: FN 211, 212, 213, 218, 225, 240, 250. If FN 211, 212, 213 or FN 220, 221, 222 are elected the full three terms must be completed.

LOWER-DIVISION COURSES

FN 211, 212, 213.* **Foods.** 3 hours each term. An introduction to the subject of foods; selection, preparation, and service. For students not electing chemistry. Prerequisite or parallel: one year of laboratory science. Two recitations; 2 two-hour laboratory periods.

FN 218. **Food Preparation.** 3 hours any term. For women students who are not majoring in home economics. Basic principles of food preparation, menu making, and meal service. One recitation; 2 two-hour laboratory periods.

*Home practice in food preparation is required of students who have completed FN 213 and FN 222, the character and amount of practice being arranged with the instructors in charge.

FN 220, 221, 222.* Foods. 3 hours each term.
Foods in their scientific and economic aspects; selection, preparation, and service. Prerequisite: Ch 101, 102; Ch 121 prerequisite or parallel. Two recitations; 2 two-hour laboratory periods.

FN 225. **Dietetics.** Any term.
Nutritive value of foods from the standpoint of newer scientific investigations; selection of an optimal diet for health; present-day problems in nutrition; recent trends in American dietary habits. Given for 3 hours credit, required of home-economics students in Curricula A and C; given for 2 hours credit as an elective for men and women in other schools.

FN 240. **Food Selection and Preparation (For Men).** 2 hours winter.
For men who are planning and preparing their own meals or acting as managers of living groups. Open to men in all schools. One lecture; 1 three-hour laboratory period.

FN 250. **Camp Cookery (For Men).** 2 hours spring.
Preparation of palatable and nutritious products from foods available in camps; outdoor food preparation involving the use of reflectors and improvised camping utensils. One lecture; 1 three-hour laboratory period.

UPPER-DIVISION COURSES

FN 320. **Nutrition.** 3 hours any term.
A scientific study of nutrition involving digestive and metabolic processes and products; methods of investigation which have established the quantitative bases in dietetics and the standards that have been adopted. Prerequisite: FN 222, Ch 251, Z 211. Two lectures; 1 two-hour laboratory period. Assistant Professor Garrison.

FN 321. **Nutrition.** 3 hours any term.
Continuation of FN 320. Application of scientific principles of nutrition to the individual and family group; projects in animal experimentation. Prerequisite: FN 320. Two lectures; 1 two-hour laboratory period. Assistant Professor Garrison, Associate Professor Fincke.

FN 401. **Research.** Terms and hours to be arranged.

FN 403. **Thesis.** Terms and hours to be arranged.

FN 405. **Reading and Conference.** Terms and hours to be arranged.

FN 407. **Seminar.** Terms and hours to be arranged.

FN 411. **Food Purchasing.** 3 hours any term.
Household purchasing; study of standards, grades, and qualities of food products as found on the market; factors governing cost; food laws; the ethics of food buying and selling. Prerequisite: FN 213 and 225, or 222; Ec 211. Two lectures; 2 two-hour laboratory periods. Associate Professor Kohlshorn.

FN 412. **Food Management.** (g) 3 hours winter or spring.
Aims to give the upper-division student opportunity to check and improve the techniques in the phases of food study in which further

*Home practice in food preparation is required of students who have completed FN 213 and FN 222, the character and amount of practice being arranged with the instructors in charge.

help is needed. Includes complete responsibility in purchasing, menu making, meal management. Prerequisite: FN 213, 225, 411; or FN 222, 320. Six periods. Miss Roberts, Mrs. Overman.

FN 420. **Nutrition in Disease.** (G) 3 hours spring.
Dietary adjustments for abnormal conditions. A preliminary course for students who wish to become hospital dietitians or nutrition specialists and for students who desire to broaden their training in nutrition. Prerequisite: FN 321. Professor Williams.

FN 421. **Nutrition of the Infant and Child.** (G) 3 hours.
Nutritional needs from prenatal life through adolescence; maternal dietary requirements. Prerequisite: FN 321. Professor Williams.

FN 422. **Basal Metabolism.** (G) 3 hours.
Measurement of energy metabolism in the human body with special attention to the recent experimental studies in the field; practice in the use of respiration apparatus and a special problem involving some factor that may influence metabolism. Prerequisite: FN 321. Assistant Professor Garrison.

FN 423. **Animal Experimentation.** (G) 3 hours winter or spring.
Quantitative methods used in nutrition research with the white rat and guinea pig as experimental animals. Reports of animal experiments carried on during the term are required, the object of which is to determine the ability of the student to organize and interpret data. Prerequisite: FN 321. Associate Professor Fincke.

FN 435. **Experimental Cookery.** (G) 3 hours winter.
Development of experimental methods; their application to investigations in cookery and the skills involved; acquaintance with the literature in this field; preparation of the student for independent investigations in foods. Prerequisite: Ch 121, FN 222. Associate Professor Kolshorn.

FN 481. **Readings in Nutrition.** (G) 3 hours.
Research in nutrition as reported in scientific journals. A broad background of science is required to interpret recent advances in the chemistry of food and nutrition. Prerequisite: FN 321. Professor Williams, Associate Professor Fincke.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

FN 501. **Research.** Terms and hours to be arranged.

FN 503. **Thesis.** Terms and hours to be arranged.

FN 505. **Reading and Conference.** Terms and hours to be arranged.

FN 507. **Seminar.** Terms and hours to be arranged. Professor Williams and staff.

Home Economics Education

PROFESSIONAL training for prospective teachers of home economics is afforded by the Department of Home Economics Education. Any student having a scholarship record below average should confer with

the Dean of the School of Home Economics before registering for teacher-training work.

This department is a joint department within both the School of Home Economics and the School of Education.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

HEd 401. **Research.** Terms and hours to be arranged.

HEd 403. **Thesis.** Terms and hours to be arranged.

HEd 405. **Reading and Conference.** Terms and hours to be arranged.

HEd 407. **Seminar.** Terms and hours to be arranged.

Ed 408d. **Special Teaching Methods.** (See Ed 408, page 275.) Professor Blazier.

HEd 412. **Organization and Administration of Homemaking Education.** (G) 3 hours any term.
Typical organizations of homemaking departments on both the vocational and the nonvocational basis; equipment and management. Prerequisite: Ed 408d. Professor Blazier.

HEd 413. **The Supervision of Home Projects.** (G) 2 hours spring.
Use of home projects in home-economics instruction; field work in supervision of home projects. Prerequisite: HEd 412. One recitation; 1 two-hour laboratory period. Professor Blazier.

HEd 420. **Community Problems in Nutrition.** (G) 3 hours winter.
Nutrition problems facing the high-school teacher in her contacts with the community. Field work will consist of individual and group projects worked out in cooperation with agencies interested in a nutrition-health program. Two recitations; one laboratory period. Prerequisites: FN 321, Ed 313. Miss Roberts.

HEd 440. **Adult Education in Home Economics.** (G) Hours to be arranged, winter.
Problems in the adult-education program authorized under the Smith-Hughes Act; field work in promoting, organizing, observing, and teaching adult classes. Prerequisite: HEd 412. Professor Blazier.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

HEd 501. **Research.** Terms and hours to be arranged.
Problems in home economics education. Professor Blazier.

HEd 503. **Thesis.** Terms and hours to be arranged.

HEd 505. **Reading and Conference.** Terms and hours to be arranged.

HEd 507. **Seminar.** Terms and hours to be arranged. Professor Blazier.

Household Administration

UNDER this department instruction is offered in household management, economic problems of the family, problems of the consumer-buyer, household equipment, housing, child development, nursery

school, parent education, and family life. Offices, classrooms, and equipment laboratory are located in the Home Economics Building. Three well-equipped Home Management Houses and a Nursery School are located on or near the campus.

DESCRIPTION OF COURSES

Required

Curriculum A: HAd 101, 311, 312, 340, 350.
Curriculum B: HAd 101, 311, 312, 340, 350, 422.
Curriculum C: HAd 311, 312, 340, 350.

Elective

Curriculum A: HAd 330, 401, 403, 405, 407, 413, 422, 423, 425, 441, 442, 443.
Curriculum B: HAd 330, 401, 403, 405, 407, 413, 423, 425, 441, 442, 443.
Curriculum C: HAd 330, 401, 403, 405, 407, 413, 422, 423, 425, 441, 442, 443.

For students in secretarial science, education, pharmacy, etc.: HAd 222, HAd 225, HAd 101, HAd 239, and any other course for which prerequisites have been taken.

LOWER-DIVISION COURSES

HAd 101. **Introduction to Home Economics.** 1 hour fall.
Aims to orient beginning students in the field of home economics and to assist them in adjusting themselves to college life.

HAd 222. **Family Relationships.** 2 or 3 hours any term.
Aims to give a better understanding of present-day family life and some of the problems existing. Open to both men and women with sophomore standing or above. No prerequisites. Two recitations.

HAd 225. **Child Care and Training.** 3 hours winter or spring.
Growth, development, care, and training of the young child; observations in the nursery school. For students not in home economics degree curricula. Open to both men and women. No prerequisites.

HAd 239. **Home Management.** 3 hours spring.
Problems that arise in the management of the home, with emphasis on management of money, time, and energy in relation to family living. For students not in home-economics degree curricula. No prerequisites.

UPPER-DIVISION COURSES

HAd 311, 312. **Child Development.** 3 hours each term, fall and winter or winter and spring.
Growth and development of the normal preschool child; observations in the nursery school. Prerequisite: Psy 203 or 211. Three recitations; 1 one-hour observation period. Professors Brandon and Prentiss.

HAd 320. **Child Development.** 3 hours fall or winter.
Growth and development of the young child; observations in the nursery school. Prerequisite: Psy 203 or 211. Professor Brandon.

HAd 330. **Household Equipment.** 3 hours fall or spring.
Selection, operation, care, and arrangement of household equipment. Prerequisite: one term of foods. Two recitations; 1 three-hour laboratory period. Assistant Professor Van Horn.

HAd 340. **Household Management.** 4 hours any term.
Problems arising in the management of a home; special consideration to the management of money, time, and energy. Prerequisite: FN 213 or 222; Ec 211 (may parallel). Assistant Professor Van Horn.

HAd 350. **Home Management House.** 5 hours any term.
Principles underlying management of a home are put into practice during a six weeks' residence in a house. Prerequisite: HAd 312 or 320, HAd 340. Associate Professor Spike.

HAd 401. **Research.** Terms and hours to be arranged.

HAd 403. **Thesis.** Terms and hours to be arranged.

HAd 405. **Reading and Conference.** Terms and hours to be arranged.

HAd 407. **Seminar.** Terms and hours to be arranged.

HAd 413. **Child Development.** (G) 3 hours spring.
Growth and development in middle and late childhood and early adolescence. Prerequisite: HAd 311, 312. Professor Brandon.

HAd 422. **Family Relationships.** (G) 2 hours any term.
Factors entering into adjustments within the modern family group. Prerequisite or parallel: HAd 312 or 320 and HAd 340; or Ed 460, 461, 490 or equivalent. Professor Prentiss.

HAd 423. **Parent Education.** (G) 2 hours winter or spring.
Methods and content in parent education; observation of a discussion group. Prerequisite: HAd 312 or 320; HAd 340. It is suggested that Ed 491 precede this course. Two recitations. Assistant Professor Paddock.

HAd 425. **Nursery School.** (G) 3 hours any term.
Observation and practice with a group of normal preschool children; special studies. Prerequisite: HAd 311, 312 or HAd 320. Two three-hour laboratory periods; 1 recitation. Assistant Professor Paddock.

HAd 441. **Economics of the Family.** (G) 3 hours fall or winter.
Economics most directly touching the welfare of the family in modern industrial society; family income, its size, sources, adequacy, distribution; the problem of income apportionment and household expenditure; household production; economic contribution of women in homemaking. Prerequisite: Ec 211, HAd 340 (latter may be taken parallel). Assistant Professor Van Horn.

HAd 442. **Problems of the Consumer-Buyer.** (G) 3 hours winter or spring.
Problems met by the household buyer in her efforts to make an intelligent selection of goods on the modern market; the different types of retail marketing agencies that serve her; methods of improving consumer-buying. Prerequisite: Ec 211, HAd 340. Assistant Professor Van Horn.

HAd 443. **House Planning in Relation to Function.** (G) 2 hours.
Private dwelling from the standpoint of family needs and interests; information required in making plans; information now available; characteristics of the "ideal" whole-family house; variations among households in needs and interests; evaluation of common practices in planning low-cost one-family dwellings. Prerequisite: HAd 312 or 320; HAd 340. Not offered 1940-41.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

HAd 501. **Research.** Terms and hours to be arranged.

HAd 503. **Thesis.** Terms and hours to be arranged.

HAd 505. **Reading** and **Conference.** Terms and hours to be arranged.

HAd 507. **Seminar.** Terms and hours to be arranged.

Institution Economics

COURSES in institution economics are planned to meet the needs of students who desire to prepare for positions in the field of institutional management. Two halls of residence for women and five for men, together with the banquet rooms and tea rooms in the Memorial Union, are used as laboratories. The facilities are adequate for thorough training in this field.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

IEc 311. **Quantity Cookery** and **Catering.** 3 hours fall.
Application of principles of cookery to the preparation of food in large quantity; standardization of formulas, dietetic value, cost; use of modern equipment; menu planning; experience in the preparation and service of foods for special functions. Prerequisite: FN 213 or 222. One lecture; 2 two-hour laboratory periods. Assistant Professor Bibee.

IEc 320. **Cafeteria Management.** 3 hours.
Offered to meet the needs of the student who plans to teach and manage a school cafeteria. Menu study, buying, cafeteria plans, accounting, management, and practice in quantity cookery. At present offered in summer session only. Prerequisite: FN 213 or 222. Assistant Professor Bibee.

IEc 401. **Research.** Terms and hours to be arranged. Professor Hunter.

IEc 403. **Thesis.** Terms and hours to be arranged. Professor Hunter.

IEc 405. **Reading** and **Conference.** Terms and hours to be arranged. Professor Hunter.

IEc 407. **Seminar.** Terms and hours to be arranged. Professor Hunter.

IEc 420. **Institutional Equipment.** (g) 3 hours winter.
Equipment for bedrooms, living rooms, dining rooms, and kitchens in different types of institutions; design, materials; construction, cost, and arrangement. Prerequisite: HAd 340. Professor Hunter.

IEc 430. **Institutional Organization** and **Administration.** (g) 2 hours fall.
Principles of organization and administration as applied to various types of institutions; discussion of employment problems and training, labor laws, office records. Prerequisite: HAd 340. Professor Hunter.

IEc 440. **Institutional Marketing.** (g) 2 hours spring.
Institutional marketing from the standpoint of food purchasing, including production and distribution of food commodities, marketing costs, factors influencing prices, marketing of special foods such as meats, vegetables, fruits, eggs. Prerequisite: HAd 340. Professor Hunter.

IEc 450. **Institution Experience.** (G) 4 hours spring.
Aims to give practical experience in organization and administration of an institution; practice work in the various halls of residence, the Memorial Union Dining Service, and office of the Director of Dormitories. Prerequisite: IEc 311, 420, 430, 440. One lecture; 3 two-hour laboratory periods. Assistant Professor Bibee.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

IEc 501. **Research.** Terms and hours to be arranged. Professor Hunter.

IEc 503. **Thesis.** Terms and hours to be arranged. Professor Hunter.

IEc 505. **Reading and Conference.** Terms and hours to be arranged. Professor Hunter.

IEc 507. **Seminar.** Terms and hours to be arranged. Professor Hunter.

HOME ECONOMICS AT THE UNIVERSITY

By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in home economics was confined to the School of Home Economics at the State College and lower-division work (instruction in the freshman and sophomore years) was assigned to both the State College and the University.

The lower-division work in home economics is essentially the same at both institutions. While it is recommended that students intending to major in home economics enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the University, and transfer to the State College for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met. Students wishing to complete at the University the first two years of Curriculum B (technical curriculum) should have their programs carefully planned by the head of the Department of Home Economics.

At both institutions, the lower-division program is intended not only to lay the foundation for specialization in home economics, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the University offers upper-division service courses in home economics for students in other fields.

The following lower-division and service courses in home economics are available at the University.

CLOTHING, TEXTILES, AND RELATED ARTS

LOWER-DIVISION COURSES

CT 111, 112, 113. Clothing Construction. Three terms, 2 hours each term.

CT 114, 115, 116. Clothing Selection. Three terms, 1 hour each term.

CT 125. Textiles. Fall or winter term, 2 hours.

UPPER-DIVISION SERVICE COURSE

CT 331. Home Planning and Furnishing. Spring term, 3 hours.

FOODS AND NUTRITION

LOWER-DIVISION COURSES

FN 211, 212, 213. Foods. Three terms, 3 hours each term.

FN 225. Principles of Dietetics. Winter or spring term, 2 hours.

FN 250. Camp Cookery. Fall or spring term, 1 hour.

HOUSEHOLD ADMINISTRATION

LOWER-DIVISION COURSES

HAd 222. Family Relationships. Any term, 2 hours.

UPPER-DIVISION SERVICE COURSES

HAd 325. Child Care and Training. Any term, 3 hours.

HAd 339. Household Management. Any term, 3 hours.

School of Pharmacy

Faculty

ADOLPH ZIEFLE, M.S., Phar.D., Dean of the School of Pharmacy; Professor of Pharmacy.

MYRTLE BURNAP WOODBURY, B.S., Secretary to the Dean.

Practical Pharmacy

ERNEST LESLIE BEALS, M.S., Assistant Professor of Pharmacy.

Pharmaceutical Analysis

LEWIS CLEMENCE BRITT, Ph.D., Associate Professor of Pharmaceutical Analysis; In Charge of Department; Director of the Drug Laboratory of the Oregon State Board of Pharmacy.

Pharmacology and Pharmacognosy

ERNST THEODORE STUHR, M.S., Associate Professor of Pharmacology and Pharmacognosy; In Charge of Department.

General Statement

IN 1898, on petition of the druggists of Oregon, pharmacy was first established as a separate department of the State College. The aim was to provide for more thorough theoretical and practical instruction than could be provided in the average drug store, in which up to that time most young men and women were trained for the pharmacy profession. From its inception the department grew steadily, and in 1917 it was raised to the rank of a school. The school is an integral part of the State College organization, and as a consequence has shared in the support accorded by the State of Oregon and the national government. As a result of this support, together with the fact that it is a part of a great educational institution, the school is equipped to offer standard curricula and to maintain a high degree of excellence in its work.

The School of Pharmacy is a member of the American Association of Colleges of Pharmacy and is accredited by the American Council on Pharmaceutical Education. Institutions holding membership in these organizations must maintain certain minimum requirements for entrance and graduation. Their influence has been so great that many states either by law or by ruling of the state board of pharmacy recognize their standards. Diplomas as well as the work of students in this school are recognized by all state boards of pharmacy

requiring graduation from an accredited school of pharmacy as a prerequisite for examination and registration.

Requirements of the Pharmaceutical Profession. Public sentiment demands high requirements for the practice of pharmacy through the enactment of stringent state and Federal laws. Pharmacists must now have a scientific training such as cannot be obtained by merely working in a drug store. The minimum college requirement of the Oregon State Board of Pharmacy is completion of an accredited four-year curriculum in pharmacy as a prerequisite for examination and registration.

Pharmacy as a Profession for Women. No field of work offers more desirable opportunities for women than pharmacy. The work is clean, pleasant, and agreeable, and women are peculiarly adapted to it. The technical work of manufacturing and dispensing drugs involves the traits of neatness and accuracy that, generally speaking, are more predominant in women than in men. As more than seventy-five per cent of all drugs and druggists' sundries are purchased by women, it is natural that those patrons should often prefer to deal with women.

Drug-Store Experience. The Oregon State Board of Pharmacy requires one year of drug-store experience (2,400 hours) before registration can be granted. Students are not required to have had such experience to register in or be graduated from the School of Pharmacy. Such experience is very desirable, however, and students are urged to acquire one or preferably two years of experience before taking up the courses in pharmacy. The Oregon State Board of Pharmacy does not allow credit for part-time drug-store experience while the student is in attendance at a school or college of pharmacy.

Oregon Law Relating to the Practice of Pharmacy. The Oregon State Pharmacy Law is enforced by the Oregon State Board of Pharmacy. The state law outlines the scope and duties of registered pharmacists with regard to the dispensing of prescriptions, the sale of poisons, and other professional services. A registered pharmacist may operate and manage a drug store, compound medicinal substances, and sell poisons, and it is his duty to train apprentices in the professional phases of pharmacy.

A resumé of the Oregon State Pharmacy Law passed in 1921 and amended in 1935 is as follows:

To qualify as REGISTERED PHARMACIST, a candidate must meet the following requirements:

(1) He must be an American citizen and at least twenty-one years of age.

(2) He must be a graduate of a school or college of pharmacy accredited by the Oregon State Board of Pharmacy, the American Association of Colleges of Pharmacy, and the American Council on Pharmaceutical Education.

(3) He must take the registered pharmacist's examination, make a weighted average of seventy-five per cent, and not fall below sixty per cent in any one subject. His grade in the examination in com-

pounding prescriptions and practical work must be at least seventy-five per cent.

(4) He must have completed one year of practical drug-store experience under the supervision of a registered pharmacist comprising a minimum of at least 2,400 hours of work per calendar year. In no case will more than 2,400 hours of practical experience be credited for any calendar year. In no case may drug-store experience be counted that the candidate may have had before his sixteenth birthday. No credit is allowed for drug-store experience gained while in attendance at a school or college of pharmacy. Blanks are provided by the State Board of Pharmacy for the registration of practical experience. All such experience must be certified to on an affidavit by a registered pharmacist.

Eligibility for Examination. All graduates of the School of Pharmacy who are American citizens and twenty-one years of age are eligible to take the examinations of the Oregon State Board of Pharmacy. Those graduates who pass in all subjects and meet all other requirements receive the certificate of registered pharmacist. Graduates who have not completed at least 2,400 hours of drug-store work have no standing whatsoever as registered pharmacists until they can fulfill this requirement.

Preparation for Examinations of State Boards of Pharmacy. Before they can practice pharmacy, all graduates are required to pass the examination of a state board of pharmacy. During the third term of each academic year, the faculty organizes review classes for senior students for the purpose of giving trial state-board examinations, studying typical state-board questions, studying specimens of drugs and chemicals for examination in identification, giving oral examinations, and using all other means to aid the students in the various subjects in which they will be examined. Because of this service graduates of the School of Pharmacy have made an outstanding record in the examinations of the Oregon State Board of Pharmacy.

Reciprocity. As the Oregon State Board of Pharmacy is a member of the National Association of State Boards of Pharmacy, graduates who are registered by this Board are privileged to reciprocate without further examination with all states except California and New York.

O. S. P. A. Educational Fund. Oregon druggists assembled at the thirty-sixth annual convention of the Oregon State Pharmaceutical Association held in the Pharmacy Building July, 1925, established an Educational Fund to assist worthy students of the School of Pharmacy who have a reasonable amount of means to complete their course. The operation of the fund is under the direction of a Board of Trustees elected from membership in the state association. As a basis for granting loans students are required to submit on the application form a budget, references, the name of a guarantor, and other information regarding their assets and liabilities. The average loan per student per year is $100. Only in exceptional cases are loans granted during the first term.

Correspondence. Inquiries regarding the School of Pharmacy may be addressed to the dean. Students desiring to enter will be provided by the State College registrar with proper blanks for filing credentials.

Major Curricula

UNDERGRADUATE and graduate work is offered by the School of Pharmacy preparing students for all fields of the pharmacy profession and leading to both the bachelor's and master's degrees.

The Bachelor's Degree. Four-year curricula leading to the degree of Bachelor of Science in Pharmacy are offered by the School of Pharmacy. During the freshman and sophomore years all students pursue substantially the same curriculum. In the junior and senior years the curricula are differentiated into Practical Pharmacy and Professional Pharmacy. The distinction between these two fields of study is one of emphasis, as service in the field of either curriculum is both practical and professional. A total of 192 term hours must be completed for a degree in either curriculum.

A. Practical Pharmacy Curriculum. This curriculum is designed to provide thorough instruction in pharmacy, chemistry, biology, accounting, business law, and related subjects, to prepare the student not only to pass the examinations of state boards of pharmacy but to serve efficiently in all branches of practical drug-store work. As the commercial phases of pharmacy are rapidly becoming a dominant feature of the modern drug store, a series of lectures and demonstrations in the model drug store is given each year to the members of the senior class by a group of twenty nonresident lecturers representing all phases of the drug business.

The following are some of the fields open to thoroughly prepared and experienced pharmacists: preparation and dispensing of medicines; service as dispensers and clinical technicians in hospitals, managers and proprietors of drug stores, chemists and department managers for laboratories that manufacture drugs and chemicals; public-health work where the graduate is expected to advise the public in health and sanitation, and a variety of other positions demanding a knowledge of pharmacy and related subjects.

B. Professional Pharmacy Curriculum. Students wishing to enter positions demanding more intensive preparation in scientific and cultural subjects than is provided in the practical pharmacy curriculum, together with basic training in pharmacy and related subjects, may prepare through this curriculum for the following positions: research and manufacturing chemists with wholesale drug firms; traveling representatives with drug firms who call on physicians and pharmacists in the interest of newly developed drugs and other substances; inspectors for state and Federal bureaus; pharmacists and specialists with the United States government in the departments of public health, veteran's administration, the Navy, the Army, internal revenue department, Federal pure-food and drug laboratories, chemists with state boards of health and state food and drug laboratories, and a variety of other positions. Graduates of this curriculum are eligible to take the examinations of any state board of pharmacy. If they qualify as registered pharmacists, they are licensed to dispense prescriptions and to operate a drug store.

Options in the election of courses are permitted according to the student's interests and needs. Prior to registration for each term the dean

outlines for each student the courses he should elect to fulfill his objective, together with delinquencies.

As the State College is listed as an approved institution by the American Medical Association, a student by completing the professional pharmacy curriculum can qualify in the period of four years for admission to a Class A medical school and the degree of Bachelor of Science in Pharmacy. For admission to the study of dentistry the preliminary educational requirements are two years (ninety term hours) of training in liberal arts and sciences, including one year of English, general chemistry, biology or zoology and physics and one-half year of organic chemistry; the regular two-year premedical course as given by standard liberal-arts colleges is recommended. If a student is interested in any specific medical or dental school, he should study current catalogs and other requirements. Upon request the dean will furnish all information necessary to outline the student's program.

Advanced standing is granted to students transferring from other institutions of collegiate rank. Application for advanced standing is made on official transcript submitted to the Registrar. Upon receipt of the advanced-standing report, the dean makes a study of the student's case and outlines the program to be followed to be graduated in pharmacy, or to qualify for any other objective.

Beginning January 1, 1938, all transfer students who have not been registered in an accredited school or college of pharmacy, regardless of the amount of credit presented, must be registered in pharmacy for three collegiate years to qualify for graduation and examination by a state board of pharmacy. This requirement is effective in all accredited schools and colleges of pharmacy.

Graduate Work. Graduate work leading to the degree of Master of Science (M.S. in Phar.) is offered in the School of Pharmacy. Candidates for the master's degree must hold a bachelor's degree in pharmacy from the State College or its equivalent from another accredited institution. In addition, candidates must have attained a creditable scholastic average in their undergraduate work and must have determined upon a definite objective to be attained through the advanced work. Institutional requirements for the degree of Master of Science will be found under GRADUATE DIVISION.

In all cases, a minimum of one entire academic year of three terms in residence is necessary when full time is devoted to the fulfillment of the requirements for the degree. If a candidate devotes part time to instructional work, for which compensation is received, a period longer than three terms is required. Fulfillment of the requirements of the major is based primarily on original work completed along some line of experimental investigation. A thesis must be prepared, incorporating the results of the investigation. An oral examination, given by the instructors in the department in which the candidate majored, is required.

Facilities

MODERN facilities for the work of the School of Pharmacy are afforded in the Pharmacy Building. These include special laboratories, a model drug store, State Board of Pharmacy Drug Laboratory, a complete sign-card and window-trimming department, museum, library, and study room. The laboratories and lecture rooms are equipped

with all apparatus necessary for practical pharmaceutical instruction. Students have individual desks supplied with the materials necessary for the specific course.

Model Drug Store. Donations from wholesale and jobbing firms, from manufacturers of drug-store fixtures, and from other sources have made it possible for the School of Pharmacy to equip a model drug store in the Pharmacy Building. The fixtures consist of Stedman's rubberoid flooring, 32 feet of mahogany English wall cases, 18 feet of plate-glass marble-base show-cases, a 10-foot wrapping counter, a 10-foot mahogany prescription case, 25 feet of cross partition, an intercommunicating telephone, and similar displays. These fixtures, together with a complete stock, are used for instruction in salesmanship, show-case and window trimming, inventory, the keeping of poison and narcotic records, taking copies of prescriptions over a telephone, systematizing a drug stock, and store management. As the stock and fixtures were donated for instructional purposes, nothing is actually sold or dispensed.

State Drug Laboratory. For the purpose of determining the purity and regulating the sale of medicinal substances in the State of Oregon, the Oregon State Board of Pharmacy, in October, 1927, established in the Pharmacy Building a State Drug Laboratory, which is under the supervision of trained chemists.

The purpose of the laboratory is to enforce Section 20 of the Oregon laws as amended in 1935 fixing the responsibility for the purity of drugs upon the pharmacist. Realizing that druggists are not equipped to assay pharmaceutical preparations, the Board of Pharmacy established the laboratory primarily to assist them to dispense pure drugs. By means of the laboratory it is also the object of the Board to prevent dishonest practice and gross adulteration of medicinal substances sold by individuals other than pharmacists, and to make it a legal necessity that all drugs sold in the state shall be true to label.

The funds required to equip and maintain the laboratory are furnished by the Oregon State Board of Pharmacy. The room, permanent laboratory furniture, and other requisites are furnished by the State College. The director of the laboratory is also a member of the faculty of the School of Pharmacy.

Four-Year Curricula in Pharmacy

B.S. Degree

Practical Pharmacy *Professional Pharmacy*

LOWER-DIVISION CURRICULUM

Freshman Year

	Term hours		
	F	W	S
English Composition (Eng 111, 112, 113)	3	3	3
General Chemistry (Ch 204, 205, 206)	5	5	5
History or elective	3	3	3
[1]Theoretical Pharmacy (Phr 111, 112)	3	3	—
[1]Pharmaceutical Processes (Phr 113)	—	—	3
[2]Physical Education	1	1	1
Military Science	1	1	1
	16	16	16

[1]Students expecting to major in the professional curriculum take German (GL 1, 2, 3, or equivalent), in place of Phr 111, 112, 113.

[2]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education. Women take Social Ethics (PE 131) one term.

Sophomore Year	Term hours F	W	S
Organic Chemistry (Ch 226, 227)	5	5	—
[1]Inorganic Pharmacy (Phr 311)	—	—	5
German or French (or elective)	4	4	4
[2]Sign Card Writing (Phr 211, 212)	2	2	—
Accounting for Technical Students (BA 385)	3	—	—
Business Law (BA 256) or Elective	—	4	—
Natural Products and Drug Principles (PhA 321)	—	—	3
Physical Education	1	1	1
Military Science	1	1	1
Elective	—	—	2
	16	17	16

PRACTICAL PHARMACY

Junior Year

(See Lower-Division Curriculum above.)

General Bacteriology (Bac 204)	3	—	—
Pathogenic Bacteriology (Bac 332)	—	3	—
Immunity and Serum Therapy (Bac 333)	—	—	3
Practical Pharmacognosy (PhP 331, 332, 333)	3	3	3
Quantitative Drug Analysis (PhA 361, 362)	3	3	—
Physiology (Z 306, 307, 308)	3	3	3
Drug Assaying (PhA 327)	—	—	3
Pharmaceutical Calculations (Phr 313)	3	—	—
Microscopy of Drugs (PhP 438) or Military Science, or elective	—	—	3
Galenical Pharmacy (Phr 317)	—	5	—
Military Science or approved elective	3	—	—
	18	17	15

Senior Year

Practical Pharmacology (PhP 491, 492)	3	3	—
Experimental Pharmacology (PhP 493)	—	—	3
Proprietary Remedies (Phr 450)	—	3	—
Organic Pharmacy (Phr 440)	3	—	—
U. S. Pharmacopoeia and National Formulary (Phr 441, 442)	—	3	3
Drug-Store Practices (Phr 447, 448, 449) or Military Science	3	3	3
Manufacturing Pharmacy (Phr 444)	3	—	—
Prescription Lectures (Phr 454)	3	—	—
Prescription Incompatibilities (Phr 455)	—	3	—
Prescription Compounding (Phr 456)	—	—	3
Approved elective	—	—	3
	15	15	15

PROFESSIONAL PHARMACY

Junior Year

(See Lower-Division Curriculum.)

Vertebrate Zoology (Z 204, 205, 206)	4	4	4
Theoretical Pharmacy (Phr 120)	4	—	—
Inorganic Pharmacy (Phr 311)	—	—	5
Practical Pharmacognosy (PhP 331, 332)	3	3	—
Pharmaceutical Calculations (Phr 313)	3	—	—
Galenical Pharmacy (Phr 317)	—	5	—
Essay Writing (Eng 211)	—	3	—
Elementary Physical Chemistry (Ch 340)	—	—	3
Military Science or nonscience elective	3	3	3
	17	18	15

[1]Students expecting to major in the professional curriculum take Ch 232 instead of Phr 311.

[2]Students expecting to major in the professional curriculum take General Physics (Ph 201, 202, 203) in place of Phr 211, 212, and omit the spring term elective.

Senior Year	Term hours F	W	S
Elementary Psychology (Psy 201, 202)	—	3	3
Organic Pharmacy (Phr 440)	3	—	—
U. S. Pharmacopoeia and National Formulary (Phr 441, 442)	—	3	3
Practical Pharmacology (PhP 491, 492)	3	3	—
Prescription Lectures (Phr 454)	3	—	—
Prescription Compounding (Phr 456)	—	—	3
Literature or Public Speaking or Military Science	3	3	3
Natural Products and Drug Principles (PhA 321)	—	—	3
Approved electives	3	4	—
	15	16	15

Practical Pharmacy

IN THE Department of Practical Pharmacy are offered elementary, basic, and advanced courses in theoretical pharmacy, pharmaceutical processes, and commercial pharmacy. Most of the work is of upper-division and graduate character.

DESCRIPTION OF COURSES

LOWER-DIVISION COURSES

Phr 111, 112. **Theoretical Pharmacy.** 3 hours each term fall and winter. Two lectures; 1 recitation; 1 three-hour laboratory period. Professor Ziefle, Assistant Professor Beals.

Phr 113. **Pharmaceutical Processes.** 3 hours spring.
The fundamental manipulation used in the manufacture of simple galenical preparations. Prerequisite: Phr 112 or 120. Two lectures; 1 recitation; 1 three-hour laboratory period. Assistant Professor Beals.

Phr 120. **Theoretical Pharmacy.** 4 hours winter or spring.
Identical with Phr 111, 112, except that no laboratory work is offered. Admission to this course is restricted to students transferring from other institutions having advanced-standing credit for one year of general chemistry and other science courses. Five lectures. Associate Professor Britt.

Phr 211, 212. **Sign Card Writing.** 2 hours each term fall and winter.
The printing of labels, price tags, and simple display signs; preparation of display standards and backgrounds; and other practical display work. Students are required to furnish brushes and pens. Three two-hour laboratory periods. Associate Professor Britt.

Phr 220. **Household Preparations.** 3 hours winter or spring.
The more common medicinal remedies, technical preparations, toilet requisites, and druggists' sundries used in the home. In the laboratory students prepare representative samples of each class of preparations and study the mode of application and specific use. Elective without prerequisites. Two lectures; 1 three-hour laboratory period. Associate Professor Britt.

UPPER-DIVISION COURSES

Phr 311. **Inorganic Pharmacy.** 5 hours spring.
Inorganic chemicals and their preparations used in medicine. In the laboratory students make representative samples of certain types of chemicals, as well as tests for impurities, such as arsenic, lead, and antimony. Prerequisite: Ch 205. Three lectures; 2 three-hour laboratory periods. Assistant Professor Beals.

Phr 312. **Pharmaceutical Calculations.** 1 hour fall.
Required to precede Phr 313 except for students exempted by a qualifying examination. Prerequisite: Phr 111, Ch 204. Three lectures. Assistant Professor Beals.

Phr 313. **Pharmaceutical Calculations.** 3 hours fall or winter.
Weights and measures used in pharmacy; percentage solution; alligation; specific gravity; thermometers; etc. Prerequisite: Phr 312 unless exempted by a qualifying examination. Assistant Professor Beals.

Phr 317. **Galenical Pharmacy.** 5 hours winter.
The various types of galenical preparations as outlined in the U. S. Pharmacopoeia and National Formulary; laboratory work in the preparation of simple galenicals, such as waters, pills, emulsions, suppositories, ointments, troches. Prerequisite: PhP 331, Ch 226. Three lectures; 2 three-hour laboratory periods. Assistant Professor Beals.

Phr 440. **Organic Pharmacy.** 3 hours fall.
Organic chemicals and their preparations used in medicine, with particular reference to the correlation between chemical constitution and physiological action. Prerequisite: Phr 317, PhP 333, Ch 227. Assistant Professor Beals.

Phr 441, 442. **U. S. Pharmacopoeia and National Formulary.** 3 hours each term winter and spring.
All drugs in United States Pharmacopoeia and National Formulary, as well as all important unofficial drugs and preparations in the dispensatories, studied with emphasis on composition, uses, methods of manufacture, reasons for each step in process of manufacture, and all other important data. Prerequisite: Phr 440. Assistant Professor Beals.

Phr 444. **Manufacturing Pharmacy.** 3 hours fall.
The manufacture of the more complex pharmaceuticals involving chemical reactions in their preparation. Prerequisite: Phr 317, Ch 227. Three three-hour laboratory periods. Associate Professor Stuhr.

Phr 447, 448, 449. **Drug-Store Practices.** 3 hours each term.
Practical drug-store work, including preliminary problems of establishing a drug store, store arrangement, salesmanship, show-case and window trimming, inventory, keeping narcotic and poison records, taking copies of prescriptions over the telephone, and other phases of drug-store work. The stock and equipment of the model drug store are used for instruction, but as all stock and sundries in the model drug store were donated for instructional purposes, nothing is actually sold or dispensed. Prerequisite: Phr 313. Two lectures; 1 three-hour laboratory period. Professor Ziefle.

Phr 450. **Proprietary Remedies.** 3 hours winter.
A brief descriptive survey of the more important preparations of various pharmaceutical manufacturers; a consideration of their composition and therapeutic use. The text, *New and Nonofficial Remedies*, is supplemented by current literature and laboratory reports. Prerequisite: Phr 440. Associate Professor Stuhr.

Phr 454. **Prescription Lectures.** 3 hours fall.
The theory of procedures in prescription compounding and the proper management of the prescription department. Prerequisite: Phr 317, PhP 333, Ch 227. Two lectures; 1 three-hour laboratory period. Associate Professor Stuhr.

Phr 455. **Prescription Incompatibilities.** 3 hours winter.
Several hundred incompatibilities in prescriptions studied from the point of view of the cause of the incompatibility and the best method of overcoming it. Prerequisite: Phr 454. Two lectures; 1 three-hour laboratory period. Associate Professor Stuhr.

Phr 456. **Prescription Compounding.** 3 hours spring.
Students apply the principles learned in Phr 454 and 455 to the actual compounding of more than one hundred prescriptions representing the general types met with in actual practice. Prerequisite: Phr 455. One lecture; 2 three-hour laboratory periods. Associate Professor Stuhr.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for graduate credit.

Phr 501. **Research.** Terms and hours to be arranged.

Phr 503. **Thesis.** Terms and hours to be arranged.

Phr 505. **Reading and Conference.** Terms and hours to be arranged.

Phr 507. **Seminar.** Terms and hours to be arranged.
Instruction and practice in the method of attack of a scientific problem, the use of pharmaceutical literature, and the preparation of written reports on scientific investigations.

Pharmaceutical Analysis

ALL courses in drug analysis, qualitative and quantitative, are offered through the department of Pharmaceutical Analysis. All the work is of upper-division or graduate character. The Department of Pharmaceutical Analysis is under the supervision of the Director of the Drug Laboratory of the Oregon State Board of Pharmacy.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

PhA 321. **Natural Products and Drug Principles.** 3 hours spring.
The composition and identification of natural products, alkaloids, synthetic drugs, and newer remedies. Prerequisite: Ch 226. One lecture; 2 three-hour laboratory periods. Associate Professor Britt.

PhA 327. **Drug Assaying.** 3 hours spring.
The quantitative determination of the purity of the more common official and unofficial drugs. Prerequisite: Ch 227. One lecture; 2 three-hour laboratory periods. Associate Professor Britt.

PhA 361, 362, 363. **Quantitative Drug Analysis.** 3 hours each term.
Advanced methods in drug assaying. Students showing proficiency in this course are permitted to do special work in the State Drug Laboratory. Prerequisite: Phr 311; Ch 227. One lecture; 2 three-hour laboratory periods. Associate Professor Britt.

PhA 441. **Toxicology.** (G) 3 hours.
Detection of the common inorganic and organic poisons, with emphasis on alkaloids and synthetics. Prerequisite: PhP 333, PhA 321, Ch 227. One lecture; 2 three-hour laboratory periods. Associate Professor Britt.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may be taken for gradnate credit.

PhA 501. **Research.** Terms and hours to be arranged.

PhA 503. **Thesis.** Terms and hours to be arranged.

PhA 505. **Reading and Conference.** Terms and hours to be arranged.

PhA 507. **Seminar.** Terms and hours to be arranged.
Conducted jointly with Phr 507 and PhP 507. See Phr 507.

Pharmacology and Pharmacognosy

COURSES in the identification of medicinal plants, together with all courses dealing with the physiological action of drugs and their therapeutic value, are included in the Department of Pharmacology and Pharmacognosy. All the work is of upper-division or graduate character.

DESCRIPTION OF COURSES

UPPER-DIVISION COURSES

PhP 331, 332, 333. **Practical Pharmacognosy.** 3 hours each term.
The official botanical, animal, and synthetic drugs, and their macroscopic identification. Prerequisite: Phr 113, Ch 227. Associate Professor Stuhr.

PhP 438. **Microscopy of Drugs.** 3 hours spring.
Microscopic structure and characteristics of drugs; methods of identifying powdered drugs and of detecting adulterations. Prerequisite: PhP 332. One lecture; 2 three-hour laboratory periods. Associate Professor Stuhr.

PhP 491, 492. **Practical Pharmacology.** 3 hours each term fall and winter. Physiological action and medicinal uses of drugs on the human organism, including toxicological aspects of poisonous drugs. Prerequisite: Phr 317, PhP 333. Associate Professor Stuhr.

PhP 493. **Experimental Pharmacology.** 3 hours spring.
A continuation of PhP 491, 492, with the introduction of laboratory work and demonstration. Biological tests are made of some of the more important drugs of the U. S. P. and N. F. Prerequisite: PhP 492. Two lectures; 1 three-hour laboratory period. Associate Professor Stuhr.

PhP 494. **Pharmacological Standardization.** (G) 3 hours winter or spring. Biological assaying, employing the methods of the U. S. P., together with certain unofficial but well-recognized procedures. Prerequisite: PhP 493, Ch 227, Bac 333, Z 203. One lecture; 2 three-hour laboratory periods. Associate Professor Stuhr.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) or (*G*) may he taken for graduate credit.

PhP 501. **Research.** Terms and hours to be arranged.

PhP 503. **Thesis.** Terms and hours to be arranged.

PhP 505. **Reading and Conference.** Terms and hours to be arranged.

PhP 507. **Seminar.** Terms and hours to be arranged.
Conducted jointly with Phr 507 and PhA 507. See Phr 507.

Secretarial Science

Faculty

VICTOR PIERPONT MORRIS, Ph.D., Dean and Director of Business Administration, Oregon State System of Higher Education; In Charge of Secretarial Science.

HERBERT TOWNSEND VANCE, M.S., Professor of Secretarial Science; Head of Department.

BERTHA WHILLOCK STUTZ, M.S., Associate Professor of Secretarial Science.

MINNIE DEMOTTE FRICK, B.S., Associate Professor of Secretarial Science.

CHARLES THEODORE YERIAN, Ph.D., Associate Professor of Secretarial Science.

JOHN WALTER ERICKSON, M.S., Assistant Professor of Secretarial Science.

EMERY MENZO GIBSON, M.A., Assistant Professor of Secretarial Science.

LOUISE JACKMAN ORNER, B.S., Instructor in Secretarial Science.

EDWARD VIETTI, M.S., Instructor in Secretarial Science.

ELIZABETH POULTON, M.S., Instructor in Secretarial Science.

General Statement

THE Secretarial Science four-year curriculum is planned to meet the needs of the students who wish to prepare themselves for responsible secretarial positions or for such positions as office manager, assistant to public officials, and research assistants. Students may major in secretarial science and minor in some other field.

A four-year degree curriculum in secretarial training had been offered at the State College from 1916 to 1932, though instruction in secretarial subjects had been offered for many years before that time. In the 1932 allocations of major curricula in the State System of Higher Education, secretarial science was assigned to the State College with the provision that it should be under the control of the Dean and Director of Business Administration. In May 1933, the work in secretarial science was organized by authority of the State Board of Higher Education into a four-year curriculum leading to the degree of Bachelor of Secretarial Science.

For the degree of Bachelor of Secretarial Science students must satisfy all the general requirements and in addition must follow a prescribed curriculum including the first two years of shorthand and typing, Office Procedure (SS 311, 312), one year of accounting, Business English, Elements of Finance (BA 222), Elements of Marketing (BA 223), one year of Business Law, and one year of Principles of Economics.

Commercial Education. In conjunction with the Department of Secretarial Science, the School of Education is able to meet the demand for well-prepared teachers of commercial branches in secondary schools. In the selection of their collegiate courses in both secretarial science and

education, students should advise with the School of Education. For the requirements for certification see SCHOOL OF EDUCATION.

Facilities. The classrooms and laboratories for the instruction in secretarial science are located in Commerce Hall. Special facilities comprise the latest office appliances and fixtures, including the standard types of typewriters, duplicators, mimeographs, dictaphones, mimeoscopes, filing cabinets, adding machines, bookkeeping machines, and accounting machines. All appliances and equipment are kept in constant repair. Students are taught how to keep in repair the appliances they use.

Curriculum in Secretarial Science

B.S.S. Degree

Freshman Year	Term hours F	W	S
Stenography (SS 111, 112, 113)	3	3	3
Typing (SS 121, 122, 123)	2	2	2
English Composition (Eng 111, 112, 113)	3	3	3
[1]Physical Education	1	1	1
Military Science	1	1	1
Group requirement in science	3	3	3
Electives—			
Chosen from the following: speech (Sp 111, 112, 113; Sp 120, 121, 122); modern language; social science (SSc 101, 102, 103); art and architecture (AA 114, 115, 116); literature (Eng 101, 102, 103; Eng 104, 105, 106)	3	3	3
	16	16	16

Sophomore Year	F	W	S
Applied Stenography (SS 211, 212, 213)	3	3	3
Principles of Economics (Ec 201, 202, 203)	3	3	3
Constructive Accounting (BA 111, 112, 113)	4	4	4
Elementary Psychology (Psy 201, 202, 203)	3	3	3
Business English (Eng 217)	....	....	3
Physical Education	1	1	1
Military Science	1	1	1
Electives—			
Chosen from the following: literature (Eng 271, 272, 273; Eng 274, 276); modern language; history (Hst 224, 225, 226); sociology (Soc 211); philosophy (Phl 211, 212, 213); political science (PS 212); music (Mus 121, 122, 123)	3	3	....
	18	18	18

Junior Year	F	W	S
Office Procedure (SS 311, 312)	5	5	....
Office Organization and Management (SS 313)	....	....	5
Elements of Finance (BA 222)	4	....	....
Elements of Marketing (BA 223)	....	4	....
Business Law (BA 256, 257, 258)	4	4	4
Federal and State Tax Forms (BA 214)	....	....	3
Electives—			
Chosen from the following: sociology (Soc 364); history (Hst 377); English (Eng 201, 202, 203); religion; science; advanced military science	3	3	3
	16	16	15

[1]General Hygiene (PE 150), 2 term hours, is taken one term in place of physical education. Women take Social Ethics (PE 131), one term.

Senior Year	Term hours F	W	S
[1]Secretarial Science (SS 411, 412)	3	3	---
[1]Seminar in Secretarial Science (SS 407)	---	1	---
Merchandising and Selling (SS 436)	---	3	---
General Advertising (SS 439)	---	---	3
International Trade (Ec 440)	4	---	---
Money and Banking (Ec 413)	---	---	4
Latin-American Relations (Ps 418)	---	3	---
Pacific Area Relations (PS 419)	---	---	3
International Relations (PS 417)	3	---	---
Electives—			
Chosen from the following: government (PS 415); sociology (Soc 312; Soc 411, 412); religion (R 461; R 463); science; advanced military science	5	5	5
	15	15	15

Description of Courses

COURSES IN SECRETARIAL SCIENCE

LOWER-DIVISION COURSES

SS 111, 112, 113. **Stenography.** 3 hours each term.
Theory of shorthand; practical applications of theory principles in sentence dictation. SS 121, 122, 123 must be taken concurrently with this sequence unless the student has had the equivalent. Students who have had at least one year of shorthand are not permitted to take course SS 111 for credit. Four recitations.

SS 121, 122, 123. **Typing.** 2 hours each term.
Theory and practice of touch typing; rhythm drills, dictation exercises; writing paragraphs; punctuation and mechanical arrangement of business correspondence, legal forms, tabulating, manifolding, speed practice. Students who have had at least one year of typing are not permitted to take SS 121 for credit. Five periods laboratory work; 1 hour home assignment.

SS 211, 212, 213. **Applied Stenography.** 3 hours each term.
Advanced principles and phrases of shorthand; dictation and transcripts covering vocabularies of representative businesses, such as law, banking, insurance, railway, and manufacturing; advanced dictation, legal forms, newspaper and magazine articles. Prerequisite: SS 113, 123 or equivalent. Three recitations; 3 one-hour laboratory periods; 5 hours home work.

UPPER-DIVISION COURSES

SS 311, 312. **Office Procedure.** 5 hours each term fall and winter.
Training in the most efficient stenographic methods and office practice, filing, advanced dictation, transcripts, reports, and practical use of modern office appliances. Prerequisite: SS 213 or equivalent. Three lectures; 3 two-hour laboratory periods. Assistant Professor Erickson.

SS 313. **Office Organization and Management.** 5 hours spring.
Principles and practices of scientific secretarial office management, covering organization, arrangement, and operation, with special con-

[1]Offered each term.

sideration of the employment and training of secretarial office workers; office efficiency problems; business ethics. Prerequisite: SS 312. Associate Professor Yerian.

SS 407. **Seminar.** 1 hour any term.
Research and survey course in the organization and practice of a modern office in which the student is especially interested and prepared. Professor Vance.

SS 411. **Secretarial Science.** 3 hours fall.
Duties of the secretary in business and the professions; relation of the private secretary to the employer; office organization and management; application of actual problems in college offices. Prerequisite: SS 313 or equivalent. Professor Vance.

SS 412. **Secretarial Science.** 3 hours any term.
Continuation of SS 411. Nine hours laboratory. Professor Vance.

SS 436. **Merchandising and Selling.** (g) 3 hours winter.
Retail organizations, practices, policies, and problems; stock-control systems; buying; methods of sales promotion such as retail display and coordination of advertising with market and merchandising processes; selection of media; retail and mail-order advertising; mechanics of advertising, including typography, printing, engraving, and book making; practice in production of layouts and copywriting. Professor Vance.

SS 439. **General Advertising.** (g) 3 hours spring.
Theory and practice; economic and social implications of advertising; the advertising agency; the "Campaign," including methods of research and coordination of advertising with market and merchandising processes; selection of media; retail and mail-order advertising; mechanics of advertising, including typography, printing, engraving, and book making; practice in production of layouts and copywriting. Professor Vance.

GRADUATE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for graduate credit. For graduate courses in commercial education, see below.

COURSES IN COMMERCIAL EDUCATION

UPPER-DIVISION COURSES

Ed 408c. **Special Teaching Methods.** (See Ed 408, page 275.) Associate Professor Stutz.

CEd 401. **Research.** Terms and hours to be arranged.

CEd 403. **Thesis.** Terms and hours to be arranged.

CEd 405. **Reading and Conference.** Terms and hours to be arranged.

CEd 407. **Seminar.** Terms and hours to be arranged.

GRADUATE COURSES

CEd 501. **Research.** Terms and hours to be arranged.
Problems in commercial education. Associate Professor Stutz.

CEd 503. **Thesis.** Terms and hours to be arranged.

CEd 505. **Reading and Conference.** Terms and hours to be arranged.

CEd 507. **Seminar.** Terms and hours to be arranged.

CEd 541. **Current Practices in Typewriting.** 3 hours fall.
Principles underlying the development of typing skills; motivation, supplementary materials, and special devices. Prerequisite: Ed 408c and teaching experience in typing. Associate Professor Stutz.

CEd 542. **Current Practices in Shorthand.** 3 hours winter.
Correct writing habits; correlation of sound and symbol response and the development of supplementary material through word and sentence building and transcription technique. Prerequisite: Ed 408c and experience in teaching stenography. Associate Professor Stutz.

CEd 543. **Problems in Commercial Education.** 3 hours spring.
Recent and current trends in the commercial curriculum in high school; evaluation of debatable methods and available research studies. Prerequisite: Ed 408c and teaching experience in commercial subjects. Associate Professor Stutz.

Military Science and Tactics

Faculty

(Personnel detailed from United States Army)

COLONEL CHARLES LEWIS SAMPSON, Infantry; Commandant; Professor of Military Science and Tactics.

LIEUTENANT COLONEL JOHN EMMET SLOAN, Field Artillery; Associate Professor of Military Science and Tactics; Director of Field Artillery Unit.

LIEUTENANT COLONEL HERBERT ALONZO WADSWORTH, Infantry; Associate Professor of Military Science and Tactics; Director of Infantry Unit.

LIEUTENANT COLONEL HUGH BROADUS KEEN, Infantry; Assistant Professor of Military Science and Tactics.

CAPTAIN EDWARD JAMES ROXBURY, Field Artillery; Assistant Professor of Military Science and Tactics.

CAPTAIN HAROLD ARTHUR DOHERTY, Field Artillery; Assistant Professor of Military Science and Tactics.

CAPTAIN ROBERT AUGUSTUS ELLSWORTH, Field Artillery; Assistant Professor of Military Science and Tactics.

CAPTAIN HENRY JOSEPH HOEFFER, Corps of Engineers; Associate Professor of Military Science and Tactics; Director of Engineer Unit.

FIRST LIEUTENANT LOUIS RUSSELL WIRAK, Corps of Engineers; Assistant Professor of Military Science and Tactics.

STAFF SERGEANT CLARENCE CALVIN WOODBURY (Captain, Infantry, Officers' Reserve Corps); Instructor in Military Science and Tactics (Infantry Unit).

STAFF SERGEANT JOHN CARSON WOODBURY; Assistant to Professor of Military Science and Tactics (Sergeant-Major).

STAFF SERGEANT LAURENCE EDWIN DARLINGTON (Captain, Quartermaster, Officers' Reserve Corps); Instructor in Military Science and Tactics (Engineer Unit).

SERGEANT JOHN EARL CRAWFORD; Instructor in Military Science and Tactics (Infantry Unit).

SERGEANT EDWARD HURSHAL COMBS; Instructor in Military Science and Tactics (Field Artillery Unit).

SERGEANT JAMES DEMITH; Instructor in Military Science and Tactics (Field Artillery Unit).

SERGEANT FRANK SYLVESTER SHERMAN; Instructor in Military Science and Tactics (Field Artillery Unit).

SERGEANT JOHNNIE ERNEST PARKER; Instructor in Military Science and Tactics (Field Artillery Unit).

General Statement

FOR many years the State College Cadet Corps has held a reputation for excellence. Instruction in military tactics was started about 1872 in conformity with a requirement of the Federal Land-Grant Act of 1862, under which the State College was established as the land-grant institution of Oregon.

For the academic year 1916-17, the State College was classified by the United States War Department as a "Distinguished College," the highest rating for such an institution. Conditions and methods of rating have varied since 1917, but the Cadet Corps has maintained its position of prestige. During the World War the number of graduates who served with distinction in our armed forces gave proof of the high quality of their preparation for public service and of the value to the nation of such military instruction.

Reserve Officers' Training Corps. Oregon State College qualified under the provisions of the Act of Congress passed in 1916 which gave a greater measure of Federal aid and recognition to military training at this institution. The College agreed to meet prescribed standards of training in order that its graduates might receive commissions as reserve officers in the Army who would be available for service in event of a national emergency. The Corps of Cadets at Oregon State now comprises units of the Reserve Officers' Training Corps—Infantry, Field Artillery, Engineers, and Band.

Requirements. Military instruction is required in the freshman and sophomore years of all men students who are citizens of the United States, under twenty-six years of age, and physically qualified except as stated below. Exemptions from military training are granted for the following reasons: physical unfitness; age twenty-six or over; service of six months or more in the Army, Navy, or Marine Corps; noncitizenship; married and living with wife in Corvallis or vicinity; completion of four Citizen Civilian Military Training Camps; conscientious objection on account of *religious belief*, in which case the student is required to make application to the Commandant in writing accompanied by a letter from his parents or guardian and a letter from the pastor of his church showing that he is a member of the church in good standing, that the church does not believe in military training and that the objection is based on this religious belief. Transfer students who have eighty or more hours of credit accepted at Oregon State College may be exempt, and in other exceptional cases exemption may be granted on the basis of individual handling by the Commandant.

Basic Course. The first two years of military instruction requiring three hours a week constitute what is known as the Basic Course of the Reserve Officers' Training Corps. During that period, the student does not receive any emoluments other than the use of a uniform provided by the War Department. Uniforms must be returned by the students at the end of each year or upon withdrawal from college. The prescribed text books, shoes, and a leather belt of the approved type must be provided by the student. Cadet corporals are selected from second-year students of this course.

Advanced Course. This is an elective course of five hours a week covering the third and fourth years of military instruction in the Reserve Officers' Training Corps. Students in this course are appointed cadet officers and sergeants of the Cadet Corps. Upon completion of requirements for this course, students receive commissions as second lieutenants in the Officers' Reserve Corps, Army of the United States, for that branch in which they have specialized—Infantry, Field Artillery, or Engineer Corps. Under present War Department allotments, about two hundred and seventy-five students are permitted to take the advanced course. The students

for the course are selected by the Professor of Military Science and Tactics from those applicants whose military efficiency, academic standing and physical condition are such as to warrant further training.

Advanced course students enter into a contract with the government to continue the course to completion, unless excused by competent authority, and to attend a six-weeks period of instruction at camp, at government expense, the summer following their first year of advanced instruction. In return the student receives allowances toward subsistence which average about $7.50 a month during the period from date of entrance into the course to the date of completion, except for the period of the camp, when he receives $21 per month and his food, uniform, and medical attention. He also receives an officer's uniform which he uses during the course and which becomes his property upon completion of the first year. At the end of the second year he receives $7 to cover the cost of maintenance of his uniform during the year. During the two-year course he receives from the United States a total of about $200 cash, a tailor-made uniform, and all expenses during the six-weeks summer camp.

Academic Credits. For the basic course, 1 hour of academic credit is allowed for each term, and for the advanced course the credit is 3 hours for each term, making a total of 24 hours credit.

Military Sports. Supplementary to normal instruction in marksmanship, the Military Department supervises the college rifle teams.

Description of Courses

COURSES IN INFANTRY

LOWER-DIVISION COURSES

MS 111, 112, 113. **First-Year Basic Course.** 1 hour each term.
Freshman year. Aims to instruct the student in basic Infantry subjects; to inculcate obedience, decorum, cheerfulness, esprit, and other elements of good discipline with the corresponding physical development; and to lay a sound foundation for the further pursuit of military studies. Subjects include: orientation; National Defense Act and R. O. T. C.; obligations of citizenship; military history and military policy; military discipline; courtesies and customs of the service; military organization; map reading; leadership; rifle marksmanship. Three periods.

MS 211, 212, 213. **Second-Year Basic Course.** 1 hour each term.
Sophomore year. Aims to give students further training in the basic Infantry subjects; to inculcate leadership; to build on the knowledge they have already acquired and to prepare them to take up the Advanced Course. Subjects include: leadership; automatic rifle; combat training; musketry; scouting and patrolling; combat principles; characteristics of infantry weapons. Three periods.

UPPER-DIVISION COURSES

MS 311, 312, 313. **First-Year Advanced Course.** 3 hours each term.
Junior year. Aims to give further training in basic Infantry subjects and in leadership, as the ground work for the duties of Junior officers

of Infantry; to develop tactical judgment; to prepare the student for practical training while attending R. O. T. C. summer camp. Subjects include: aerial photograph reading; instructional methods; machine guns, howitzer; pistol; rifle marksmanship; combat training; field fortification; company administration; care and operation of motor vehicles; defense against chemical warfare. Five periods. Assistant Professor Keen.

MS 411, 412, 413. **Second-Year Advanced Course.** 3 hours each term.
Senior year. Aims to complete the preparation of the student for commission as a second lieutenant of Infantry in the Officers' Reserve Corps of the United States Army. Subjects include: leadership; military law; military history and policy of the United States; Officers' Reserve Corps regulations; emergency procurement of property and funds; tanks; mechanization; combat training. Five periods. Associate Professor Wadsworth.

COURSES IN FIELD ARTILLERY

LOWER-DIVISION COURSES

MS 121, 122, 123. **First-Year Basic Course.** 1 hour each term.
Freshman year. Aims to create a foundation of essential information upon which to base the military training of the student. Subjects include: military fundamentals; orientation; National Defense Act and R. O. T. C.; obligations of citizenship; military history and policy; military discipline; courtesies and customs of the service; map reading; military organization; leadership; elementary gunnery; duties of cannoneers and the firing battery; field artillery ammunition and matériel. Rifle marksmanship to students so electing. Three periods.

MS 221, 222, 223. **Second-Year Basic Course.** 1 hour each term.
Sophomore year. Aim is to further the student's knowledge of the basic field artillery subjects and to prepare them to take up the Advanced Course. Subjects include: leadership; fire control instruments; battery communications; duties of battery commander's detail; automotive vehicle construction and operation. Three periods.

UPPER-DIVISION COURSES

MS 321, 322, 323. **First-Year Advanced Course.** 3 hours each term.
Junior year. Aims to give further training in basic Field Artillery subjects and in leadership, as the ground work for the performance of the duties of junior Field Artillery officers; to prepare the student for the practical training he will receive while attending R. O. T. C. summer camp. Subjects include: leadership; aerial photograph reading; care and operation of motor vehicles; battery administration; defense against chemical warfare; reconnaissance and occupation of a position; field artillery gunnery. Five periods. Assistant Professor Doherty.

MS 421, 422, 423. **Second-Year Advanced Course.** 3 hours each term.
Senior year. Aims to complete the preparation of the student for commission as a second lieutenant of Field Artillery in the Officers' Reserve Corps and the United States Army. Subjects include: leadership; military law; military history and policy of the United States; Officers' Reserve Corps regulations; emergency procurement of property and funds; field artillery subjects; combat training. Five periods. Associate Professor Sloan.

COURSES IN MILITARY ENGINEERING

LOWER-DIVISION COURSES

MS 131, 132, 133. **First-Year Basic Course.** 1 hour each term.
Freshman year. Designed to impart essential military knowledge combined with development of individual initiative and self-reliance. Subjects include: military organization; military discipline, courtesies and customs of the service; National Defense Act and R. O. T. C.; military history and policy; obligations of citizenship; leadership; rifle marksmanship; map reading; floating bridges. Three periods.

MS 231, 232, 233. **Second-Year Basic Course.** 1 hour each term.
Sophomore year. Introduction to application of engineering science to military purposes; preparation of students to take up the Advanced Course. Subjects include: leadership; map and aerial photograph reading; military sketching; map making; rigging; weapons and musketry; scouting and patrolling; floating bridges. Three periods.

UPPER-DIVISION COURSES

MS 331, 332, 333. **First-Year Advanced Course.** 3 hours each term.
Junior year. Aims to give further training in basic military-engineering subjects and in leadership, as a ground work for the performance of the duties of a junior Engineer officer; to prepare the student for the practical training given at the R. O. T. C. summer camp. Subjects include: leadership; engineer training—military roads, bridges, explosives and demolitions, field fortifications; company administration; defense against chemical warfare; combat training. Five periods. Assistant Professor Wirak.

MS 431, 432, 433. **Second-Year Advanced Course.** 3 hours each term.
Senior year. Aims to complete the preparation of the student for commission as a second lieutenant of Engineers in the Officers' Reserve Corps of the United States Army. Subjects include: leadership; military law; military history and policy of the United States; Officers' Reserve Corps regulations; emergency procurement of property and funds; engineering subjects; combat training. Five periods. Associate Professor Hoeffer.

Division of Physical Education

Faculty

Clair Van Norman Langton, Dr.P.H., Ed.D., Director of the Division of Physical Education.

Elizabeth Heath, B.S., Secretary to the Director.

Physical Education for Women

Eva M Seen, Ed.D., Professor of Physical Education for Women; Head of Department.

Henrietta Morris, Sc.D., Associate Professor of Hygiene.

Laura Cornelia McAllester, B.S., Assistant Professor of Physical Education for Women.

Betty Lynd Thompson, M.A., Associate Professor of Physical Education for Women.

Natalie Reichart, M.A., Assistant Professor of Physical Education for Women.

Jeannette Alice Brauns, B.S., Instructor in Physical Education for Women.

Thyrza Elizabeth Iverson, M.S., Instructor in Physical Education for Women.

Florence Louise Hupprich, M.A., Instructor in Physical Education for Women.

Physical Education for Men

Clair Van Norman Langton, Dr.P.H., Ed.D., Professor and Director of Physical Education; Professor of Hygiene.

Percy Philip Locey, M.A., Director of Intercollegiate Athletics.

Ralph Orval Coleman, M.A., Professor of Physical Education; Director of Intramural Sports; Head Coach of Baseball.

Raymond George Nebelung, Dr. P.H., Associate Professor of Hygiene.

Delmar Isaac Allman, Dr.P.H., Associate Professor of Hygiene.

Jack Ernest Hewitt, M.A., Associate Professor of Physical Education; Coach of Swimming.

Grant Alexander Swan, B.S., Assistant Professor of Physical Education; Head Coach of Track.

Edward Almeron Stevens, LL.B., Assistant Professor of Physical Education; Coach of Rowing.

Walter Milo Adrion, M.A., Assistant Professor of Physical Education.

Alonzo L Stiner, B.S., Head Coach of Football; Instructor in Physical Education.

Amory Tingle Gill, B.S., Head Coach of Basketball; Instructor in Physical Education.

JAMES VICTOR DIXON, M.S., Assistant Coach of Football; Instructor in Physical Education.

HOWARD WILLIAM RAABE, M.S., Instructor in Physical Education.

HAROLD WILLIAM MOE, B.S., Assistant Coach of Football; Instructor in Physical Education.

WILLIAM WARD MCKALIP, B.S., Freshman Coach; Instructor in Physical Education.

General Statement

ALL instruction and related activities in the field of physical education and hygiene are administered by the Division of Physical Education. Close cooperation is maintained with the Student Health Service and other student-welfare agencies of the State College.

Lower-division and service courses in physical education are offered at the State College. By action of the State Board of Higher Education on March 7, 1932, all major work in the Oregon State System of Higher Education leading to baccalaureate and advanced degrees in physical education was confined to the School of Physical Education at the University, and lower-division work (instruction in the freshman and sophomore years) was assigned to both the University and the State College.

The lower-division work in physical education is essentially the same at both institutions. While it is recommended that students intending to major in physical education enter the institution at which major work is offered at the beginning of their freshman year, they may, if they wish, spend their freshman and sophomore years at the State College, and transfer to the University for their major work at the beginning of the junior year, without loss of credit and with fundamental requirements for upper-division standing fully met.

At both institutions, the lower-division program is intended not only to lay the foundation for specialization in physical education, but also to serve the needs of students majoring in other fields. In addition to the lower-division work, the State College offers upper-division service courses in physical education for students in other fields.

As stated on pages 162-163, the dean of the major school at the University serves in an advisory relation to the work in physical education at the State College to the end that the instruction shall bear a proper relation to the work of the major school.

Students who plan to minor in physical education at the State College or major at the University should confer with advisers in the office of the Department of Physical Education for Women or for Men, respectively.

Intramural Sports. Intramural sports are conducted by both Physical Education departments. The department for women has charge of all women's athletics and offers for the students a wide program of intramural sports and mixed recreation. The department for men carries on extensive organized sports programs which are separate and apart from intercollegiate athletics.

The function of the program of intramural sports is to give every student the moral, social, physical, and educational values of competitive sports. Competition is organized between living organizations, clubs, indi-

viduals, classes, and institutional departments. The program of sports provides for both individual and team endeavor. "Athletics for all" is the purpose of intramural sports promotion.

Athletic Organizations. Athletic organizations for men include the Minor "O" and Varsity "O" associations and the honor societies, Sigma Alpha and Sigma Delta Psi. The Women's Athletic Association sponsors a program of competitive and recreational activities for women. The Orange "O" letter, the senior plaque, and election to Parthenia are honor awards.

Student Health Service. The Student Health Service provides medical examinations for all entering students and advises with the Physical Education departments in the assignment of students to activities in accord with their physical needs. The following activity classification is made, based upon the medical examinations: (a) Unlimited activity, (b) Unlimited activity with observation, (c) Restricted activity, (d) Corrective gymnastics, (e) No activity.

Fees. The fees paid by every student cover the use of pool and showers, locker, swimming suit, complete gymnasium uniform except shoes, regular laundry service for the uniform, towels, bandages, and consumable supplies. Every student has a basket or locker in the gymnasium for his or her exclusive use and is urged to use the gymnasium facilities to the utmost.

Prerequisites for a Major. Students taking the first two years toward a major in physical education with the intention of transferring to the University should take all prerequisite subjects and the freshman and sophomore technical subjects. On transfer to the University these courses are accepted and adjustments made so that requirements for a degree in physical education can be completed in the junior and senior years. Prerequisite courses are as follows:

	Term hours
General Zoology	9
Elementary General Chemistry	12
English Composition	9
Elementary Human Physiology	6
Elements of Psychology	9
Sociology	9
Group requirements (year sequence elected from Language and Literature and Social Science groups)	12

Minor Norm in Physical Education. Students preparing for part-time teaching positions in physical education should take as a minor norm a minimum of 24 term hours of professional courses, of which at least 12 term hours must be activities suitable for high-school situations.

On completion of the minor norm (see page 269), the student may be recommended for a part-time teaching position in physical education in the high schools of the state.

Required Courses. Courses PE 114, 115, 116, PE 131, PE 214, 215, 216 for women, and PE 151, 152, 153, PE 251, 252, 253 for men, are required of all undergraduates. PE 150 (General Hygiene) is required of both men and women. For the Junior Certificate students are required to complete the following:

Freshman Year
Physical Education, 1 term hour each term for two terms.
General Hygiene, 2 term hours for one term.
Sophomore Year
Physical Education, 1 term hour each term for three terms.

Required activity courses are regularly scheduled classes planned as instructional hours leading to a knowledge and appreciation of the technique involved and not merely to give opportunity for recreation or exercise. Ample opportunity for exercise and recreation is provided, and all of the facilities of the department are at the student's disposal outside the regular class hours.

The physical-activity courses for students taking a minor in physical education (PE 124-126, 224-226 for women; PE 174-176, 274-276 for men) may be considered as fulfilling the physical-education requirement for that year.

Elective Courses. Courses PE 314, 315, 316, PE 414, 415, 416 for women, and PE 351, 352, 353, PE 451, 452, 453 for men, may be taken to the amount of one hour per term for juniors and seniors and a total of not more than six term hours in addition to the regular physical-education requirement.

Description of Courses

SERVICE COURSES FOR WOMEN

LOWER-DIVISION COURSES

PE 150. **General Hygiene.** 2 hours any term.
Principles and practices of health promotion; individual and physiological hygiene; disease prevention and control; community hygiene and public health. Lectures, recitations, and demonstrations concerning phases of health that should be understood by all college students. Required of all freshmen. Two periods. (In the spring term one section of this course is offered for students in nursing education only, leading to 3 hours credit, covering the topics more extensively and including technical aspects to suit needs and interests of nursing-education students; 3 periods.)

PE 250. **Advanced Hygiene.** 3 hours any term.
Continuation of PE 150. Lectures and discussions on what the average person wants to know about personal health, exercise, weight control, prevention of infection, social hygiene, diet and dietary dangers, stimulants, injurious popular remedies and fads, sunlight, air and ventilation, the glands and health, choosing a doctor, and life-extension problems.

PE 114, 115, 116. **Freshman Physical Education.** 1 hour each term.
Two terms required of all freshman women. In fulfilling this requirement the student is permitted to elect courses offered in team sports, such as basketball, volleyball, baseball, field hockey, soccer, and field ball; and in individual sports, such as archery, badminton, tennis, swimming, fencing, golf, and riding; dancing; tumbling; and mechanics of posture. All freshman students are required to take one term of General Hygiene and two terms of Elementary Physical Education. Three periods.

PE 131. **Social Ethics.** One term, no credit.
Aim is threefold: to bring new students into early contact with their dean of women; to give the dean of women the opportunity of instruct-

ing new students in the fundamental principles of conduct both on the campus and elsewhere; to bring students a vision of woman's position and responsibility in the economic, social, and spiritual life of today. Required of all freshman women. One period.

PE 214, 215, 216. **Sophomore Physical Education.** 1 hour each term. Same activities as in PE 114, 115, 116. Three terms required of all sophomore women. Three periods.

UPPER-DIVISION COURSES

*PE 314, 315, 316. **Junior Physical Education.** 1 hour each term. Elective for juniors. Same activities as in PE 114, 115, 116. Three periods. Staff.

*PE 414, 415, 416. **Senior Physical Education.** 1 hour each term. Elective for seniors. Same activities as in PE 114, 115, 116. Three periods. Staff.

SERVICE COURSES FOR MEN

LOWER-DIVISION COURSES

PE 150. **General Hygiene.** 2 hours any term.
Principles and practices of health promotion, individual and physiological hygiene; disease prevention and control, community hygiene and public health. Lectures, recitations, and demonstrations concerning phases of health that should be understood by all college students. Required of all freshmen.

PE 250. **Advanced Hygiene.** 3 hours any term.
Continuation of PE 150. Lectures and discussions on what the average person wants to know about personal health, exercise, weight control, prevention of infection, social hygiene, diet and dietary dangers, stimulants, injurious popular remedies and fads, sunlight, air and ventilation, the glands and health, choosing a doctor, and life-extension problems.

PE 151, 152, 153. **Elementary Physical Education.** 1 hour each term.
Physical activities taught not only for the acquisition of skill, but from the standpoint of their adaptation in the social life of the student. The time set aside is for instruction. It is hoped that the student will use the open hours provided and also the intramural sports for practice in these various activities. All freshman students are expected to take one term of General Hygiene and two terms of Elementary Physical Education. Two periods.

PE 251, 252, 253. **Advanced Physical Education.** 1 hour each term. Required of sophomores. Two periods.

UPPER-DIVISION COURSES

*PE 351, 352, 353. **Physical Activities.** 1 hour each term.
A continuation of PE 251, 252, 253. Elective for juniors. Two periods. Staff.

*PE 451, 452, 453. **Physical Activities.** 1 hour each term.
A continuation of PE 351, 352, 353. Elective for seniors. Two periods. Staff.

*Elective physical-education courses for juniors and seniors may be taken to the amount of one term hour per term and a total of not more than six term hours in addition to the physical-education requirement.

PROFESSIONAL COURSES

LOWER-DIVISION COURSES

PE 121, 122, 123. **Introduction to Physical Education.** 2 hours each term.
Required in the freshman year for all students taking a minor. Introduces the student to the modern developments of physical education in relation to general education. General aims and objectives; history of physical education; practical considerations, program, physical plant, and personnel.

PE 124, 125, 126. **Physical Education Laboratory.** 2 hours each term.
Required of all women taking a minor. Intensive instruction in all the various activities that go to make up the physical-education program. Six periods.

PE 174. **Technique of Gymnastics.** 2 hours fall.
Required in the freshman year for all men taking a minor. A laboratory course in the technique and skills in gymnasium work, including practice in the various forms of marching (military, gymnastic, calisthenic), mass athletics (games, relays, contests, track, and field), tumbling, and apparatus work for school purposes. Six periods.

PE 175. **Technique of Football, Track, and Field.** 2 hours winter.
Required in the freshman year for all men taking a minor. A laboratory course in the techniques and skills of football, track, and field activities, including actual practice in the fundamentals of these sports. Six periods.

PE 176. **Technique of Minor Sports.** 2 hours spring.
Required in the freshman year for all men taking a minor. A laboratory course in the techniques and skills of speedball, six-man football, soccer, volleyball, handball, and badminton. Including actual practice in the fundamentals of these sports. Six periods.

PE 221. **Community Hygiene.** 2 hours fall.
General principles of hygiene as applied to community problems; protection of the health of the community; problems of contagious diseases and their prevention; modern organizations for the promotion of healthful living.

PE 224, 225, 226. **Physical-Education Laboratory.** 2 hours each term.
Required of all women taking a minor. A continuation of PE 124, 125, 126. Six periods.

PE 240. **Play and Games.** 1 hour fall or winter.
Study and practice of games for family recreation, parties, picnics, clubs, and community centers. May be substituted for physical-education activity service courses with permission of department head. Three periods.

PE 274. **Technique of Swimming, Tennis, and Golf.** 2 hours spring.
Required in the sophomore year for all men taking a minor. A laboratory course in the techniques and skills of swimming, life saving, diving, and water polo, including actual practice in the fundamentals of aquatics; tennis, and golf. Six periods.

PE 275. **Technique of Boxing and Wrestling.** 2 hours winter.
Required in the sophomore year for all men taking a minor. A laboratory course in the techniques and skills of boxing and wrestling, including actual practice in the fundamentals of these two sports. Six periods.

PE 276. **Technique of Baseball and Basketball.** 2 hours spring.
Required in the sophomore year for all men taking a minor. A laboratory course in the techniques and skills of baseball and basketball, including actual practice in the fundamentals of these two sports. Six periods.

UPPER-DIVISION COURSES

PE 343, 344, 345. **Physical-Education Technique (Women).** 3 hours each term.
Required during the junior year for all women taking a minor. Technique of teaching dancing and sports; study of problems of directed teaching. Prerequisite: skill and knowledge standard in activities as determined by the department. Five periods. Staff.

PE 346. **Coaching of Basketball (Men).** 2 hours fall.
The coaching and training of basketball teams beginning with fundamentals, passing, dribbling, and pivoting with emphasis on the psychology of the game; various methods of defense and offense. Mr. Gill.

PE 347. **Coaching of Football (Men).** 2 hours winter.
Fundamentals of football, theory and practice, details of each position on the team, training and managing, complete technique of developing offensive and defensive tactics, a comparison of the various systems in American intercollegiate football. Mr. Stiner.

PE 348. **Coaching of Baseball (Men).** 2 hours spring.
The technique of batting, pitching, baseball strategy, and how to play various positions; promoting the game; making schedules; points of inside baseball; care and construction of the field; baseball management. Professor Coleman.

PE 349. **Coaching of Track and Field (Men).** 2 hours spring.
How to train for various track and field events; their form and technique; conduct of athletic meets; construction, use, and assembling of all equipment used by the participants on the field; development of certain types of individuals for certain events. Assistant Professor Swan.

PE 350. **Organization and Administration of Intramural Sports.** 2 hours winter.
Organization and administration of an intramural program for high schools and colleges; aims and objectives; steps in organizing a program; units of competition; program of sports; methods of competition; scoring plans; special administrative problems. Professor Coleman.

Ed 351. **Health Education.** 3 hours fall.
The fundamental philosophy and principles of health education, with emphasis on organization and administration of health instruction. Provision is also made for students interested in adult health education. Associate Professor Morris.

Ed 352. Health Education. 3 hours winter.
Continuation of Ed 351. Emphasis is placed on the subject matter of health instruction and its use in secondary schools and in adult health education. Prerequisite: Ed 351. Associate Professor Morris.

PE 358, 359. First Aid. 2 hours spring.
The emergency treatment of all classes of injuries (until the doctor comes). Upon completion of the course PE 358 standard Red Cross certificates may be obtained. Upon completion of PE 359 advanced Red Cross certificates may be obtained. Open as a service course to all departments. Associate Professors Allman and Hewitt.

PE 361. Athletic Training and Conditioning (Men). 2 hours winter.
Practical and theoretical aspects of massage, bandaging, treatment of sprains, bruises, strains, and wounds; diet and conditioning of athletes. Lectures, demonstrations, and practice. Associate Professor Allman.

Ed 421, 422, 423. School Health Problems. (g) 2 hours each term.
Factors in the maintenance of the health of school children; prevention and control of communicable diseases in relation to the school child; school sanitation; proper construction and care of school equipment; factors affecting the health of the school child; the health of the teacher; the hygiene of carrying out various phases of instruction. Professor Langton.

PE 421. Principles of Physical Education. (g) 3 hours fall.
General philosophy and principles of physical education and its relation to general education. Three periods. Professor Langton.

PE 422. Tests and Measurements in Physical Education. (g) 3 hours winter.
Survey of the field; special study of typical tests, methods of scoring, principles of test building. Should be preceded by or taken simultaneously with Ed 416 whenever possible. Associate Professor Hewitt.

PE 423. Organization and Administration. (g) 3 hours spring.
Administrative problems applied to high-school situations, including organization of departments, organization of instructional and recreational programs, supervision of both teaching and physical plant and routine administration. Professor Coleman.

PE 435. Nature, Function, and Organization of Play. 3 hours winter.
Nature and function of play; adaptation of activities; program making. Playground instruction, management, and supervision. Miss Hupprich.

GRADUATE SERVICE COURSES

Courses numbered 400-499 and designated (*g*) may be taken for credit toward a graduate minor.

Graduate Division

OLOF LARSELL, Ph.D., Sc.D., Dean and Director of the Graduate Division, Oregon State System of Higher Education.

GEORGE REBEC, Ph.D., Counsellor of the Graduate Division, Oregon State System of Higher Education.

WILLIBALD WENIGER, Ph.D., Assistant Dean of the Graduate Division, in charge at the State College.

HOWARD RICE TAYLOR, Ph.D., Assistant Dean of the Graduate Division, in charge at the University.

MAXINE MANN, Secretary to the Dean.

GEORGENA SAMSON, B.S., Secretary of the Graduate Division at the State College.

CLARA LYNN FITCH, Secretary of the Graduate Division at the University.

Graduate Council

State College Council

OLOF LARSELL, Ph.D., Sc.D., Chairman; Science at Medical School.

WILLIBALD WENIGER, Ph.D., Vice-Chairman, Science.

PHILIP MARTIN BRANDT, A.M., Agriculture.

JAMES RALPH JEWELL, Ph.D., LL.D.; vice CARL WALTER SALSER, Ed.M., Education.

SAMUEL HERMAN GRAF, M.E., M.S., Engineering and Industrial Arts.

EARL GEORGE MASON, M.F., Forestry.

FLORENCE BLAZIER, Ph.D., Home Economics.

LEWIS CLEMENCE BRITT, Ph.D., Pharmacy.

University Council

OLOF LARSELL, Ph.D., Sc.D., Chairman.

HOWARD RICE TAYLOR, Ph.D., Vice-Chairman.

C. VALENTINE BOYER, Ph.D., Arts and Letters.

THEODORE KRATT, Mus.M., Mus.D., Architecture and Allied Arts, Music.

ORIN KAY BURRELL, M.A., Business Administration.

FRED LEA STETSON, M.A., Education.

ERIC WILLIAM ALLEN, A.B., Journalism.

RALPH WALDO LEIGHTON, Ph.D., Physical Education.

LOUIS AUBREY WOOD, Ph.D., Social Science.

ELON HOWARD MOORE, Ph.D., General Studies.

EDWARD STAUNTON WEST, Ph.D., Medical Sciences.

Graduate Committees

State College Graduate Committees

Science: WILLIBALD WENIGER, Ph.D., Chairman; WILLIAM EDMUND MILNE, Ph.D.; DON CARLOS MOTE, Ph.D.

Agriculture: PHILIP MARTIN BRANDT, A.M., Chairman; WILLIAM HENRY DREESEN, Ph.D.; WILLIS PIERRE DURUZ, Ph.D.

Education: JAMES RALPH JEWELL, Ph.D., LL.D., Chairman; CARL WALTER SALSER, Ed.M., Vice Chairman; RILEY JENKINS CLINTON, Ed.D.; OTHNIEL ROBERT CHAMBERS, Ph.D.

Engineering and Industrial Arts: SAMUEL HERMAN GRAF, M.E., M.S., Chairman; FRED ORVILLE MCMILLAN, M.S.; CHARLES ARTHUR MOCKMORE, C.E., Ph.D.

Forestry: EARL GEORGE MASON, M.F., Chairman; THURMAN JAMES STARKER, B.S.

Home Economics: FLORENCE BLAZIER, Ph.D., Chairman; VERA HASKELL BRANDON, Ph.D.; JESSAMINE CHAPMAN WILLIAMS, M.A.

Pharmacy: LEWIS CLEMENCE BRITT, Ph.D., Chairman; ERNST THEODORE STUHR, M.S.; ERNEST LESLIE BEALS, M.S.

University Graduate Committees

Arts and Letters (including Philosophy): CLARENCE VALENTINE BOYER, Ph.D., Chairman; FREDERICK M. COMBELLACK, Ph.D.; EDWARD CHRISTIAN ALAN LESCH, Ph.D.

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Medical School Graduate Committee

OLOF LARSELL, Ph.D., Chairman; EDWARD STAUNTON WEST, Ph.D.; FRANK RAYMOND MENNE, M.D.

Graduate Study

IN the disciplines of undergraduate education the primary aim is to prepare the student for cultured living and intelligent citizenship, and in techniques leading to a professional career. In graduate study the dominant aim is the development of the scholar, capable of original think-

ing and of creative achievement in the advancement and extension of knowledge. Hence, a graduate degree indicates more than the mere completion of a prescribed amount of advanced study; it indicates that the student has shown both promise and performance in the field of independent scholarship.

Graduate study in the Oregon State System of Higher Education is defined to include all study beyond the bachelor's degree, in other than strictly professional curricula. By professional curricula are meant clearly defined and sharply specialized curricula, such as those in law and medicine, leading to professional degrees.

At the State College, the first advanced degree (A.M.) was conferred in 1876; in 1910 graduate study was placed under the supervision of a special standing committee of the faculty.

Advanced degrees were conferred occasionally at the University from the earliest days. In 1897 definite requirements of residence work were established for the master's degree. Graduate instruction was placed under the administrative control of the Graduate School in 1899-1900.

In 1933 all graduate work in the State System was coordinated under the Graduate Division.

Organization of Graduate Division

THE Graduate Division has jurisdiction over all graduate study in the State System leading to other than strictly professional degrees. The administration of the Graduate Division is in the hands of the graduate dean and the graduate councils at the State College and the University. The graduate council at each institution consists of a representative from each major school or college offering graduate work. The dean of the Graduate Division is chairman of both institutional councils. The two councils meet separately and in joint session. In joint session the councils formulate policies for the Graduate Division as a whole. Meeting separately, the State College and University councils have jurisdiction over graduate work within their respective institutions.

In each of the major schools or colleges, a graduate committee, appointed by the president of the institution in consultation with the dean of the Graduate Division, has supervision over standards of graduate performance and study programs (both general departmental plans for graduate work and the programs of individual students). The actual formulation of departmental programs and the working out and direction of the programs of individual students remain with the department. No school or college committee has authority to waive or supercede the general rules or requirements of the Graduate Division.

Institutional Allocation of Graduate Work

ON the basis of the 1932 allocations of curricula in the Oregon State System of Higher Education, all graduate study leading to advanced degrees at the institutions of the State System has been allocated by curricula or major subjects as follows:

At the State College—

The biological sciences, the physical sciences (including mathematics), and the professional and technical fields of agriculture, education, engineering, forestry, home economics, and pharmacy.

At the University—

Arts and letters, the social sciences (including psychology), and the professional fields of architecture and allied arts, business administration, education, journalism, law, music, and physical education.

In certain fields graduate work may be carried on at the University of Oregon Medical School in Portland or at the Portland Extension Center, leading to degrees, through the Graduate Division, at the State College or the University.

Students may be enrolled for major work on one campus and for minor work on another.

General Regulations

FOUR classes of graduate students are recognized: (1) those wishing to become candidates for a doctor's degree; (2) those wishing to become candidates for a master's degree; (3) those desiring an engineer degree; and (4) those wishing merely to take work beyond the requirements for the bachelor's degree. Students of the first three classes make out programs and comply with the other requirements expressed in the rules stated below. Students in the fourth class register for the courses they desire, with the understanding that the institution is under no implied obligation to accept credits earned as work toward a degree. Whether a student is adequately prepared to enter a particular course is determined by the instructor in charge and the head of the department.

Admission. A graduate of any accredited college or university is admitted to the Graduate Division by the registrar of the institution which he wishes to enter, upon filing an application for admission and an official transcript of the credits upon which his bachelor's degree is based. Such admission, however, does not of itself entitle a student to become a candidate for a degree. Admission to candidacy for an advanced degree is granted only after the student has demonstrated, by passing a qualifying examination, the thoroughness of his previous preparation and his ability to do work of a graduate character.

Graduate credit will not be granted for undergraduate work beyond the requirements for the bachelor's degree.

Preparation Required for Graduate Study. Preparation for a graduate major must be an undergraduate major in the same subject, or a fair equivalent. Preparation for a graduate minor must be at least one year sequence of upper-division work in addition to foundational courses in the subject. Graduate credit may not be earned in courses for which the student does not show proper preparation by previous record or qualifying examination.

Study Program and Load. Graduate students beginning work toward a degree will be expected to work out, in tentative form at least, a complete program of study leading toward the degree desired. This program should allow sufficient time for completion of the thesis or essay. Work on the thesis or essay should be begun as early as possible.

The normal load for a graduate student devoting all of his time to graduate study is 12 term hours in courses each term, plus 3 hours for

thesis. The maximum load is 16 term hours (at the State College, 17 term hours on petition). For assistants, scholars, and fellows the maximum load is 10 term hours; for part-time assistants, scholars, and fellows, the maximum is 15 term hours.

Each candidate must take at least 6 term hours of graduate work from each of at least three members of the graduate faculty.

Grade Requirement. A grade-point average of 3.00 (a B average) is required for every graduate degree. Grades below C are not accepted for graduate credit.

Graduate Courses. All courses numbered in the 500s carry graduate credit, as do those in the 400s which have been approved by the Graduate Council. Approved courses in the 400s are designated in the catalogs by (G) or (g) following the course title. Courses designated (G) may form a part of either a major or a minor; courses designated (g) may be taken toward a minor only. Graduate students taking courses in the 400s are expected to do work of a higher order and broader scope than the work of undergraduate students in the same courses.

Fees. Graduate students registered for seven term hours of work or more pay a fee of $32.00 a term. Graduate students do not pay the nonresident fee. Graduate students registered for six term hours or less pay the regular part-time fee of $3.00 a term hour. Payment of the graduate fee entitles the student to all services maintained by the State College for the benefit of students.

Master of Arts and Master of Science Degrees

Credit Requirements. For the Master of Arts or Master of Science degree, the student must complete a program of study totaling not less than 45 term hours, approximately two-thirds of which must be in the major (including thesis), and one-third in the minor.

Residence Requirement. For all master's degrees the residence requirement is one academic year of full-time study, or equivalent. Five summer sessions, or three summer terms (the first session and the second session make up the summer term) is the equivalent of an academic year. Graduate or research assistants may satisfy the residence requirement by five terms of work. Students who have taken graduate work at another institution may lighten their load by transferring credit; but transferred credit will not shorten the residence requirement.

A maximum of 15 term hours earned in graduate courses in the Portland Extension Center may be counted as credit earned in residence toward the departmental master's degree. If adequate course offerings are available, all of the work toward the Master of Arts (General Studies) degree may be earned at the Portland Center.

Transferred Credits. Credit not to exceed one-third of the work for a master's degree may be transferred for graduate work done at another accredited institution, provided: (1) that the work fits into a logical curriculum for the degree; (2) that the transfer is approved by the major department and by the Graduate Council; (3) that grades of A or B have been earned. Credit granted for work done at another institution is tentative until validated by work in residence. (See also "Time Limit" below.)

Language Requirements. For the Master of Arts degree, the student must show, by examination or by adequate undergraduate courses, a reading knowledge of one relevant foreign language, preferably French or German. For the Master of Science degree there is no foreign-language requirement.

Course Requirements. For the Master of Arts (Departmental) and Master of Science degrees at least one year sequence in the 500-599 series (normally of seminar or research nature and for approximately 3 hours of credit per term) is required.

Time Limit. All work counted toward the master's degree, including work for which credit is transferred from another institution, the thesis, and the final examination, must be completed within a period of five years.

Qualifying Examination. A student wishing to become a candidate for a master's degree is given a qualifying examination designed to test his basic training and his ability to pursue studies at the graduate level in his chosen field. This examination may be oral or written or both. It must be taken before the student has completed 15 term hours of graduate work. If satisfactory knowledge and ability are demonstrated, the student is formally advanced to candidacy for the degree sought, subject to the approval of the dean of the Graduate Division.

Graduates of the State College who have maintained a grade-point average of at least 3.25 throughout their undergraduate work may be exempted from taking the qualifying examination. Graduates of the University who have taken the bachelor's degree with honors in the field of the graduate major are ordinarily exempted from the qualifying examination for the Master's degree.

Thesis. Every candidate for a master's degree must file in the office of the Graduate Division three copies of an accepted thesis, and five copies of an abstract of the thesis not later than two weeks before the date of the final examination. Every thesis for a master's degree must have the approval of the major professor and the graduate committee of the school or college in which the candidate is majoring, before being filed with the Graduate Division.

The three copies of the thesis shall be filed unbound. Two are bound at the expense of the institution granting the degree. Two copies are deposited in the institutional library, and one becomes the property of the major department. One of the library copies is available for general circulation.

Full information concerning the prescribed style for theses may be obtained on request at the office of the Graduate Division.

Final Examination. A final oral examination of not less than two hours is required of every candidate for the master's degree; when deemed desirable a written examination may also be required. For the master's degree, the examining committee consists of at least three members of the faculty (two in the student's major field, one in the minor field). It is recommended and may be required that at the master's examination there shall be at least one member of the committee not directly connected with the candidate's studies. At the University, a student presenting a thesis and passing a final examination of exceptional merit may, by vote of the examining committee, be awarded a master's degree with honors.

The examination committee is nominated by the student's adviser, subject to the approval of the dean of the Graduate Division, who is ex officio a member of all examining committees.

Master of Arts (General Studies). See page 405.

Doctor of Philosophy Degree

General Requirements. The degree of Doctor of Philosophy is granted primarily for attainments and proved ability. There is no rigid credit requirement. It is not the policy of the Graduate Division to accept as a candidate for the Ph.D. degree any student whose academic training, both undergraduate and graduate, has been exclusively at the institution from which the degree is sought. The candidate chooses a major and, subject to the approval of his major professor, one or two minor lines of study (at the State College, always two). If the major department offers several distinct lines of study, one minor may lie in that department; in case only one minor is chosen, it must lie in some other than the major department. With the assistance of an advisory committee nominated by the major school or department and approved by the Dean of the Graduate Division, the student outlines a program devoting approximately sixty per cent of his time to the major, including thesis, and approximately forty per cent to the minor or minors.

Residence. For the doctor's degree, two years of full-time work beyond the master's degree, in residence at an institution of higher education, are required, of which one year (usually the last) must be spent on the campus of the University of Oregon, Oregon State College, or the University of Oregon Medical School.

Language Requirements. For the Doctor of Philosophy degree, a reading knowledge of French and German must be demonstrated by a formal examination in each language. These examinations should be taken as early as possible after the beginning of graduate work, and must be passed before the preliminary examinations may be taken.

Preliminary Examinations. The student working toward the doctor's degree must pass a group of comprehensive preliminary examinations (at least partly oral) in his major and minor subjects not less than one academic year before he expects to receive the degree. Advancement to candidacy is contingent on passing these examinations.

Thesis. Every candidate for the degree of Doctor of Philosophy must submit a thesis embodying the results of research, and giving evidence of originality and ability in independent investigation. The thesis must be a real contribution to knowledge, based on the candidate's own investigations. It must show a mastery of the literature of the subject, and be written in creditable literary form. It is expected that the preparation of an acceptable thesis will require the greater part of an academic year.

Three copies of the thesis must be deposited, unbound, in the graduate office not less than two weeks before the time set for the final examination. At this time five copies of an abstract of the thesis must be deposited.

Final Examination. The final examination for the degree of Doctor of Philosophy may be written in part, but must include an oral examination, usually of three hours' duration. The oral examination is open to any member of the faculty and to advanced graduate students. The date of the oral examination shall be publicly announced at least one week before it is held. The examining committee shall consist of the candidate's advisory committee and other members and shall include at least one not directly connected with the major or minor department. This committee is nominated by the major department or school, subject to the approval of the dean of the Graduate Division. Five members of the examining committee shall be designated to read the thesis and determine its acceptability. Unanimous vote is necessary for approval.

In the oral examination the candidate is expected to defend his thesis and to show a satisfactory knowledge of his major and minor fields. The written examination, if given, is expected to cover aspects of the major and minor fields with which the thesis is not directly concerned.

Other Graduate Degrees

Master of Education and Doctor of Education Degrees. The requirements for the degrees of Master of Education and Doctor of Education are in general similar to those for the degrees of Master of Science and Doctor of Philosophy, respectively, except that the applied or professional aspects of the fields selected are stressed and teaching experience is required. There is no formal foreign-language requirement for these degrees. The candidate for the Doctor of Education degree may, however, be required to show a reading knowledge of one or more foreign languages, if his program demands an acquaintance with foreign literature.

Master of Forestry Degree. The general requirements for the professional degree of Master of Forestry are the same as those for the Master of Science. The program of study is designed, however, not primarily for the research worker, but for the administrator. The thesis for the M.F. degree must be an original study showing the application of professional knowledge to the accomplishment of a specific practical objective.

Engineer Degrees. For the degrees of Chemical Engineer, Civil Engineer, Electrical Engineer, Forest Engineer, and Mechanical Engineer, the candidate must hold the degree of B.S. or M.S. in the corresponding field of engineering from the State College, must have had at least five years of successful professional practice following graduation, and must present a satisfactory thesis. Before January 1 of the academic year in which the degree is desired, the candidate submits to the head of the department in which his major interest lies a complete statement of his professional experience since receiving the bachelor's degree. If the statement is approved, after it has been examined by the head of the department, the school graduate committee, and the Graduate Council, the candidate is instructed to prepare and submit his thesis. The thesis must be of high order and is subject to the same scrutiny and regulations as other graduate theses. Upon acceptance of the thesis the candidate is recommended for the degree in the usual manner. The candidate registers for the degree with the State College Registrar, either in person or by mail, not later than March 1, and pays the thesis examination fee of $10.00. After his thesis has been accepted he pays the usual graduation fee of $6.50.

Assistantships, Scholarships, and Fellowships

A VARYING number of graduate and research assistantships, scholarships, and fellowships are awarded annually to graduates of accredited universities and colleges who have superior records in their undergraduate work. All persons holding these positions are expected to register in the Graduate Division, and to become candidates for advanced degrees. Assistants, scholars, and fellows pay the same fees as other graduate students. Applications for these positions should be made before March 15. Application blanks are furnished on request by the Graduate Division.

Graduate Assistantships. A graduate assistant renders services amounting to not more than 18 hours a week—reading papers, handling laboratory and quiz sections, etc. He is permitted to enroll for a maximum of 10 term hours of course work. A graduate assistant commonly completes the work for a master's degree in two years. He may, however, complete the work in one year plus an additional full summer term. The stipend is $550 a year. Appointment is for one year; reappointment may be made for one additional year.

A part-time graduate assistant receives $275 a year. His maximum course load is 15 term hours.

Research Assistantships. A research assistant aids a faculty member in carrying on a research project. Compensation and enrollment limitations are the same as for a graduate assistant.

Graduate and Research Scholarships. Scholarships are awarded to students whose promise is considered exceptional. Ordinarily, award of a scholarship is based on the student's record during a previous year of study and service at the institution. Required services and enrollment limitations are the same as for assistants. The stipend is $650 a year.

Graduate and Research Fellowships. A fellow is normally a person proceeding toward the doctorate, with at least one year of markedly superior work toward that degree completed. The graduate fellow gives instructional assistance in his department. The duties of a research fellow are similar to the duties of a research assistant; a fellow is, however, expected to assume greater responsibility in connection with the research project to which he is assigned. Fellows are allowed to enroll for a maximum of 10 term hours of course work. The stipend is $760 a year.

State Scholarships. A limited number of scholarships covering tuition and laboratory and course fees are available to graduate students in the institutions of the Oregon State System of Higher Education. All applicants, to be eligible, must be in need of financial assistance, and must show evidence of superior scholarship. Applications (on official blanks) should be sent, not later than April 1, to the office of the Graduate Division at the institution which the student wishes to attend.

Graduate Work at the State College

GRADUATE work at the State College is carried on under the auspices of the Graduate Division and under the direction of the Graduate Council of the State College and the dean of the Graduate Divi-

sion. Correspondence relating to graduate work in fields allocated to the State College should be addressed to the Graduate Division, Oregon State College, Corvallis, Oregon, or to the department concerned.

The State College is authorized to grant the following advanced degrees through the Graduate Division:

Doctor of Philosophy: Agriculture, Botany, Chemistry, Entomology, Geology, Mathematics, Physics, Zoology.

Doctor of Education: Education.

Master of Arts (Departmental): Bacteriology, Botany, Chemistry, Education, Entomology, Geology, Home Economics, Mathematics, Physics, Zoology.

Master of Arts (General Studies).

Master of Science: Agriculture, Bacteriology, Botany, Chemistry, Education, Engineering, Entomology, Forestry, Geology, Home Economics, Mathematics, Pharmacy, Physics, Zoology.

Master of Education: Education.

Master of Forestry: Logging Engineering, Technical Forestry, Wood Products.

Engineering: Chemical Engineering (Ch.E.); Civil Engineering (C.E.); Electrical Engineering (E.E.); Forestry, including Logging Engineering, Technical Forestry, and Wood Products (F.E.); Mechanical Engineering (M.E.).

A major may be selected from among several fields within a department or may involve two or more related departments. The scope of the departments and schools is indicated in the descriptions on earlier pages.

Graduate students who are not preparing for a medical career may (with the approval of the Medical School) pursue at the University of Oregon Medical School certain phases of graduate work in the following fields: Anatomy, Bacteriology, Biochemistry, Pathology, Pharmacology, and Physiology. These students, on completion of the requirements, receive degrees (M.A., M.S., Ph.D.) from the State College.

Graduate Work at the University

GRADUATE work at the University is carried on under the auspices of the Graduate Division and under the direction of the Graduate Council of the University and the dean of the Graduate Division. Correspondence relating to graduate work in the fields allocated to the University should be addressed to the Graduate Division, University of Oregon, Eugene, Oregon, or to the department concerned.

The following degrees are granted by the University through the Graduate Division:

Doctor of Philosophy: Economics, Education, English, History, Psychology, Romance Languages, Sociology.

Doctor of Education: Education.

Master of Arts (Departmental): Anthropology, Architecture, Art, Business Administration, Classics, Economics, Education, English, Geography, German, History, Journalism, Landscape Architecture, Music, Philosophy, Physical Education, Political Science, Psychology, Romance Languages, Sociology.

Master of Arts (General Studies).

Master of Science: Anthropology, Architecture, Art, Business Administration, Economics, Education, English, Geography, History, Journalism, Landscape Architecture, Music, Philosophy, Physical Education, Political Science, Psychology, Sociology.

Master of Fine Arts: Art and Architecture, Landscape Architecture, Music.

Master of Architecture: Architecture.

Master of Business Administration: Business Administration.

Master of Education: Education.

Master of Landscape Architecture: Landscape Architecture.

Students who are preparing for a medical career or who have the M.D. degree may take graduate work at the University of Oregon Medical School toward the M.A., M.S., or Ph.D. degree in preclinical fields. These students receive their degrees from the University.

Graduate Work at the Medical School

THE preclinical departments of Anatomy, Bacteriology and Hygiene, Biochemistry, Pathology, Pharmacology, and Physiology of the University of Oregon Medical School accept selected students as candidates for the Master of Arts, Master of Science, and Doctor of Philosophy degrees. Work toward these degrees is offered as an integral part of the program of the Graduate Division of the State System, and is subject to the rules and regulations of the Graduate Division. A graduate student wishing to work in these fields at the Medical School should consult the head of the department in which he plans to study and the dean of the Graduate Division.

In addition to opportunities for graduate study and research in the preclinical departments, arrangements may be made for special study of clinical problems by experimental methods, through the cooperation of the preclinical and clinical departments. In some cases, students doing work of this kind may qualify for graduate degrees.

Graduate degrees earned at the Medical School by students preparing for a medical career and by students who have the M.D. degree are conferred by the University. Graduate degrees earned by nonmedical students in preclinical fields are conferred by the State College.

Graduate Work at the Portland Center

IF adequate course offerings are available for an integrated program in the fields in which the student wishes to work, he may complete all the requirements for the Master of Arts (General Studies) degree at the Portland Center. In a number of fields, one-third of the work for the Master of Arts (Departmental) or the Master of Science degree may be earned in Portland. Graduate work beyond the master's degree is not offered at the Portland Center. Graduate degrees earned at the Portland Center are awarded by the State College or the University according to major subject, in harmony with the 1932 allocation of curricula and degrees.

Master of Arts (General Studies)

IN addition to the regular Master of Arts (Departmental) degree, the State College and the University offer the degree of Master of Arts (General Studies) in fields in which graduate work is allocated to the institution. This degree is granted for achievement in cultural scholarship, not for specialized work in one of the traditional fields of learning. The student pursues a program of study selected from the offerings of several departments. The requirements are flexible, but the program must be integrated and organic. Special committees supervise all work toward the M.A. (General Studies).

The credit requirement for this degree is 45 term hours, including credit for thesis or essay. The thesis or essay shall be the equivalent, in point of performance, of 9 term hours of course work.

A committee may, on recommendation of the student's adviser, waive the foreign-language requirement.

If adequate offerings are available in the fields in which he wishes to work, a student may complete all the requirements for the M.A. (General Studies) at the Portland Center.

Students at the State College working for the M.A. (General Studies) degree register in the regular courses, making use of the 505, 507, etc., numbers in General Science or in whatever department is most appropriate to the particular program.

Part IV

Research

Research

ADVANCEMENT of human knowledge and technical and technological service to the commonwealth are recognized functions of institutions of higher learning. Research in the Oregon State System of Higher Education is encouraged and assisted through the General Research Council and divisional councils and by such special institutional agencies as the Agricultural Experiment Station and the Engineering Experiment Station of Oregon State College, and the Commonwealth Service Council and the Institutional Research Council of the University of Oregon.

The General Research Council

General Council

EARL LEROY PACKARD, Ph.D., Dean and Director of General Research; Chairman.

OLOF LARSELL, Ph.D., Sc.D., Dean of the Graduate Division; Vice Chairman.

WILLIAM F ALLEN, Ph.D., Professor of Anatomy.

CHANDLER BAKER BEALL, Ph.D., Professor of Romance Languages.

VERNE VINCENT CALDWELL, Ph.D., Professor of Psychology.

LUTHER SHEELEIGH CRESSMAN, Ph.D., Professor of Anthropology.

RALPH RUSKIN HUESTIS, Ph.D., Professor of Zoology.

RALPH WALDO LEIGHTON, Ph.D., Executive Secretary of Research; Dean and Director of Physical Education.

FRED ORVILLE MCMILLAN, M.S., Professor of Electrical Engineering.

WILLIAM EDMUND MILNE, Ph.D., Professor of Mathematics.

WILLIAM ALFRED SCHOENFELD, M.B.A., Dean and Director of Agriculture.

HOWARD RICE TAYLOR, Ph.D., Professor of Psychology.

WILLIBALD WENIGER, Ph.D., Professor of Physics.

Natural Science Divisional Council

WILLIAM EDMUND MILNE, Ph.D., Professor of Mathematics; Chairman.

WALTER BENO BOLLEN, Ph.D., Associate Professor of Bacteriology.

NATHAN FASTEN, Ph.D., Professor of Zoology.

JAMES WILLIAMS FERGUSON, Ph.D., Instructor in Chemistry.

SAMUEL HERMAN GRAF, M.E., M.S., Professor of Mechanical Engineering.

EDWIN THOMAS HODGE, Ph.D., Professor of Economic Geology.

RALPH RUSKIN HUESTIS, Ph.D., Professor of Zoology.

ADOLF HENRY KUNZ, Ph.D., Associate Professor of Chemistry.

EARL GEORGE MASON, M.F., Professor of Forestry.

Don Carlos Mote, Ph.D., Professor of Entomology.
Ethel Ida Sanborn, Ph.D., Associate Professor of Botany.
Ernst Thedore Stuhr, M.S., Associate Professor of Pharmacology.
Willibald Weniger, Ph.D., Professor of Physics.
Edward Staunton West, Ph.D., Professor of Biochemistry.
Jessamine Chapman Williams, M.A., Professor of Foods and Nutrition.
Harry Barclay Yocom, Ph.D., Professor of Zoology.

Language, Literature, Art Divisional Council

Chandler Baker Beall, Ph.D., Professor of Romance Languages; Chairman.
Louis Artau, B.A., Assistant Professor of Music.
Frederick Malcolm Combellack, Ph.D., Instructor in Latin and Greek.
John Leo Fairbanks, Professor of Art and Architecture.
Robert Dewey Horn, Ph.D., Associate Professor of English.
John M Kierzek, Ph.D., Professor of English.
Edward Christian Alan Lesch, Ph.D., Associate Professor of English.
George Frederic Lussky, Ph.D., Professor of Germanic Languages and Literatures.

Medical Science Divisional Council

William F Allen, Ph.D., Professor of Anatomy; Chairman.
Noble Wiley Jones, M.D., Clinical Professor of Medicine.
Olof Larsell, Ph.D., Sc.D., Professor of Anatomy.
Frank R Menne, M.D., Professor of Pathology.
Frank R. Mount, M.D., Assistant Clinical Professor of Medicine.
Harry Johnson Sears, Ph.D., Professor of Bacteriology.
Edward Staunton West, Ph.D., Professor of Biochemistry.

Social Science Divisional Council

Luther Sheeleigh Cressman, Ph.D., Professor of Anthropology; Chairman.
Glenn Almer Bakkum, Ph.D., Professor of Sociology.
James Duff Barnett, Ph.D., Professor of Political Science.
Vera Haskell Brandon, Ph.D., Professor of Household Administration.
Joseph Waldo Ellison, Ph.D., Professor of History.
John Tilson Ganoe, Ph.D., Associate Professor of History.
James Ralph Jewell, Ph.D., LL.D., Dean of Education; Director of High School Teacher Training.
Robert W Leeper, Ph.D., Assistant Professor of Psychology.
Milton Nels Nelson, Ph.D., Professor of Agricultural Economics.
Kenneth John O'Connell, LL.B., S.J.D., Assistant Professor of Law.
Harvey Gates Townsend, Ph.D., Professor of Philosophy.
George Stanley Turnbull, M.A., Professor of Journalism.
Louis Aubrey Wood, Ph.D., Professor of Economics.

THE General Research Council was established as an interinstitutional organization by the State Board of Higher Education for the purpose of stimulating the development of general research among the staff members of the State System whose projects do not fall in the organized and directed program of other research agencies at the State College and the University.

By subsequent action of the State Board, four divisional councils have been designated as follows: Language, Literature, and Art; Medical Science; Science; and Social Science. The divisional councils are advisory bodies assisting in the encouragement of research in their respective fields, in the development of cooperative research, and in the examination and evaluation of all projects for which research funds are requested.

The Dean and Director of General Research is chairman of the General Research Council and the budgetary officer. The General Research Council is concerned with the general policies affecting the research interests of staff members. It prepares annually and submits a budget for the support of general research. The council is authorized to make grants-in-aid to approved research projects initiated by staff members of the major institutions of the State System. Such grants are restricted to individuals or groups of individuals of the rank of instructor or higher. The General Research Council also assigns research assistants, research scholars, and research fellows to approved research projects requiring the technical assistance of graduate students. Assistantships, scholarships, and fellowships carry stipends of $550, $650, and $760 respectively. Appointments are made jointly by the Research Council and the Graduate Division.

Agricultural Experiment Station

WILLIAM ALFRED SCHOENFELD, M.B.A., Director of the Agricultural Experiment Station.

RALPH STEPHEN BESSE, M.S., Vice Director of the Agricultural Experiment Station.

ESTHER MCKINNEY, Accountant, Agricultural Experiment Station.

MARGARET HURST, B.S., Secretary, Agricultural Experiment Station.

DIVISION OF AGRICULTURAL ECONOMICS

ERMINE LAWRENCE POTTER, M.S., Agricultural Economist; In Charge, Division of Agricultural Economics.

Agricultural Economics

WILLIAM HENRY DREESEN, Ph.D., Agricultural Economist.

DANIEL BARTON DELOACH, Ph.D., Associate Economist.

Farm Management

DWIGHT CURTIS MUMFORD, M.S., Economist in Charge.

GUSTAV WESLEY KUHLMAN, Ph.D., Associate Economist.

WILLIAM WINFIELD GORTON, M.S., Assistant Economist.

HERMAN LAMOTTE THOMAS, M.S., Associate Agricultural Economist, Conservation Economic Division, Soil Conservation, United States Department of Agriculture.

JAMES CECIL MOORE, M.S., Acting State Representative, Division of State and Local Planning, Bureau of Agricultural Economics, United States Department of Agriculture.

VERNON WALTON BAKER, B.S., Assistant Agricultural Economist, Division of Land Economics, Bureau of Agricultural Economics, United States Department of Agriculture.

DIVISION OF ANIMAL INDUSTRIES

PHILIP MARTIN BRANDT, A.M., Dairy Husbandman; In Charge, Division of Animal Industries.

Animal Husbandry

RAY GEORGE JOHNSON, B.S., Animal Husbandman.

ORAN MILTON NELSON, M.S., Animal Husbandman.

BENJAMIN WILLIAM RODENWOLD, M.S., Assistant Animal Husbandman.

ALFRED WEAVER OLIVER, M.S., Assistant Animal Husbandman.

Dairy Husbandry

GUSTAV HANS WILSTER, Ph.D., Dairy Husbandman.

IDWAL RALPH JONES, Ph.D., Associate Dairy Husbandman.

HAROLD PLYMPTON EWALT, B.S., Research Assistant (Dairy Husbandry).

ROY EDGAR STOUT, M.S., Research Assistant (Dairy Husbandry).

VEARL ROBERT SMITH, B.S., Research Fellow (Dairy Husbandry).

Fish and Game Management

RONALD EUGENE DIMICK, M.S., Wildlife Conservationist in Charge.

FRANCIS PRIDAY GRIFFITHS, Ph.D., Assistant Conservationist.

ARTHUR SKOGMAN EINARSEN, B.S., Associate Biologist, Bureau of Biological Survey, United States Department of the Interior.

JAY B LONG, B.S., Research Assistant (Fish and Game Management).

Poultry Husbandry

HUBERT ELMER COSBY, Poultry Husbandman in Charge.

FRANK LESTER KNOWLTON, M.S., Poultry Husbandman.

WILBUR TARLETON COONEY, B.S., Research Assistant (Poultry Husbandry).

Veterinary Medicine

JAMES NIVEN SHAW, D.V.M., Veterinarian in Charge.

ERNEST MILTON DICKINSON, D.V.M., M.S., Associate Veterinarian.

OTTO HERBERT MUTH, D.V.M., M.S., Associate Veterinarian.

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ARNOLD SAMUEL ROSENWALD, B.S., D.V.M., Assistant Veterinarian.

ROLAND O SCOTT, D.V.M., Research Assistant (Veterinary Medicine).

CARL ROBERT HOWARTH, D.V.M., Research Assistant (Veterinary Medicine).

RICHARD DUEY SHUMAN, D.V.M., Junior Veterinarian, Bureau of Animal Industry.

OTTO LEO MONTGOMERY, D.V.M., Junior Veterinarian, Bureau of Animal Industry.

DIVISION OF PLANT INDUSTRIES

GEORGE ROBERT HYSLOP, B.S., Agronomist; In Charge, Division of Plant Industries.

Farm Crops

HARRY AUGUST SCHOTH, M.S., Agronomist, Division of Forage Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

DONALD DAVID HILL, Ph.D., Agronomist.

ROBERT ESTES FORE, Ph.D., Associate Agronomist.

HENRY HARDY RAMPTON, M.S., Associate Agronomist, Division of Forage Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

LINDEN ELI HARRIS, M.S., Assistant Agronomist.

HAROLD ETHAN FINNELL, M.S., Assistant Agronomist.

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LOUISA A KANIPE, B.S., Junior Botanist, Division of Seed Investigations, Bureau of Plant Industry, United States Department of Agriculture.

ALVIN EUGENE GROSS, M.S., Research Assistant (Farm Crops).

LEROY ROBERT HANSEN, M.S., Research Assistant (Farm Crops).

Food Industries

ERNEST HERMAN WIEGAND, B.S.A., Food Industries Technologist in Charge.

THOMAS ONSDORFF, M.S., Assistant Food Industries Technologist.

EDWARD WINSLOW HARVEY, M.S., Research Assistant (Food Industries).

RUDOLPH JOSEPH ALLGEIER, Ph.D., Assistant Food Industries Technologist.

Horticulture

WALTER SHELDON BROWN, M.S., D.Sc., Horticulturist.

HENRY HARTMAN, M.S., Horticulturist (Pomology).

ARTHUR GEORGE BRISTOW BOUQUET, M.S., Horticulturist (Vegetable Crops).

CARL EPHRAIM SCHUSTER, M.S., Horticulturist, Division of Fruits and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

WILLIS PIERRE DURUZ, Ph.D., Horticulturist (Plant Propagation).

GEORGE FORDYCE WALDO, M.S., Assistant Pomologist, Division of Fruits and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture.

ELMER HANSEN, M.S., Assistant Horticulturist (Pomology).

Soil Science

WILBUR LOUIS POWERS, Ph.D., Soil Scientist in Charge.

CHARLES VLADIS RUZEK, M.S., Soil Scientist (Fertility).

MORTIMER REED LEWIS, C.E., Irrigation and Drainage Engineer, Senior Agricultural Engineer, Hydraulic Division Soil Conservation Service, United States Department of Agriculture.

ROSCOE ELMO STEPHENSON, Ph.D., Soil Scientist.

EDWARD FRITCHOFF TORGERSON, B.S., Associate Soil Scientist (Soil Survey).

JOHN MELVILLE HALEY, B.S., Assistant Irrigation Engineer, Cooperative Agent, Soil Conservation Service, United States Department of Agriculture.

JAMES CLEMENT LEWIS, M.S., Research Fellow in Soils.

OTHER DEPARTMENTS

Agricultural Chemistry

J SHIRLEY JONES, M.S.A., Chemist in Charge.

REGINALD HEBER ROBINSON, M.S., Chemist (Insecticides and Fungicides).

JOSEPH ROY HAAG, Ph.D., Chemist (Animal Nutrition).

DELOSS EVERETT BULLIS, M.S., Associate Chemist.

MILES BRAYTON HATCH, M.S., Assistant Chemist.

LEMUEL DARY WRIGHT, M.S., Assistant Chemist.

Agricultural Engineering

FREDERICK EARL PRICE, B.S., Agricultural Engineer in Charge.

WILLIAM MAGRUDER HURST, B.S., Agricultural Engineer, Bureau of Agricultural Chemistry and Engineering, United States Department of Agriculture.

HERBERT REEVES SINNARD, M.S., Associate Agricultural Engineer (Farm Structures).

CLARENCE IVAN BRANTON, B.S., Assistant Agricultural Engineer.

GEORGE RAYMOND STAFFORD, Engineering Aid, Bureau of Agricultural Chemistry and Engineering, United States Department of Agriculture.

HOWARD FRANCIS CARNES, B.S., Junior Agricultural Engineer, Bureau of Agricultural Chemistry and Engineering, United States Department of Agriculture.

LEONARD MARTIN KLEIN, B.S., Mechanical Engineer, Bureau of Agricultural Chemistry and Engineering, United States Department of Agriculture.

Bacteriology

GODFREY VERNON COPSON, M.S., Bacteriologist in Charge.

JOSEPH ELLSWORTH SIMMONS, M.S., Associate Bacteriologist.

WALTER BENO BOLLEN, Ph.D., Associate Bacteriologist.

Entomology

DON CARLOS MOTE, Ph.D., Entomologist in Charge.

JOSEPH CONRAD CHAMBERLIN, Ph.D., Associate Entomologist, Division of Truck Crops and Garden Insects, Bureau of Entomology and Plant Quarantine, United States Department of Agriculture.

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SIDNEY CARROLL JONES, M.S., Assistant Entomologist.

KENNETH WIESNER GRAY, M.S., Assistant Entomologist.

HUGH ENGLE MORRISON, M.S., Assistant Entomologist.

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Home Economics

MAUD MATHES WILSON, A.M., Home Economist.

HELEN MCCULLOUGH, M.A., Assistant Home Economist.

Plant Pathology

CHARLES ELMER OWENS, Ph.D., Plant Pathologist in Charge.

SANFORD MYRON ZELLER, Ph.D., Plant Pathologist.

FRANK PADEN MCWHORTER, Ph.D., Plant Pathologist.

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Publications and News Service

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EDWIN THOMAS REED, B.S., A.B., Editor of Publications.

DELMER MORRISON GOODE, M.A., Editor of Publications.

JOHN COLE BURTNER, B.S., Associate in News Service.

BRANCH STATIONS

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FRANK CHARLES REIMER, M.S., Superintendent, Southern Oregon Branch Experiment Station, Talent.

DALE EVERETTE RICHARDS, B.S., Superintendent, Eastern Oregon Livestock Branch Experiment Station, Union.

HAROLD KARL DEAN, B.S., Superintendent, Umatilla Branch Experiment Station, Hermiston; Division of Western Irrigation Agriculture, Bureau of Plant Industry, United States Department of Agriculture.

OBIL SHATTUCK, M.S., Superintendent, Harney Branch Experiment Station, Burns.

HERBERT BADOLLET HOWELL, B.S., Superintendent, John Jacob Astor Branch Experiment Station, Astoria.

ARCH WORK, B.S., Associate Irrigation Engineer, Division of Irrigation, Soil Conservation Service, United States Department of Agriculture, Medford.

GEORGE ADAMSON MITCHELL, B.S., Superintendent, Pendleton Branch Experiment Station, Pendleton; Assistant Agronomist, Division of Dry Land Agriculture, Bureau of Plant Industry, United States Department of Agriculture.

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JOSEPH BELANGER, B.S., Cooperative Research Agent, Conservation Experiment Station Division, Soil Conservation Service, Moro.

OREGON State Agricultural Experiment Station was organized July 2, 1888, in accordance with the Act of Congress of 1887 known as the Hatch Act. The Experiment Station includes the central station at Corvallis and ten branch stations advantageously located in such a way as to cover the varying agricultural conditions of Oregon.

The Central Station. At the central station about 1,177 acres of land are used by State College and Station workers engaged in the scientific investigation of problems presented by the different branches of agriculture. The Station includes the following departments: Agricultural Economics; Agricultural Engineering; Animal Husbandry; Bacteriology; Chemistry; Dairy Husbandry; Entomology; Farm Crops; Farm Management; Food Industries; Fish and Game Management; Home Economics; Horticulture; Plant Pathology; Poultry Husbandry; Soils; and Veterinary Medicine.

The scientific investigations of the station staff strongly support the instruction given in the classroom and through the Extension Service. Aside from the original investigations of economic significance to agriculture, the work affords daily object lessons in modern farm methods. To the students in the various fields of study the value of the investigative work can hardly be overestimated. To the state, from the point of view of economic progress, its value has been greater, in the estimation of many people, than the entire cost of the State College to the commonwealth. The work of the Experiment Station is fundamental in the agricultural development of the state. Oregon's soil and climatic conditions present many problems that are unique and that must be solved before the state can develop its great potential agricultural wealth.

The Branch Stations. The ten branch stations located at Astoria, Burns, Hermiston, Hood River, Medford, Moro, Squaw Butte, Talent, Union, and Pendleton conduct experiments on the major agricultural problems of their respective agricultural sections of the state.

The John Jacob Astor Branch Experiment Station. The major problems under investigation at this station are dairying, improvement of forage crops, soil fertility, soil management for Coast conditions, and the drainage, improvement, and cultivation of tide-lands. Its function is also to find methods of utilizing logged-off timber lands by experimenting with sod forage grasses on such lands and the utilization of this forage by livestock.

The Harney Branch Experiment Station at Burns is conducting experiments in both dry-farming and irrigation agriculture, in introducing, testing and developing crops adapted to the high altitude areas of the Harney Basin.

The Umatilla Branch Experiment Station at Hermiston is studying problems of agriculture under irrigation on the Umatilla Reclamation Project and similar lands of the Columbia River Basin.

The Hood River Branch Experiment Station deals with orchard pests, pollination, varietal testing, fertilizing, soil management, and other problems to reduce cost of producing fruit in this important orcharding section.

The Sherman Branch Experiment Station at Moro is conducting investigations on the major problems of cereal production under eastern Oregon dry land conditions with special reference to the development of new and improved varieties, rates and dates of seeding, summer fallow, fertility, drainage practices and soil conservation.

The Southern Oregon Branch Experiment Station at Talent is centering attention on problems of fruit production and general farming in the Rogue River Valley.

The Eastern Oregon Branch Livestock Experiment Station at Union is conducting experiments in fattening, wintering, grazing and management of livestock in the production of home-grown livestock, feeds and cash crops and in developing proper land utilization, soil conservation and fertility maintenance in the Blue Mountain region.

The Medford Branch Experiment Station is conducted jointly by the United States Department of Agriculture, Bureaus of Plant Industry and of Agricultural Engineering, and the Oregon Agricultural Experiment Station. The major investigations deal primarily with problems of irrigation, drainage and soil fertility, and responses of pear trees to these practices.

The Pendleton Branch Experiment Station conducted cooperatively with the United States Department of Agriculture is equipped with 160 acres of land in an important wheat-growing belt for the purpose of establishing and maintaining crop rotation investigations and other problems and in maintaining crop rotation and soil conservation investigations.

The Squaw Butte Regional Range Experiment Station, consisting of 16,000 acres of intermountain arid range lands, is conducted jointly with the National Grazing Service, United States Department of the Interior, to ascertain steps to be taken to rehabilitate this type of range so as to increase its livestock carrying capacity on a sustained grass-yield basis.

Engineering Experiment Station

RICHARD HAROLD DEARBORN, A.B., E.E., Director of the Engineering Experiment Station.

SAMUEL HERMAN GRAF, M.E., M.S., Director of Engineering Research.

ARTHUR LEMUEL ALBERT, M.S., E.E., Communication Engineering.

FREDERICK ALTON EVEREST, E.E., Radio Engineering.

GEORGE WALTER GLEESON, Ch.E., Chemical Engineering.

BURDETTE GLENN, M.S., Highway Engineering.

JAMES RINALDO GRIFFITH, C.E., Structural Engineering.

FRED ORVILLE MCMILLAN, M.S., Electrical Engineering.

WALLACE HOPE MARTIN, M.E., M.S., Mechanical Engineering.

EARL GEORGE MASON, M.F., Forestry.

FRED MERRYFIELD, M.S., Sanitary Engineering.

CHARLES ARTHUR MOCKMORE, C.E., Ph.D., Civil and Hydraulic Engineering.

WILLIAM HOWARD PAUL, M.S., Automotive Engineering.

BENJAMIN FRANKLIN RUFFNER, Aero.E., M.S., Aeronautical Engineering.

EUGENE CARL STARR, B.S., E.E., Electrical Engineering.

CHARLES EDWIN THOMAS, M.M.E., Engineering Materials.

GLENN VOORHIES, M.S., Wood Products.

Technical Counselors

R. H. BALDOCK, State Highway Engineer, Salem.

R. G. DIECK, Consulting Civil Engineer, Portland.

CLAIR VAN NORMAN LANGTON, Dr.P.H., Technical Counselor in Sanitary Engineering.

J. C. H. LEE, Colonel, Corps of Engineers, Division Engineer, North Pacific Division, Portland.

PAUL B. MCKEE, President, Portland Gas & Coke Company, Portland.

JAMES H. POLHEMUS, President, Portland General Electric Co., Portland.

J. C. STEVENS, Consulting Civil and Hydraulic Engineer, Portland.

CHARLES E. STRICKLIN, State Engineer, Salem.

BY act of the Board of Regents of the State College on May 4, 1927, the Engineering Experiment Station was established at Corvallis to serve the state in a manner broadly outlined by the following policy:

(1) To serve the industries, utilities, professional engineers, public departments, and engineering teachers by making investigations of significance and interest to them.

(2) To stimulate and elevate engineering education by developing the research spirit in faculty and students.

(3) To publish and distribute through bulletins, circulars, and technical articles in periodicals the results of such studies, surveys, tests, investigations, and researches as will be of greatest benefit to the people of Oregon, and particularly to the state's industries, utilities, and professional engineers.

The Engineering Experiment Station is an integral part of the School of Engineering. All staff members and laboratory facilities of the Engineering School are available for the investigational work of the Station to the extent of the sums allocated or contributed for their operation and support. Much of the work of the Station has been made possible by the assistance of industries and state and national associations.

The dean of engineering is director of the station, and the heads of the various major departments function as a council ex-officiis. The director of research acts as chairman of the council, technical adviser upon investigation work, and as engineering editor of publications. The active staff is composed of members of the instructional staff who may be interested in various specific research projects, and of research fellows who are pursuing graduate study and are assigned to part-time work in the Station. Experts who are especially qualified by training and experience to advise upon the investigations in certain fields have been appointed to the staff as special technical counselors. Some technical assistants have been supported by manufacturers and industrial associations interested in working out specific problems.

Part V
Extension

Extension

THROUGH extension services the benefits of all the state institutions of higher education are brought to the people of the state in their own communities. All divisions of the State System of Higher Education seek through every means possible, so far as resources and facilities permit, to serve the entire state. All extension activities of the several institutions are administered through two coordinated extension services: the General Extension Division and the Federal Cooperative Extension Service. The latter includes all extension activities carried on jointly with the Federal Government.

General Extension Division

Administration

ALFRED POWERS, B.A., Dean and Director of General Extension and Summer Sessions; Professor of Journalism.

WILLIAM GILBERT BEATTIE, B.A., Assistant Director of General Extension and Summer Sessions; Professor of Education.

HARVEY EDGAR INLOW, M.A., LL.B., Professor of Elementary Teacher-in-Service Extension Education; Head of Department.

MARY E KENT, B.A., Office Manager, General Extension; Assistant Professor of Extension Teaching.

LOUIS BERELSON, Ph.D., Secretary of Summer Sessions.

MARCELLA B. KING, B.A., Secretary, General Extension and Eugene Summer Sessions.

MURIEL E. BECKMAN, Mimeograph Clerk, General Extension.

Correspondence Study

MOZELLE HAIR, B.A., Head, Correspondence Study; Assistant Professor of Sociology.

ELSIE M. ISOTOFF, Record Clerk.

HELEN K KILPATRICK, Record Clerk.

Portland Extension Center

ALFRED POWERS, B.A., Dean and Director of General Extension.

ALEXANDER GOLDENWEISER, Ph.D., Professor of Thought and Culture.

MABLE HOLMES PARSONS, M.A., Professor of English.

JOHN AUSTIN SPAULDING, Ph.D., Professor of German.

BERNARD HINSHAW, B.A., Associate Professor of Art.

PHILIP W JANNEY, B.A., C.P.A., Assistant Professor of Business Administration.

PERCY M COLLIER, B.A., LL.B., Assistant Professor of English.

MARGARET M SHARP, Secretary and Administrative Assistant.

MAURINE CHURCHILL, Stenographer.

LUCIA MORRIS, Clerk.

Radio Station KOAC

LUKE LEE ROBERTS, Manager; Assistant Professor of Radio Speech.

BURTON SEYMOUR HUTTON, B.S., Director of Agricultural Programs.

ZELTA FEIKE RODENWOLD, M.S., Director of Women's Programs; Assistant Professor of Home Economics Extension.

LINCOLN MILLER, Announcer; Director of News and General-Interest Programs.

JAMES MADISON MORRIS, B.S., Announcer.

RUTH BELLROOD, B.S., Secretary.

Visual Instruction

URIEL SELLERS BURT, Associate Professor of Visual Instruction; Head of Department.

RUTH P ADAMS, Secretary.

THE General Extension Division of the Oregon State System of Higher Education serves the people of the state through adult education by means of extension classes, correspondence study, and visual instruction; municipal service; radio; and social welfare. Its work is organized into the following departments:

At Corvallis—
- Visual Instruction
- Radio

At Eugene—
- Correspondence Study
- Social Welfare
- State-Wide Extension Classes
- Municipal Service

At Portland—
- The Portland Extension Center

A State-Wide Campus. Through the General Extension Division the curricula, personnel, and facilities of all the state institutions of higher education are made available in some degree to every citizen, group, and

community in Oregon. The activities of the General Extension Division are closely coordinated with those of the Federal Cooperative Extension Service and all other organized service agencies in the state.

Portland Extension Center. General extension in Portland is carried on through the Portland Extension Center. One hundred and forty-four evening, late afternoon, and Saturday morning courses in twenty-nine different departments and professional schools were offered during the academic year 1939-40. The work of these classes is of standard college or university grade. The courses are intended for persons who, because of preoccupation with breadwinning or with homemaking, or for other reasons, cannot attend college. Resident credit at the University, the State College, or the colleges of education may be earned through these courses. Courses may be taken at the Portland Extension Center for graduate credit at the University or the State College; but work toward the doctor's degree may not be taken at the Portland Center. Detailed information is published in the Portland Extension Center Announcements.

Correspondence Study. Study at home under competent supervision is possible for any resident of Oregon through carefully organized courses of instruction prepared by members of the faculties of the Oregon State System of Higher Education. These lesson outlines take the place of lectures and class exercises given to students in residence. More than one hundred courses representing twenty-five widely varied subjects are offered. Courses may be taken without credit by persons who enjoy the intellectual stimulus of organized, directed study, or they may be taken for credit toward a college degree. There are no special entrance requirements to correspondence courses; any adult who has sufficient preparation to profit from them may enroll. Complete information is published in a special Correspondence Study Catalog.

Visual Instruction. The Department of Visual Instruction provides glass and film slides, microscopic slides, and motion picture films suitable for educational use by schools, community clubs, and other organizations. A special catalog is published listing the material available. This department is maintained jointly by the General Extension Division and the Federal Cooperative Extension Service.

Radio Station KOAC. Radio Station KOAC is Oregon's public-owned station of which the State Board of Higher Education is the Managing Agency. The station is located at Corvallis, Oregon, on the campus of Oregon State Agricultural College, the licensee and operator of the physical plant. The General Extension Division of the State System of Higher Education directs the program service. Program talent is drawn from Oregon State College, the University of Oregon, the Oregon colleges of education, and from various departments of the state government. In addition, various other public agencies, organizations, and individuals contribute frequently to broadcasts from the station. The station was first opened in 1925 and has been operated entirely in the interest of the Oregon public. The programs are absolutely free from commercialism. The radio service is used as a means of extending throughout the state the benefits of the varied activities of all the state institutions of higher education. KOAC operates with 1,000 watts power on a frequency of 550 kilocycles by authority of the Federal Radio Commission. Announcements of radio programs are issued periodically, and will be furnished on request.

The Summer Sessions. The summer sessions of the several institutions, although a phase of resident instruction, are administered under the General Extension Division. The 1940 summer sessions include: the State College six-week first session and four-week second session at Corvallis; the University six-week session and four-week post session at Eugene; two summer terms (six weeks and five weeks) at each of the three colleges of education; the Institute of Marine Biology at Coos Bay; and the Portland six-week session, offering work for the University, the State College, and the colleges of education. At the University and State College sessions, and at the Portland session, both undergraduate and graduate courses are offered. Information concerning the summer sessions is issued in separate bulletins.

Federal Cooperative Extension

WILLIAM ALFRED SCHOENFELD, M.B.A., Dean and Director of Agriculture.

FRANK LLEWELLYN BALLARD, B.S., Vice Director of Federal Cooperative Extension; State County Agent Leader.

Extension Staff at Corvallis

Professors

HARRY CASE SEYMOUR, State Leader of 4-H Club Work.

LE ROY BREITHAUPT, B.S., Extension Agricultural Economist (Statistics, News, and Outlook).

EDWIN RUSSELL JACKMAN, B.S., Specialist in Farm Crops.

OVID TULLIUS MCWHORTER, B.S., Extension Horticulturist.

PAUL CARPENTER, B.S., Extension Agricultural Economist (Marketing).

WILLIAM LEROY TEUTSCH, B.S., Assistant County Agent Leader.

ROGER WILLIAM MORSE, B.S., Extension Dairyman.

JAMES RALPH BECK, B.S., Rural Service Specialist.

*RAY GEORGE JOHNSON, B.S., Specialist in Range Management.

AZALEA LINFIELD SAGER, M.A., State Home Demonstration Leader.

HARRY ARTHUR LINDGREN, B.S., Extension Animal Husbandman.

CHARLES WESLEY SMITH, B.S. Assistant County Agent Leader.

Associate Professors

HELEN JULIA COWGILL, M.A., Assistant State 4-H Club Leader.

LEONARD JOHN ALLEN, M.S., Assistant State 4-H Club Leader.

*URIEL SELLERS BURT, Specialist in Visual Instruction.

LUCY ADA CASE, M.A., Specialist in Nutrition.

*JOHN COLE BURTNER, B.S., Extension Editor.

Assistant Professors

HAROLD H WHITE, M.S., Associate Extension Economist.

JOHN MYERS CLIFFORD, Extension Secretary.

* Part time, Federal Cooperative Extension.

ARTHUR SOLOMON KING, M.S., Specialist in Soils.
IZOLA DOROTHY JENSEN, M.A., Specialist in Community Social Organization.
NOEL LINDSAY BENNION, M.S., Poultry Specialist.
JOAN PATTERSON, B.Arch., Specialist in Home Management.
LUCY ROCENA LANE, M.A., Specialist in Clothing and Textiles.
LAWRENCE COATS JENKINS, B.S., Assistant Specialist in Farm Crops.
BUENA MARGASON MARIS, M.S., Specialist in Family Relationships.

Instructors

EVERETT HENRY DAVIS, B.S., Specialist in Agricultural Engineering.
GRANT WELLINGTON PERRY, B.S., Extension Soil Conservationist.
MARION DAWS THOMAS, B.S., Assistant Extension Economist.
HAROLD FRANKLIN PRINDLE, B.S., Junior Extension Statistician.

County Extension Agents

Professors

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CHARLES ALBERT HENDERSON, B.S., County Agent, Klamath County.
OTTIS SCHULER FLETCHER, M.S., County Agent, Lane County.
HARRY GRANT AVERY, B.S., County Agent, Union County.
ROBERT GREY FOWLER, B.S., County Agent, Jackson County.
WILLIAM FLETCHER CYRUS, B.S., County Agent, Washington County.
SYLVESTER BENJAMIN HALL, B.S., County Agent, Multnomah County.
JOHN JERRY INSKEEP, B.S., County Agent, Clackamas County.
GEORGE HERRICK JENKINS, B.S., County Agent, Coos County.

Associate Professors

GEORGE ALLEN NELSON, B.S., County Agent, Columbia County.
PHILIP TUTHILL FORTNER, B.S., County Agent, Baker County.
DAVID HONORE KENNEDY, B.S., Club Agent, Tillamook County.
SARA HUNTINGTON WERTZ, M.A., Home Agent, Deschutes County.
RICHARD CARL KUEHNER, B.S., Club Agent, Lane County.
MABEL CLAIR MACK, B.S., Home Agent, Jackson County.
ARCHIE LEE MARBLE, B.S.A., County Agent, Hood River County.
CHESTER HAROLD BERGSTROM, B.S., County Agent, Tillamook County.
WILBUR WRAY LAWRENCE, B.S., County Agent, Wasco County.
VICTOR WALDEMAR JOHNSON, B.S., County Agent, Lake County.
*FRANCES ANN CLINTON, M.S., Home Agent, Umatilla County.
RUSSEL MELVILLE MCKENNON, B.S., County Agent, Malheur County.
RALPH EDWARD BROOKE, M.S., County Agent, Grant County.
GUSTAVE YNGVE HAGGLUND, B.S., County Agent, Deschutes County.
WILLIAM SAMUEL AVERILL, B.S., County Agent, Benton County.

*On leave of absence.

Assistant Professors

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James Roland Parker, M.S., County Agent, Douglas County.
Clay Carl Miller, B.S., Club Agent, Multnomah County.
Robert Myron Knox, B.S., County Agent, Curry County.
Garnet Douglas Best, B.S., County Agent, Wallowa County.
*Charles Joseph Weber., B.S., Urban Club Agent, Portland.
Rex Warren, M.S., County Agent, Yamhill County.
Floyd Charles Mullen, B.S., County Agent, Linn County.
Harry LaBare Riches, B.S., County Agent, Marion County.
Afton Zundel, B.S., County Agent, Clatsop County.
Walter Christian Leth, B.S., County Agent, Polk County.
Oliver Kenneth Beals, B.S., County Agent, Josephine County.
Earl A Britton, A.B., Club Agent, Douglas County.
Maud Conway Purvine, B.S., Home Agent, Columbia County.
Hazel Packer, B.S., Home Agent, Multnomah County.
†Lois Aileen Lutz, B.S., Home Agent, Lane County.
Kenneth White Sawyer, B.S., County Agent, Jefferson County.
Oscar Edwin Mikesell, B.S., Club Agent, Linn County.
William Arthur Sawyer, B.S., County Agent, Harney County.
Winnifred Keil Gillen, M.S., Home Agent, Klamath County.
Clifford Charles Jenkins, B.S., Club Agent, Klamath County.
Ethan Linden Woods, B.S., County Agent, Crook County.
Helen Ann Thomas, B.S., Home Agent, Clackamas County.
Nellie Catherine Lyle, M.S., Acting Home Agent, Lane County.

Instructors

Ernest Millard Hauser, B.S., Club Agent, Malheur County.
Wayne D Harding, Club Agent, Marion County.
Lawrence Edward Francis, B.S., Club Agent, Jackson County.
Howard George Smith, B.S., County Agent, Lincoln County.
Clifford Bernard Cordy, M.S., Assistant County Agent, Jackson County.
Edwin Gustave Keltner, B.S., Club Agent, Clackamas County.
Arnold Christian Ebert, B.S., County Agent, Wheeler County.
Frederick Wayland Hill, B.S., Assistant County Agent, Baker County.
Harry Franklin Cline, B.S.A., Assistant County Agent, Umatilla County.
Clifford De Vere Conrad, B.S., County Agent, Morrow County.
Louise Crillo Harwood, B.S., Home Agent, Wasco County.
Dorothy Lamb Bishop, B.S., Acting Home Agent, Umatilla County.
Nola Allegra Welch, B.S., Home Agent, Josephine County.
Robert Edward Rieder, B.S., Assistant County Agent, Marion County.
Walter John Jendrzejewski, B.S., Assistant County Agent, Klamath County.

*Part time, Federal Cooperative Extension.
†On leave of absence.

JULIA MARIAN BENNETT, B.A., Home Agent, Coos County.

WILLIAM FREDRICK MARSHALL, B.S., County Agent, Gilliam County.

PALMER STANLEY TORVEND, B.S., Assistant County Agent, Washington County.

HARRY JAMES ENDICOTT, B.S., Assistant County Agent, Malheur County.

STONEWALL ANDREW JACKSON, B.S., Club Agent, Benton County.

GENE MAURICE LEAR, B.S., Assistant County Agent, Wasco County.

MELVIN EMMETT KNICKERBOCKER, B.S., Assistant County Agent, Umatilla County.

KATHLEEN JEAN MCCRAE, B.S., Home Agent, Washington County.

ROLAND WILLIAM SCHAAD, B.S., Assistant County Agent, Union County.

DONALD WAYNE JOSSY, B.S., Club Agent, Clatsop County.

GERALD TITUS NEWCOMB, B.S., Assistant County Agent-at-Large.

FEDERAL Cooperative Extension, closely coordinated with the work of the General Extension Division, performs one of the three great functions of Oregon State College, which include: resident instruction, research and experimentation, and college extension. The Extension Service is charged with the duty of extending the benefits, advantages, and available information of the State College and of the United States Department of Agriculture to every portion of the state and to all those persons who for any reason are unable to come to the campus.

The Farm and Home Interests of Oregon. The Extension Service includes all forms of cooperative off-campus instruction and assistance in those phases of agriculture, home economics, and related subjects which lend themselves to extension methods or which can be practically adapted to the direct needs of the people of the state. The various extension activities are the means through which information, instruction, assistance, and methods of self-help are carried to all persons who desire them at any point within the state. In brief, the Extension Service represents the medium, both independently and in hearty cooperation with all other organized forces of betterment, for enlarging and enriching the agricultural and home interests of Oregon. No county, town, hamlet, farm, or home need be without some benefit of this service.

Extension Projects. In order to assure the maximum of efficiency, extension work is conducted on the basis of definitely planned projects. These require approval by the proper State College authority and the Secretary of the United States Department of Agriculture before Federal funds are made available.

The several distinct lines of work now covered by written projects, from which citizens of the state are receiving benefit, include:

General—

General Administration and Organization of the Extension Service
County Agent Work
Home Demonstration Work
4-H Club Work

Preparation, Printing, and Distribution of Bulletins
News Service and Publicity
Visual Instruction*

Agriculture—

Soils, Irrigation, and Drainage
Horticulture
Animal Husbandry
Dairying
Poultry Husbandry
Farm Crops
Agricultural Economics, including Marketing and the Collection and Dissemination of Statistical and Outlook Information
Agricultural Engineering
Rodent Eradication
Land Use
Rural Service

Home Economics—

Nutrition
Home Management
Clothing and Textiles
Community Social Organization
Family Relationships

These projects are not assumed to cover the only problems of importance within the state. It is the purpose to put into operation and to emphasize those lines of extension service that are fundamental to large and important interests of farm or home welfare, or to material agricultural development.

* Supported jointly with General Extension Division.

Part VI

Miscellaneous

Seventy-first Annual Commencement

Degrees Conferred June 3, 1940

Advanced Degrees

Honorary Degrees

Doctors of Science

Elmer Ivan Applegate, native of Oregon, grandson of one of the three brothers who succeeded, by developing the Applegate Cut-off, in bringing the first wagon train to Oregon; Acting Curator of the Dudley Herbarium of Stanford University; pioneer in the reclamation work of the great Pacific Area and organizer of the Western Reclamation Association; an eminent collector of the flora of the Far West; author of original scientific literature; and the world's outstanding scientific authority on at least one important genus of plants.

Albert Davis Taylor, eminent landscape architect and city planner, who has designed and planned the development of some of the most important estates, expositions, and college campuses in America, including Oregon State College; a potent influence in forest conservation; consultant to departments of the National Goverment; author of many publications reporting research and observation in the field that he has mastered; an expert whose educational and professional services have quickened public interest and appreciation in the orderliness, symmetry, and beauty of the surroundings under which we live.

Doctors of Engineering

Thomas Matthews Robins, Brigadier General, Assistant to the Chief of Engineers, U. S. Army; counsellor for several divisions of government function; an engineer of vision and imagination, whose scientific services to the navigable waterways of the country, including harbors, rivers, lakes, and canals, have made engineering history for the past two decades, and whose crowning achievement as Division Engineer, North Pacific Division, is the construction of the great Bonneville Dam and powerhouse on the Columbia River, with its vast potential impetus for industrial development.

John Harrison Belknap, native son of Corvallis, graduate of Oregon State College, and member of its faculty from 1912 to 1923, except for the interval of the World War; since 1923 a member of the engineering staff of the Westinghouse Electric and Manufacturing Company; manager of technical employment and training, whose leadership in personnel includes graduate and research fields, scholarships and fellowships, and contacts with the colleges and universities of the entire United States; an engineer in the best traditions of the profession, whose inventions have stimulated industrial science.

Graduate Degrees

Doctors of Philosophy

James Clement Lewis
Corvallis.
B. of Chem., 1936, University of Minnesota; M.S., 1939, Oregon State College.
Major: Soils. Minor: Physical Chemistry; Bacteriology.
Thesis: Iodine in Relation to Plant Nutrition.

Tsui-chiech Liu
Hotze, China.
B.S., 1935, National University of Shantung.
Major: Botany (Plant Pathology). Minor: Food Industries; Chemistry.
Thesis: Physiology of Rhizoctonia and its Relation to Botryobasidium.

JOSEPH BERNARD SPULNIK

Corvallis.
B.S., 1934, Oregon State College; M.S., 1935, Oregon State College.
Major: Chemistry; Soils. Minor: Physical Chemistry; Physics.
Thesis: The Effect of Waste Sulfite Liquor on Soil Properties and Plant Growth.

LEMUEL DARY WRIGHT

Corvallis.
B.S., 1935, University of New Hampshire; M. S., 1936, University of New Hampshire.
Major: Biochemistry. Minor: Organic Chemistry; Bacteriology.
Thesis: The Role of Cystine and Methionine in Lactation.

CIVIL ENGINEER

OLIFF NEIL OLSON

Milwaukee, Wisconsin.
B.S., 1925, Oregon State College.
Thesis: Development of a Portland Cement Concrete of High Dielectric Strength.

ELECTRICAL ENGINEER

HOWARD PAUL BECKENDORF

Portland.
B.S., 1934, Oregon State College; M.S., 1935, Oregon State College.
Thesis: Unattended Dial Telephone Exchanges.

FOREST ENGINEER

GLENN VOORHIES

Corvallis.
B.S., 1929, Oregon State College; M.S., 1930, Oregon State College.
Thesis: Oil Tar Creosote for Wood Preservation.

MASTERS OF ARTS

PEARL ALBERT

Portland
B.A., 1938, Oregon State College.
Major: Bacteriology. Minor: Biochemistry.
Thesis: Pathogenic Staphylococci on the Normal Hands. A Group of Medical Workers as Compared With a Lay Group.

WILLIS AMBROSE BALDWIN

Coalinga, California.
A.B., 1925, San Diego State College.
Major: Education. Minor: Industrial Education.
Thesis: The Present Status of Industrial Arts in the Junior High Schools of California.

ROBERT JOSEPH CORRUCCINI

Milwaukie.
B.A., 1938, Reed College.
Major: Chemistry. Minor: Chemical Engineering; Mathematics.
Thesis: The Heats of Combustion of cis- and trans-Azobenzene.

BRUCE LLOYD ELLE

Portland.
B.S., 1939, Oregon State College.
Major: Physics. Minor: Education.
Thesis: Reconstruction and Calibration of a Small Grating Spectrograph.

CYRIL FELDSTEIN

San Francisco, California.
B.A., 1938, Oregon State College.
Major: Physics. Minor: Analytical Chemistry.
Thesis: The Magneto-Optic Method of Chemical Analysis.

JAMES FERRIS PRICE
Forest Grove.
A.B., 1938, Pacific University.
Major: Mathematics. Minor: Physics.
Thesis: Orthogonal Polynomials for Curve Fitting.

CLAIRE RANDOLPH SEELY
San Diego, California.
B.S., 1921, Oregon State College.
Major: Education. Minor: Sociology.
Thesis: The Problems of One Hundred Eleventh Grade Pupils.

XENOPHON PALMER SMITH
Corvallis.
B.A., 1921, University of Kansas; B.A. in L., 1938, University of Washington.
Major: General Studies.
Thesis: Audio-Visual Aids in the Library.

WILLIAM MATTHEWSON STONE
Oregon City.
A.B., 1938, Willamette University.
Major: Mathematics. Minor: Physics.
Thesis: Biorthogonal Functions for Frequency Distributions.

PHYLLIS MARIE SWANSON
Tacoma, Washington.
B.A., 1937, College of Puget Sound.
Major: Bacteriology. Minor: Biochemistry.
Thesis: The Antigenic Relationships of Shigella Paradysenteriae. Flexner and Escherichia Strains.

MASTERS OF SCIENCE

ERNEST WILLIAM ANDERSON
Pendleton.
B.S., 1937, University of Idaho.
Major: Range Management. Minor: Animal Husbandry.
Thesis: A Study of the Intensities in Range Surveys by the Square-Foot-Density Method.

DWIGHT IRWIN BAKER
Gresham.
B.S., 1938, Oregon State College.
Major: Mechanical Engineering. Minor: Mathematics; Electrical Engineering.
Thesis: A Three-Dimensional Photoelastic Analysis of a Square Bar in Torsion.

NED BRADBURY BAKER
Corvallis.
B.A., 1939, Oregon State College.
Major: Chemistry. Minor: Physics; Mathematics.
Thesis: Surface Tension and Parachor of Hydrazine in Solution at 25° C.

CARMEN BALLARD
Logan, Utah.
B.S., 1923, Utah State Agricultural College.
Major: Home Economics Education. Minor: Household Administration.
Thesis: A Study of Supervised Student-Teaching in Home Economics at Oregon State College.

HERBERT ARNOLD BORK
Corvallis.
B.S., 1924, University of Wisconsin.
Major: Education. Minor: Business Administration; Economics.
Thesis: A Statistical Study of a Retirement Program for the Faculties of the Oregon State System of Higher Education.

FLORA JEAN BOWMAN
Prineville.
B.S., 1939, Oregon State College.
Major: Geology. Minor: Paleontology.
Thesis: The Geology of the North Half of Hampton Quadrangle, Oregon.

GATLIN BRANDON

Portland.
B.S., 1938, State College of Washington.
Major: Bacteriology. Minor: Biochemistry.
Thesis: Studies on the O Antigens of Typhoid, Paratyphoid, and Colon Bacilli. I. Incidence of O and H Agglutinins for Bacterium Paratyphosum in Normal Human Serums. II. Observations on the Origin of the Bacterium Paratyphosum B Agglutinins in Normal Human Serums.

DORRIS JACQUELINE BRIER

Turlock, California.
B.S., 1934, Oregon State College.
Major: Clothing and Textiles. Minor: General Home Economics.
Thesis: Recommendations for Furnishing a Home Management House at Oregon State College.

CLARA JANE CHAPMAN

Portland.
B.S., 1938, Oregon State College.
Major: Botany. Minor: Education.
Thesis: Moss Flora of the Willamette Valley, Oregon.

GEORGENE HUTCHINS CLARK

Portland.
B.S., 1920, Oregon State College.
Major: Education. Minor: Education.
Thesis: The Development of the Jane Addams High School.

GEORGE BRYAN COX

Corvallis.
B.S., 1919, University of Missouri.
Major: Education. Minor: Economics; Industrial Education.
Thesis: A Guide to a Shop Planning Program for Oregon Schools.

HENRY ERNEST DAVIS

Chico, California.
A.B., 1936, Chico State College.
Major: Industrial Education. Minor: Education.
Thesis: Industrial Arts Teaching as a Vocation.

MARION RAYMOND DAVIS

St. Helens.
B.S., 1935, Oregon State College.
Major: Industrial Education. Minor: Education; Visual Education.
Thesis: Visual Teaching Aids for Hand-Tool Processes in Woodworking.

WALTER DENTON ENZIE

Geneva, New York.
B.S., 1939, Oregon State College.
Major: Horticulture. Minor: Botany.
Thesis: A Systematic Study of Vegetable Varieties, Strains and Stocks Used in the Canning and Freezing Industries.

JOHN FRED FACER

Portland.
B.A., 1936, Reed College.
Major: Chemistry. Minor: Chemical Engineering.
Thesis: The Determination of Molecular Structure by Iodic Acid Oxidation.

FRANK WILLIAM GROVES

Burns.
B.S., 1936, Oregon State College.
Major: Fish and Game Management. Minor: Range Management; Farm Crops.
Thesis: The Effects of Artificial Light on the Reproductive Cycle of Foxes and Mink.

PEARL HORNING

Corvallis.
B.S., 1930, Oregon State College.
Major: Household Administration. Minor: Home Economics Education.
Thesis: An Analysis of the Time Spent by Home Management House Students.

ELMER MAYNARD LEAF

Mount Vernon, Washington.
B.A., 1929, State College of Washington.
Major: Industrial Education. Minor: Education.
Thesis: Criteria for Planning the Industrial Arts Shop in Schools under 800 Enrollment.

RUTH RAMABAI LITTLE

National City, California.
B.S., 1933, College of Medical Evangelists, California.
Major: Foods and Nutrition. Minor: General Home Economics.
Thesis: The Vitamin B_1 Content of Baking Powder Bread.

YU-CHEN LIU

China.
M.A., 1933, Cheelo University, China.
Major: Household Administration. Minor: Education.
Thesis: An Adaptation of Parent Education Methods to Meet the Needs of the Changing Status of Chinese Families.

WALLACE DEAN LOWRY

Medford.
B.S., 1939, Oregon State College.
Major: Geology. Minor: Mining Engineering.
Thesis: The Geology of the Bear Creek Area, Crook and Deschutes Counties, Oregon.

NELLIE CATHERINE LYLE

Glendale, Arizona.
B.A., 1937, Arizona State Teachers College.
Major: Household Administration. Minor: General Home Economics.
Thesis: A Normative Study of the Growth and Development of the 1938-39 Oregon State College Home Management House Infants.

RICHARD HARDING MCBEE

Eugene.
B.S., 1938, Oregon State College.
Major: Bacteriology. Minor: Physical Chemistry.
Thesis: A Study of Some Yeasts Occurring on Oregon Grapes.

ISABELLA FRANKLIN MCQUESTEN

Tucson, Arizona.
B.S., 1932, University of Arizona.
Major: Home Economics Education. Minor: Household Administration.
Thesis: Student Progress in Two Paired Food Classes: Grade, Time and Method Specified.

MABEL TOWNES MACK

Medford.
B.S., 1928, Oregon State College.
Major: Home Management. Minor: Foods and Nutrition; Home Economics Extension.
Thesis: A Study of the Kitchen Sink Center in Relation to Home Management.

EDWIN DAVID MEYER

Corvallis.
B.S., 1927, Stout Institute.
Major: Education. Minor: Industrial Education.
Thesis: A Follow-Up Study of Industrial Arts Graduates of Oregon State College Since 1915.

RICHARD HODGES MOTE

Corvallis.
B.S., 1938, Oregon State College.
Major: Geology. Minor: Soils.
Thesis: The Geology of the Maury Mountain Region, Crook County, Oregon.

WILLIAM JOE NEE

Canby.
A.B., 1927, Willamette University.
Major: Industrial Education. Minor: Botany.
Thesis: A Survey of Industrial Arts in the Public Schools of Oregon.

HUGH ROSS NEWCOMB

Newton Centre, Massachusetts.
B.S., 1938, University of Maine.
Major: Fish and Game Management. Minor: Botany.
Thesis: Ring-Necked Pheasant Studies on Protection Island in the Straits of Juan de Fuca, Washington.

NILS NORMAN NILSSON

Anaconda, Montana.
B.S., 1933, Oklahoma Agricultural and Mechanical College.
Major: Fish and Game Management. Minor: Range Management.
Thesis: A Study of the Domestic Cat in Relation to Game Birds in the Willamette Valley, Oregon.

LOUISE JACKMAN ORNER

Corvallis.
B.S., 1922, Oregon State College.
Major: Education. Minor: Commercial Education.
Thesis: Factors Relating to Success or Failure in Learning to Typewrite.

GLADYS PALMER

Bountiful, Utah.
B.S., 1923, University of Utah.
Major: Home Economics Education. Minor: Foods and Nutrition; Household Administration.
Thesis: Developing Tests for Measuring Pupil Achievement in High School Foods and Nutrition.

CHARLES WILBER PETERS

Corvallis.
B.S., 1932, Oregon State College.
Major: Agricultural Economics. Minor: Economics.
Thesis: Cooperative Purchasing of Farm Supplies in Oregon—1938.

CORA NATALIE PRICE

San Rafael, California.
B.S., 1927, Oregon State College.
Major: Household Administration. Minor: Education.
Thesis: A Study of the Attitudes of Japanese American and of Native American High School Freshmen Toward Discipline.

ROY PAUL ROBICHAUX

LaFayette, Louisiana.
B.S., 1933, Iowa State College.
Major: Dairy Manufacturing. Minor: Chemistry.
Thesis: A Study of the Accuracy in the Methods of Sampling, Preserving, and Testing Milk for Fat at Oregon Milk Plants.

NELMA LAURA SAYLOR

Echo.
B.S., 1931, Oregon State College.
Major: Institution Economics. Minor: General Home Economics.
Thesis: A Study of the Financial Management of the Five Cooperative Houses for Women at Oregon State College.

FRANK KNAPP SEELY

Portland.
B.S., 1937, Oregon State College.
Major: Education. Minor: Business Administration.
Thesis: The Construction and Validation for High School and College Use of a Vocabulary Test Incorporating Certain Diagnostic Features.

CHARLES FLOYD SHOCKEY

Astoria.
B.S., 1935, University of Washington.
Major: Food Industries. Minor: Chemistry; Bacteriology.
Thesis: A Study of the Yellow Discoloration in Canned Oysters.

STEPHEN E SMITH

Portland.
B.S., 1920, University of Montana.
Major: Education. Minor: Education.
Thesis: Public School Personnel Selection.

George Franklin Steel
Olympia, Washington.
B.A., 1934, Oregon State College.
Major: Bacteriology. Minor: Dairy Manufacturing.
Thesis: Thermophilic and Thermoduric Bacteria in Pasteurized Milk.

Frank Warren Thomas
The Dalles.
A.B., 1937, Willamette University.
Major: Organic Chemistry. Minor: Physical Chemistry.
Thesis: Electrolytic Reduction of Certain Organic Nitro Compounds and Heterocyclic Nitrogen Bases.

Benton Reeves Trout
Yuba City, California.
A.B., 1939, Chico State College.
Major: Industrial Education. Minor: Education.
Thesis: Industrial Arts Teacher Education in California: Its Development and Present Requirements.

Earl Haven Tryon
Portland.
B.S., 1936, University of New Hampshire.
Major: Botany (Plant Pathology). Minor: Forestry; Botany.
Thesis: Decay of Sitka Spruce with Reference to Detection of Extent of Actual Incipient Decay Beyond Apparent Incipient Decay.

Sih-tsi Tsu
Canton, China.
B.S., 1937, University of Nanking, China.
Major: Food Industries. Minor: Horticulture; Vegetable Crops.
Thesis: Determination of the Rate of Water Loss in Dehydration of Vegetables.

Lester Oscar VanBlaricom
Corvallis.
B.S., 1938, Oregon State College.
Major: Food Industries. Minor: Chemistry.
Thesis: Some Factors Affecting the Stability of Erythrosine Dye in Cherry Tissue.

Jesse Robert Watson
Forest Grove.
B.S., 1930, Pacific University.
Major: Physics: Minor: Chemistry.
Thesis: The Development of a Photoelectric Cell Suitable for Student Use in the Determination of Planck's Constant.

Owen Bayard Weeks
Boone, Iowa.
B.S., 1937, Iowa State College.
Major: Bacteriology. Minor: Organic Chemistry; Food Products.
Thesis: Sensitivity of *Escherichia coli* to Cold Shock during the Logarithmic Growth Phase.

Gregory Burton Wood
Corvallis.
B.S., 1939, University of Oregon.
Major: Agricultural Economics. Minor: Economics.
Thesis: An Economic Study of the Marketing of Pacific Coast Winter Pears.

Willard Lee Woodson
Medford.
A.B., 1924, University of Missouri.
Major: Education. Minor: Physics.
Thesis. The Construction and Use of Student-Made Apparatus for High School Physics Classes.

Lura Jarmon Woodworth
Redlands, California.
B.S., 1927, Oregon State College.
Major: Household Administration. Minor: Education.
Thesis: Recommendations for Standards in Child Development Play School Laboratories on the Secondary Level.

Ho-ya Yang
Amoy, China.
B.S., 1936, University of Nanking, China.
Major: Food Industries. Minor: Dairy Husbandry.
Thesis: The Effect of Dextrose Upon Weight and Volume in the Manufacture of Maraschino-Type Cherries.

Masters of Education

Gail Everett Moore
Chico, California.
A.B., 1934, Chico State College.
Major: Education. Minor: Industrial Education.
Thesis: History of Chico State College.

Clifford Alvin Stocker
Parkdale.
B.S., 1939, Oregon State College.
Major: Education. Minor: Guidance.
Thesis: Consolidation of Certain School Districts in Southern Polk County, Oregon.

Andrew Ervin Street
Malin.
B.S., 1923, Oregon State College.
Major: Education. Minor: Agricultural Education; Guidance.
Thesis: An Evaluation of the Malin High School by its Graduates.

Masters of Forestry

Brittain Henshaw Ash
Eugene.
B.S., 1937, University of Oregon.
Major: Forestry. Minor: Fish and Game Management.
Thesis: Administration of a Ranger District Personnel.

John Paul Drummond
Logan, Utah.
B.S., 1937, Utah State Agricultural College.
Major: Forestry. Minor: Education; Animal Husbandry.
Thesis: The Possibilities of Farm Forest Cooperatives in the Willamette Valley.

Franklin Russell Longwood
Corvallis.
B.S., 1938, Michigan State College.
Major: Forestry. Minor: Range Management.
Thesis: A Land Use History of Benton County, Oregon.

Baccalaureate Degrees

School of Science

Bachelors of Arts

Gordon Alderton
Portland
James Dempsey Allgood
Dallas
Harry Burton Black
Roseburg
Margarite Boyle
Medford
David Charles England
Eugene
George Alan Fisher
Portland
Carl Frederick Frost
Portland
Jean Lavelle Hanna
La Grande
Milton Horenstein
Portland
Herbert Arthur Wilson Kidd
Charleston, West Virginia
Ivan Ira Langley
Fairview
Willis Woodrow Mathews
Tillamook
Martin Daniel Merriss
Portland
Earl Milton Newport
Tangent
Gordon Prewitt
Portland
Dale Owen Shuey, Jr.
Eugene
James Simpson Smyth
Albany
Jay Eugene Taylor
Stayton

Bachelors of Science

Helen Blanche Ager
Klamath Falls
Edward Carl Appel, Jr.
Etiwanda, California
Orville Lee Bandy
Corvallis
Alva Henry Blagg
Hood River
Virginia Helen Brown
Hood River
Vernon Crissville Catts
Woodburn
Samuel Ebb Crumb, Jr.
St. Helens
John Smith Culbertson
Portland
William Bruce Davis
Portland
Virginia Dean
Portland
Fred William Decker
Portland
Hollis Mathews Dole
Grants Pass
Margaret Elizabeth Douhan
La Grande
Jack Elliot Dunlap
Portland
Louis Edward Epplett
Milwaukie
Dorothy Elsie Evenden
Corvallis
Eldon James Gilbert
Corvallis
Vernon Richard Gilbert
Portland
Richard Wallace Gilkey
Dayton
John Ashbrook Gilpin
Portland
Fred Darold Gustafson
Portland
Robert Eugene Hahn
Corvallis
Ellean Merle Hoover
Portland
Davis Hutchinson
Corvallis
William Grenville Hutchinson
Astoria
Toini Margaret Jacquemin
Corvallis
Frances Mariel McBroom
Portland
Norman MacKay
Portland
Herbert Wade Meeker
Portland
Maurice Edwin Mercer
Salem
Carol Meyers
Portland
Harold Constantine O'Donnell
Hornbrook, California
George Thurston Plov
Monroe
John Walter Ritchie
Hagerman, Idaho
Stanley McDonald Rose
Portland
William Schroeder
Marshfield
Byron Clarendon Scott
Tangent
Arthur Frank Shoenborn
Mulino
George Milton Shy
Corvallis
Douglas Arvid Skoog
Portland
Arthur Darrell Stump
Monmouth
Leonard Subotnick
Portland
Lennart Teir
Rainier
Clarence Garrison Thompson
Corvallis
John Raymond Warner
Portland
Robert Wong
Portland

School of Agriculture

Bachelors of Science

Frank Henry Allhands, Jr.
Portland
James Bartlett Allison
Newberg
Paul Astleford
Newberg
Gordon Bailey
Portland
Lloyd Carl Baron
Newberg
Charles James Bartos
Woodburn
Daniel Walter Bates
Seaside
Russel Harvey Belshee
Moro
George Owen Black
Oswego
Lawrence Wade Blue
Astoria
John Brantner
Portland
Clarence Edwin Brissenden
Multnomah
John Elliot Busch
Oregon City
Walter George Cadmus
Portland
Albert Campbell
Prairie City
Wallace John Carl
Arago
Raleigh Carothers
Corvallis
Milton Joseph Carter
Pendleton
Chester Lee Christenson
Monument
Matthew Boyd Clasper
Portland
Fletcher Marbury Craig
Gridley, California
Fredrick Henry Dahl
Silverton

Kenneth Ward Dahl
Silverton
William Joseph Daniel, Jr.
Corvallis
Tom Jefferson Davis
Jamieson
William Elmer Dent
Roseburg
Ivan Donaldson
Maupin
Frank Nelson Eastwood
Westminster, California
Edmond Neal Elliott
Lakeview
Sidney Henry Elliott
Redmond
Jack Elbert Etter
Pilot Rock
Willis Evans
Pasadena, California
Robert William Fraser
Portland
Alvin Bernard Friedrich
Mulino
Harold Charles Gerking
Pendleton
Jalmar Richard Gerttula
Brownsmead
Joe Herbert Gnos
Hillsboro
John Keith Grimes
Harrisburg
Robert James Groshong
Albany
Wendell Albert Gross
Corvallis
Cecil Ennis Gubser
Oswego
Jim Arthur Harper
St. Helens
Arnold Kenneth Harrang
Foster
George Yost Harry
Portland
David Henry Hartzog
Lakeview
Eugene William Harwood
St. John, Washington
Martin Heerdt, Jr.
Portland
Lloyd Vernon Henrichs
Moro
Russell Paul Hill
Wheeler
Keith Neil Hockersmith
Beagle
Lloyd George Howden
Olex
William Huno Hoyer
Portland
Russell Frank Hyatt
Baker
Frederick Edward Joehnke
Canby
Donald Wayne Jossy
Portland
Wilford Joseph Kalsch
Cornelius
Olive Helene Kendrick
Hightown, Virginia
Richard Bainter Kennedy
Portland
Virgil Dean Kennedy
Dayville
John Paul Kerns
Klamath Falls
Keith Kershaw
Corvallis

Leslie Kincaid
Ashland
Ernest John Kirsch
Maupin
John Francis Kraus
Aurora
Elwyn Shafer Krous
Medford
Ernest Jennings Lathrop
Central Point
Creighton Lawson
Salem
Leon Louie Lawson
South Pasadena, California
Clifton Wayne Lemons
John Day
Adrian Mason Lofland
Eugene
William Clayton Lowery, Jr.
Portland
Frank Louis Luther
Portland
Clarke McCarthy
Marshfield
Donald Orton McDermid
Wasco
Ruth Elizabeth McKay
Boring
James Neilan McPartland
Richland
Hector Macpherson, Jr.
Albany
Victor Severin Madsen
Hillsboro
Carl Albin Magnuson
Lynwood, California
Ralph Eugene Magnuson
Sheridan
Cloyd Bovvy Makinson
Halfway
Jakie LaVerne Mann
Portland
Wilfred Victor Masson
Mt. Vernon
Ernest Everett Mathews
Portland
Carroll McBride Mershon
Corvallis
Leo Elmer Miller
Gold Beach
Allen Mills
Cove
Vernon Wilson Mitchell
Madras
Jack Earl Morrison
Portland
William Bovell Morse
Corvallis
Harold Murch, Jr.
Portland
Harold Anthony Nash
Corvallis
Robert Elmer Nelson
Gresham
James Robert Nunamaker
Hood River
Joseph Cayton Oliver
John Day
Chester Otis
Grants Pass
Harry Birdette Parker
Corvallis
Henry John Pavelek
Woodburn
Roy Perry, Jr.
Lakeview
Harold Herman Persey
Salem

Arnold Frederick Peterson
Helix
Braden Pillow
Corvallis
William Ernest Pitney
Eugene
Donald Frank Polson
Portland
Paul Richard Pugh
Shedd
Roy Milton Raasina
Astoria
Lawrence John Rasaka
Dayton
Clinton William Renney
Astoria
Charles Henry Rice
Fort Jay, New York
Leonard Walter Rice
Grants Pass
George Howard Ricketts
Portland
Robert Henry Riechers
Portland
Chester Lane Robinson
Tigard
Orie Wilfred Robison
Corvallis
Michael Eric Salo
Burns
Mark Kinya Sato
Parkdale
Ray Sato
Parkdale
Ernest Dow Saunders
Warrenton
Phillip William Schneider
Corvallis
John Price Schroeder
Corvallis
Robert Desborough Scudder
Corvallis
Arthur Walden Shumard
Weston
Norbert LeRoy Sieg
Baker
Earl Rodney Sims
Metzger
Dudley Lee Sitton
Carlton
Gordon Russell Sitton
Carlton
Thomas George Skinner
Jordan Valley
George Delbert Smith
Unity
Orvil Edward Snider
Salem
Fred William Soller
Portland
Lee Robinson Stickler
Enterprise
Wendell Henry Stout
Portland
Mas Takasumi
Hood River
John Shephard Thatcher
Corvallis
Roy Hiram Thorson
Corvallis
Junius Daniel Vertrees
Corvallis
Charley Vinson
Astoria
James Beale Wahoske
Portland
William Carl Weir
Lakeview
Walter Monteith Whitwell
Portland
Chester Julius Wojahn
Hillsboro
Dan William Young
Tangent
Hardy Shelby Young
Sherwood
Kiyoshi Yumibe
Dee

School of Education

Bachelors of Arts

Elizabeth Anne Hobbs
Portland
Emily Miller Johnson
Portland
Helen Shirley Lockren
Corvallis
Donald Wesley Nance
Hood River
Irja Seppanen
Portland

Bachelors of Science

Virginia Cadence Lee Bartell
Roseburg
Vida Irene Beougher
Bend
Richard Berger
Corvallis
Delpha Ruth Berreman
Philomath
Beverly Rowland Cabaniss
Chiloquin
Emma Carol Collins
Portland
Lenna Collins Daniel
Corvallis
Alexander Reed Dawson
Joseph
Bettyjane Dixon
Roseburg
Janey Marie Dixon
Klamath Falls
Elizabeth O'Brien Flood
Corvallis
William Phineas Foster
Monmouth
Enid Laurania Gowan
Corvallis
Kent Lambert Haley
Corvallis
Richard William Highland
Bandon
Robert Munger Hill
Hood River

Ora Rozella Holaday
Corvallis
Lois Marie Houk
Perrydale
Harold Scott Huff
Beaverton
Irma Ruth Humphrey
Pilot Rock
Virginia Jean Humphrey
Pilot Rock
William Francis Kennedy, Jr.
Corvallis
Marion Kudrna
Dayton
Emma Tordine Langhei
Toledo
Lucile Leonard
Corvallis
Robert Taber Leslie
Klamath Falls
Jesse Dexter Loffer
Tiller
Thomas Lyman McBride
Rainier
Anna Frances McConnel
Shedd
Wainard Stephen McFadden
Corvallis
Ethel Mae McIntyre
Albany
Ida Belle Marsh
Boise, Idaho
William Robert Metzger
Gresham
Judith Tressa Mosier
Corvallis
Raymond Neugart
Albany
Robert Richard Nichol
Grants Pass
Victor Gustive Owens
Dayville
Lawrence Fremont Page
Burns
Elizabeth Parker
Ontario
Cecil Earle Petit
Corvallis
Dorothy Marie Price
Klamath Falls
Florence Edith Ravenscraft
Corvallis
Zoe Rae Sanders
Portland
Charlotte Eleanor Simonson
Grand Junction, Colorado
Anson Henry Smith
Portland
Helen Stanbrough
Monmouth
DeVere Ormond Taylor
Alsea
Agnes Bernice Torvend
Silverton
Sara Irene Trenary
Corvallis
Ray Vandiver
The Dalles
Arden Hamilton Wallace
Portland

School of Engineering

Bachelors of Science

Howard Hildreth Amos
Portland
John Russell Anderson
Portland
Gordon Backe
Salem
Richard Burke Bailey
Portland
Howard Lynden Beard
Corvallis
Howard Virgil Beck
Portland
Francis Bernard
Long Beach, California
Blair Kenyon Blacker
Corvallis
Carl Frederik Blakely
Corvallis
Carl Aaron Blood
Eugene
Alexander Raymond Boyer
Petersburg, Alaska
Paul Lynley Brainard
Marshfield
Phil McCune Brinkman
Portland
Robert Marion Brownell
Salem
Rinaldo Brun
Klamath Falls
Ben Bullwinkle, Jr.
Portland
Lloyd Albert Burgess
Redmond
Robert Oliver Butcher
Worland, Wyoming
Robert Edward Buxton
Corvallis
Irwin Lyle Byers
Wendling
William Ardel Caldwell
Milton
Alfred Heston Canada
Portland
Jerry Joseph Cavanagh
Oregon City
Clyde Raymond Charters
Portland
Aloysius Joseph Classen
Stayton
Victor Stevenson Clay
Harrisburg
Homer William Clinton
Corvallis
Wallace Henry Cloake
Roseburg
Robert Ingalls Conn
Portland
Lewis Haworth Coplen
Portland
Thomas Berry Correy
Corvallis
Jack Francis Crews
Los Angeles, California
Roger Ernest Dana
Corvallis
Jerald Morris Davies
The Dalles

Adrian Coleman Dawson
Lorane
Carl William Detering
Portland
Joseph Clinton Dillow
Portland
Darle William Dudley
Salem
William Mac Duncan
Cove
Leland Luverne Dunn
Eugene
Sol Durbin
Corvallis
Chester Elwood Elston
Hood River
Donald Moore Fisher
Portland
David Crichton Fulton
Portland
Kenneth Arthur Gallagher
Salem
Oliver Steele Glenn
Salem
William Thomas Godfrey
Portland
James Frederick Haley
Seaside
Everett Albert Hansen
Marshfield
Joseph Estill Havenner
Corvallis
Robert James Healy
Portland
Glenn Ernest Himmel
Salem
Lewis Hodes
Portland
Guilford Leroy Hollingsworth
Eugene
George Charles Howe, Jr.
Portland
Stanley Janik
Hullt
Robert Vincent Jewett
Portland
Fred Richard Johnson
Corvallis
Valdemar Peter Johnson
Corvallis
Bruce DesBrisay Jones
Portland
Dwight Leslie Jones
Seal Rock
Richard Ralston Kelley
Portland
Richard Allan Kerron
Portland
John Lorenz Kierulff
Portland
Clyde Wendell King
Alvadore
James Gordon Kirwan
Portland
Lewis Ellsworth Knerr, Jr.
Portland
Martin Kranick
Bandon
Bob Graves Kyle
Monroe
Carl Larsen
Corvallis
Burdet Walker Launtz
Portland
Frank Chew Lee
Portland
Martin Robert Leidig
Calexico, California
William Baldwin Levin
Portland
Jacob Lindenbaum
Klamath Falls
Bob Longueville
Sisters
Paul Allen Loop
McMinnville
James Harold McClain
Portland
William Kenneth McFarling
Portland
Allan Dunbar McLean
Seattle, Washington
Frederick Russell McMillan
Corvallis
Harold Leonard Manley
Los Angeles, California
Ben Hall Marcy
West Linn
John Douglas Martin
Corvallis
Lewis Byron Melson
Salem
William George Meyer
Dundee
Robert Ray Michael
Junction City
Victor Blackford Mills
Portland
Donald Earle Morgan
Portland
Robert Nathan Morrison
Portland
Joe Edward Nisley
Roseburg
Barton Gustave Nordling
Seattle, Washington
Henry Oman
Milwaukie
Russell Dale Parmenter
Corvallis
Mark Matthew Patterson
Portland
Harold John Peterson
Beaverton
Lavergne Allan Phillips
Portland
Ellis Earl Pickering
Warrenton
Wilson Stanley Pritchett
Corvallis
Howard Lester Randall
Portland
Richard LeVoyle Richardson
Bend
Truxton Ringe, Jr.
Portland
James Fredrick Ristig
Portland
Ivan Lucian Saunders
Corvallis
Gordon Ralph Schmeer
Portland
Frank Davis Schram
Coquille
Ralph Willard Sconce
Portland
Verner Arnold Setala
Dayton
Harold Sexton
The Dalles
John Shaver
Los Angeles, California
Robert Eustace Sly
Creswell
Lewis Carlisle Smith
Newport

Paul Snider
Corvallis
Walter Edward Spillman
Portland
Clarence Blair Stanley
Tillamook
Dean Kenneth Steidinger
Tillamook
William Laton Stephens
Klamath Falls
Albert Thomson
Portland
James George Tice
Portland
Al Trommershausen
Newberg
Jack Eugene Tuomy
Portland
John Vanie Walker
Klamath Falls
Ralph Emerson Walker
Beaverton
Tenison Walker
Beaverton
Robert Carl Wallberg
Portland
Vernon James Warren
Corvallis
Lee Arrington Wells, Jr.
Roseburg
Wayne Wiesner
Silverton
Richard Francis Williams
Portland
Marvin William Wilson
Cottage Grove
Robert Witzig
Corvallis
Fred Carl Wood
Portland
Gerrit Lee Wright
Jefferson
George Walter Wyss
Hillsdale
John Melvin Yadon
Klamath Falls
Harry Allen Young
Madras

School of Forestry

Bachelors of Science

Melvin Romayne Aitken
Garden Home
Lucien Barton Alexander
Portland
Robert Walsh Appleby
Mt. Angel
William Sherman Barnes
North Bend
Robert McLeod Barron
Corvallis
Harry Edward Beresford
Portland
Gordon Gless Black
Salem
Donald Robert Boyd
Portland
William Pearl Branson
Eugene
Dale Burns
Corvallis
Joseph Frank Clark
Portland
Alexander Palmer Collins
Roseburg
Joseph Stanley Collins
Los Angeles, California
Charles Kirk Combs
Portland
Howard Elliott Conkle
Portland
Charles Mortimer Darling
Tiernan
Marvin Curtis David
Portland
William Ernest Dawson
Susanville, California
Ralph Day, Jr.
Portland
Ray Forge Ellis
Corvallis
Chris Emil
Portland
Claude Harrison Esselstrom
Reedsport
Paul Bennett Everson
San Anselmo, California
Arthur John Ficken, Jr.
Juneau, Alaska
Duane Stanley Fitzgerald
Coquille
James Bernard Gabriel
Portland
Louis Richard Geil
Corvallis
William Ellis Gross
Halfway
Gordon Hayes Hale
Eugene
Keith Ogden Hancock
Portland
Mal Edward Harris
Glendale, California
Lyle Harrison
Corvallis
Dale Harvey
Oakland
Stuart Winfield Heintzelman
Glendale, California
Donald Martin Hyland
Corvallis
William Weeks Ingenhutt
Powers
Maurice Raymond Isted
Bend
Francis Paul Jacquemin
Corvallis
Rudolph Martin Kallander
Salem
Howard William Kirkpatrick
Portland
Paul Lambert Krugur
Portland
Alvin Lindsten
St. Helens
Denver Price McComb
Portland
Robert Bruce McConnell
Portland
Maynard Henry McCormack
Roseburg
Austin Darrel McReynolds
Gold Beach

James Emil Mackey
Portland
Elwyn Fremont Mann
Canby
John William Mason
Beaverton
Fremont Walter Merewether
Willamina
Harry Ohlsen
Yoncalla
Robert Lee Ottoman
Medford
Wilbur Charles Patton
Mahomet, Illinois
Otto Francis Peters
Redmond
Oliver Wendell Petty
Creswell
Andy Walter Pribnow
Portland
Orval Henry Rawie
Albany
Carl Woodrow Raynor
Canby
Dan Robinson
Bend
William Leslie Robson
Portland
Merton Howard Roemhildt
Salem
Samuel Lancaster Rose
Salem
Ali June Sandoz
Trail
Fred Joy Sandoz
Trail
Peter Barry Serafin
Glide
William Arthur Shiley
Multnomah
Joe Fain Simpson
Monmouth
Bruce Starker
Corvallis
Clifford Austin Stephens
Corvallis
Ray Lawrence Stewart
Corvallis
Harry Ralph Swanson, Jr.
Portland
Howard Everett Taylor
Oregon City
Grant Wayne Teats
Sheridan
Robert Neil Thompson
Corvallis
Edwin Tippner
Silverton
Charles Edward Tyler
Woodburn
Bert Wesley Udell
Portland
James Michael Usher
Corvallis
Ernest Lot Wagner
Dorena
Lloyd Alvin Waid
Ukiah
Clyde Marvin Walker
Portland
Charles Earl Warren
Salem
Howard Hamilton Wester
Las Vegas, New Mexico
Paul White
Indianapolis, Indiana
Willard Ernest Wilson, Jr.
Grants Pass
Merle Herman Winn
Milton
Philip Warwick Workman
Westfir
Willard Delbert Wright
Redmond
Clinton Walter Wynn
Junction City
Lawrence William Zach
Mt. Angel

School of Home Economics

Bachelors of Arts

Verona Agnes Adkisson
The Dalles
Clare Frances Alexander
Philomath
Phyllis Viola Bales
Kimberly
MaeRea Margaret DeLong
Glendale, California
Katharine Marie Saremal
Milwaukie
Shirley Mae Trowbridge
John Day
Edith Faye Voget
Portland
Marie Della Wilson
Salem
Elizabeth Emma Wood
Los Angeles, California

Bachelors of Science

Frances Rose Allen
Bend
Doris Isabel Anderson
Monmouth
Ella Melba Andrews
Eugene
Lillian Louise Anliker
Goble
Nina Esther Asbahr
Corvallis
Helen Lillian Austin
Pocatello, Idaho
Joan Eudora Bales
Wallowa
Beverly Beulah Beaird
Florence
Irene Anita Beamer
Heppner
Roberta Beer
The Dalles
Eleanor Violet Beier
Newberg
Margaret Louise Bergstrom
Tillamook
Mary Belle Beswick
McMinnville
Mavis Esther Black
Ontario

Bonney Willard Blair
South Pasadena, California
Betty Jane Bolton
The Dalles
Elizabeth Jeanne Bone
Portland
Janice Irene Boothe
Santa Maria, California
Jean Anne Botsford
Portland
Margaret Fern Bump
Portland
Mary Ethel Burris
Chanute, Kansas
Dorothy Maxine Butte
Salem
Mary Bette Carothers
Corvallis
Shirley Belle Chadwick
Portland
Lorraine Barbara Clampitt
Milwaukie
Frances LaVerne Coffey
Eugene
Mary Jane Cooper
Milwaukie
Catherine Louise Dallas
Salem
Hazel Lucille Duncan
Ontario
Dorothy Jean Dunham
Portland
Alice Louise Eggleston
Sacramento, California
Alys Belle Feike Farrell
Corvallis
Marjorie Louise Flint
Grants Pass
Jacqueline Stevenson Frakes
Portland
Charlotte Elizabeth Frank
Portland
Eleanor Holbrook Gaylord
Portland
Ruth May George
Corvallis
Grace Irenk Gilkey
Salem
Jean Gillette
LaVerne, California
Norma Esther Gordon
Helix
Judith Jaynes Griswold
Corvallis
Betty Hay
Portland
Mary Virginia Herman
Portland
Barbara Spencer Herron
Eugene
Sylvia Lee Hodgin
La Grande
Betty Jane Holt
Pendleton
Maxine Eleanor Howard
Eugene
Dolena Vae Ingle
Corvallis
Helen Jendrzejewski
Hermiston
Mary Jane Junor
Portland
Margaret Brown Keck
Corvallis
Anita Kenny
Moro
Evelyn Marie Larsen
Albany
Sybil Constance Laughlin
Astoria
Caryl Mary Leehmann
Lakeview
Edna Mae Loe
Corvallis
Myrtle Margot McKay
Vancouver, British Columbia
Nadyne McKenzie
Adams
Lois Anne McWhorter
Corvallis
Heather MacLeod
Long Beach, California
Joella Anna Mayer
Lebanon
Nancy Elizabeth Meredith
Portland
Ellen Walton Miller
Portland
Katherine Estella Miller
Salem
Jacqueline Mills
Corvallis
Mary Beth Minden
Nampa, Idaho
Jean Morse
Portland
June Elizabeth Morse
Prineville
Dorothy Louise Nelson
Portland
Nell Mary Penland
Pendleton
Katherine May Peterson
Ontario
Helen Elizabeth Pierce
Boise, Idaho
Zona Catherine Price
Weston
Irene Janette Read
Klamath Falls
Margaret Abbott Redelings
San Diego, California
Barbara Reid
Hermiston
Dortha Bernice Richards
Portland
June Lois Robertson
Pine
Dorothy Alice Savage
Portland
Florence Wilma Schrepel
Corvallis
Jean Ensign Shown
Milwaukie
Delphine Susan Sidey
Portland
Vicenta Soule
Hoquiam, Washington
Mary Joyce Stellmacher
Albany
Alice Jane Stuart
The Dalles
Mary Elizabeth Suttle
Noti
Eleanor Jane Throckmorton
Eagle Point
Helen Trindle
Salem
Corinne Pfeiffer Tuttle
Portland
Norah DeBurgh Vicars
Vancouver, British Columbia
Lillian Margaret Warden
Lebanon
Maryon Whitten
Portland
Mildred Wiedemann
Wilsonville
Janet Marie Wilcox
The Dalles

Margaret DeVoe Wolcott
Corvallis

Mary Margaret Woodward
Corvallis

Shirley Lucille Young
Parma, Idaho

Medical School: Nursing Education

Bachelors of Arts

Merle Alvena Voss
Portland

Cleo Goltra Williams
Charleston

Bachelors of Science

Dorothy June Buckman
Portland

Marian Inez Frick
Hood River

Rose Marie Lichens
Portland

Ethelva Mae Loosley
Fort Klamath

Irene Clague Sanders
Albany

Betty Leah Schlapkohl
Ontario

Freddy-Jane Welch
Fossil

School of Pharmacy

Bachelors of Science

James Edwin Bidgood
Oregon City

Clyde Harry Boehm
Salem

William Bullard, Jr.
Gold Beach

William Nixson Denton
Ashland

Dale Donald Doherty
Freewater

Archie Wayne Easton
Portland

John McIntyre Graham
Portland

Margaret Jean Harvey
Klamath Falls

Helyn Louise Long
Bend

Robert Ballard Maxwell
Los Angeles, California

Millicent Mayfield
Enterprise

Howard William Perttula
Marshfield

Ruth Eileen Peterson
Huntington

Rodney Seydel
Corvallis

William Albert Stein
Portland

Clement Nat Stockard
Hermiston

Earle Everett Sweetland
Portland

Secretarial Science

Bachelors of Secretarial Science

Eleanor Elizabeth Anderson
Portland

Martha Susanna Arneson
Maplewood

Adele Margaret Balsiger
Portland

Elizabeth Veronica Barry
Lakeview

Anna Jean Bolton
The Dalles

Frances Elaine Boswell
Ontario

Laura Brenner
Portland

Anna Burnett Bunker
Corvallis

Marie Sarah Clark
Freewater

Dorris Jane Compton
Coquille

Leona Marian Conger
Medford

Ila Rae Congleton
Paulina

Rosemary Ellen Corey
Medford

Roseann Cox
Corvallis

Louis Allen Dillard
Roseburg

Selma Rydberg Dillon
Corvallis

Harriet Wright Dingus
Philomath

Aileen May Duerst
McMinnville

Evelyn Mildred Dully
Portland

Julia Duncan
The Dalles

Mary Elizabeth Dunkin
Portland
Rhoda Maxine Dutton
Portland
Eleanor Lou Eakin
Alameda, California
Helen Loe Elle
Newport
Donald Leroy Ericson
Portland
Urlah Myrle Eyolfson
Portland
John Benjamin Fenner
Portland
Margaret Teresa Flynn
Lakeview
Betty Forbes
Portland
Catharine Grace Foster
Portland
Theone Vivian Foster
Dallas
Clarice Lucille Gates
Portland
Louise Alta Gehrs
Portland
Anita June Geil
Corvallis
Grace Edith Gittings
Prineville
Elwood Johnny Goodrich
Portland
John Delton Gray
Corvallis
Dorothy Margaret Greenwood
Wemme
Evelyn LaVerne Gresham
Nehalem
Lucile Haley
Portland
Chester Jack Hargrove
Corvallis
Virginia Maxine Haworth
Portland
Gilbert Edward Henry
Portland
Irva Jean Hewitt
Eugene
Elsworth Nelson Huseby
Portland
William Wallace Hyslop
Corvallis
Wilna Lee Ireland
Portland
Marjorie Mayo Johnson
Myrtle Creek
Mary Jane Johnson
La Grande
Henry Jorgensen
Corvallis
Billie Virginia Kellogg
Marshfield
Evelyn Lenora King
Klamath Falls
Evelyn Louette King
Portland
Winona Edna Kyle
Jewell
Eileen Mary McAllister
Burlingame, California
Anie Pauline McGill
Ontario
Kathryn Ellen McGuire
McMinnville
Mildred Fern McLain
Wallowa
Leonard Murray McManus
Portland
Margaret Rae McMindes
Astoria
Robert Julian Mannheimer
Bend
Lillian LaVaughn Nicholson
Portland
Mildred Katharine Nylander
North Bend
Fern Opal Oliphant
Portland
Adel Peters
Portland
Robert Eldon Phelps
Grants Pass
Mary Reetz
Corvallis
Merrill Franklin Sargent
Portland
Margaret Elizabeth Savage
Cottage Grove
Alice Ethlynn Schlender
Corvallis
Rosemae Marie Schulz
Portland
Kathryn Lucille Shelley
North Bend
Lois Frances Shriner
Estacada
Earl Dennis Sloan, Jr.
Hines
Kenneth Wayne Smith
Los Angeles, California
Edward Doyle Smith
Corvallis
Robert Derwood Smith
Corvallis
Edna Elizabeth Sturgeon
Portland
Gilbert Francis Talbot
Grants Pass
Rodney Winfield Tripp
Albany
Irma Pauline VanGalder
Portland
Bonnie Gertrude Wallace
Portland
Jayne Albertine Walters
Portland
Geraldine May Wanke
Portland
Wauneta Leon Wilson
Medford
Josephine Ruth Woolsey
The Dalles
Katharine Wright
Creswell
Ethel Faye Zimmerman
Chiloquin

Lois Ermina Zinser
Coburg

Honors and Awards 1939-40

Senior Honor Students

School of Science: David Charles England, Herbert Arthur Wilson Kidd, Lennart Teir, Gordon Alderton, Harry Burton Black, Milton Horenstein.

School of Agriculture: William Carl Weir, Harold Anthony Nash, Ivan Donaldson, Virgil Dean Kennedy, Gordon Russell Sitton, Sidney Henry Elliott.

School of Education: Anson Henry Smith, Elizabeth Parker, Helen Shirley Lockren, Virginia Jean Humphrey, Irja Seppanen, Beverly Rowland Cabaniss.

School of Engineering: Donald Earle Morgan, Darle William Dudley, Rinaldo Brun, Guilford Leroy Hollingsworth, Dean Kenneth Steidinger, Marvin William Wilson, Truxton Ringe, Jr., Fred Carl Wood, Wilson Stanley Pritchett, Everett Albert Hansen, Wayne Wiesner, Alexander Raymond Boyer, Jerry Joseph Cavanagh, Henry Oman.

School of Forestry: Lawrence William Zach, Clyde Marvin Walker, Lucien Barton Alexander, Charles Earl Warren, Andy Walter Pribnow.

School of Home Economics: Clare Frances Alexander, Helen Lillian Austin, Corinne Pfeiffer Tuttle, June Elizabeth Morse, Lois Anne McWhorter, Jean Gillette, Dorothy Maxine Butte, Janet Marie Wilcox, Mary Beth Minden, Mary Margaret Woodward.

School of Pharmacy: Helyn Louise Long.

Secretarial Science: Helen Loe Elle, John Delton Gray, Julia Duncan, Wilna Lee Ireland, Betty Forbes, Harriet Wright Dingus, Alice Ethlynn Schlender, Lois Frances Shriner, Lois Ermina Zinser.

Honor Graduates, Military Department: Harry Burton Black, John Delton Gray (Infantry Unit); William Bovell Morse, Andy Walter Pribnow, Gordon Russell Sitton, Anson Henry Smith, Charles Earl Warren, William Carl Weir (Field Artillery Unit); Everett Albert Hansen, Lewis Ellsworth Knerr (Engineers Unit).

Scholarships and Fellowships

(For descriptions see pages 92-94.)

State Scholarships: Robert Alexander, Agriculture; Leeds Bailey, Agriculture; Edna Barnhart, Secretarial Science; Mayrose Bartholomew, Home Economics; Fred Baughman, Engineering; Robert M. Beason, Engineering; Frank E. Biasca, Engineering; Richard A. Bjorndal, Engineering; Margaret I. Blauvelt, Lower Division; Elizabeth Boeckli, Home Economics; Alice Bramblett, Secretarial Science; Jack H. Brodie, Agriculture; Kathleen W. Brown, Home Economics; Robert A. Bruns, Engineering; James Frederick Busch, Engineering; Catherine Cadell, Lower Division; Phyllis Cary, Pharmacy; Peter Chace, Lower Division; Barbara Jean Clark, Secretarial Science; Frank Harrison Clark, Science; Hazel Eleanor Clark, Secretarial Science; Lester Copenhagen, Engineering; Howard L. Cornutt, Engineering; Delbert Crews, Forestry; Alice Cunningham, Home Economics; Lester C. Dunn, Forestry; Clyde H. DuVall, Jr., Lower Division; Dick W. Ebeling, Engineering; Labrot B. Edwards, Engineering; Helen Elle, Secretarial Science; David C. England, Science; Robert G. Fairfield, Engineering; Jean Floyd, Home Economics; Truman Fenton Forbis, Secretarial Science; Hilda W. Freed, Pharmacy; Russell M. Graff, Engineering; John Gordon Hammer, Lower Division; Grace Emma Haneke, Education; Maxine Harris, Secretarial Science; Roscoe Baldwin Hatch, Engineering; Roy E. Heckard, Jr., Lower Division; Kenneth Hedberg, Lower Division; Raymond Gilbert Heinonen, Agriculture; Ralph Hendrix, Engineering; Carl Hering, Engineering; Marion Helen Hess, Home Economics; Eileen Holden, Secretarial Science; H. Russel Hulett, Science; Alfred C. Hutchinson, Science; Dean E. Jackson, Pharmacy; Lyle Jakus, Engineering; Robert Ludwig Johnson, Pharmacy; William Paul Kean, Engineering; Albert Kister, Lower Division; Rodena L. Krebs, Secre-

tarial Science; ROYCE LATHAM, Secretarial Science; LOIS LEE, Home Economics; JEANNE LEFEVRE, Secretarial Science; MARGARET JEANNE LEWIS, Home Economics; FLOYD KENNETH LISSY, Engineering; WILLIAM CLAYTON LOWERY, Agriculture; ALEXANDER MCCORKLE, Lower Division; ROBERT WARREN MCGILVERY, Science; HARRY MCNEAL, Agriculture; PETE MALIYTES, Forestry; JEAN MAUNULA, Secretarial Science; MARY VIRDIA MAW, Home Economics; KATHRYN MEAD, Lower Division; DOUGLAS FORSYTHE MORDOFF, Engineering; NANCY C. MORROW, Secretarial Science; GERALDINE MULLINS, Secretarial Science; AUDREY OLSON, Pharmacy; ELIZABETH R. PARKER, Education; MILDRED LUCILE PERMAN, Lower Division; JACK PETERSEN, Lower Division; THOMAS DEAN PINKERTON, Lower Division; ALAN B. ROBERTSON, Education; KENNETH L. ROBINSON, Agriculture; ROBERT W. ROBINSON, Forestry; JOSEPH CLINTON ROSS, Forestry; ALICE SCHLENDER, Secretarial Science; DONALD WALTER SCHMIDT, Agriculture; ROSEMARY SCHROEDER, Secretarial Science; EDA FAE SCHRUMP, Home Economics; FRANK W. SMITH, JR., Agriculture; FRED BUFORD SPARKS, Engineering; PATRICIA AMELIA STRAUSS, Home Economics; DORIS MARGARET TAPSCOTT, Home Economics; MARGARET THORFINNSON, Secretarial Science; HERBERT L. TOLLISEN, JR., Engineering; DONALD R. VAILLANCOURT, Engineering; GEORGE ELVIN VAN SANTEN, Engineering; RUTH C. WALLACE, Home Economics; DOROTHY WATSON, Secretarial Science; FRANK LILBURN WELLS, Engineering; FRED C. WHEELON, Engineering; ALICE WIDLANDER, Secretarial Science; ARTHUR W. WILSON, Lower Division; ELIZABETH E. WOOD, Home Economics; ROBERT VERN WORSTELL, Agriculture; JEAN YAGER, Lower Division; LAWRENCE W. ZACH, Forestry.

J. A. Hanson Scholarship: (No award made in 1940).

The Lee Scholarship: ALICE PAULINE CUNNINGHAM (Home Economics).

The A. Grace Johnson Memorial Scholarship: CORA BELLE ABBOTT (Home Economics).

The International Friendship Scholarship: SUEN-I WU (Home Economics).

The Oregon Home Economics Extension Council Scholarship: MARY BETTE CAROTHERS.

The Danforth Summer Fellowship: MARGARET FRANCES MCGINNIS (Home Economics).

The Blumauer-Frank Scholarship: RUTH EILEEN PETERSON (Pharmacy).

The Rotana Club Scholarship: LAVERNE FRANCES WHITEHEAD (Home Economics).

The Phi Kappa Phi Exchange Scholarship: LEOPOLDO FUENTES SEGUEL (Education).

Standard Oil Company of California Fellowship: GEORGE FRANCIS DAVIES (Chemistry).

The Mary J. L. McDonald Fellowship in Reforestation: WALLACE ANDERSON.

The Lenora Kerr Scholarship: EVELYN CARROLL PETERSON.

Portland Mothers Club Scholarships: NINA ESTHER ASBAHR (Home Economics); FRANK ELVEZIO BIASCA (Engineering); NAOMA RUTH BLACK (Home Economics); ROBERT ALBERT BRUNS (Engineering); MARGARET ELIZABETH DOUHAN (Science); EDWARD JOSEPH GEIGER (Forestry); JOHN WILLIAM HAAG (Agriculture); LOIS RUTH SMITH (Home Economics).

Prizes and Awards

(For descriptions see pages 94-97.)

The Clara H. Waldo Prizes:

Senior First Honor—LENORA MAE CALLAWAY (Home Economics); *Honorable Mention*—HELYN LOUISE LONG (Pharmacy); WAUNETA LEON WILSON (Secretarial Science).

Junior First Honor—CORA BELLE ABBOTT (Home Economics); *Honorable Mention*—BETTY-SUE MCCREADY (Home Economics); MURIEL POOL MCKAY (Home Economics).

Sophomore First Honor—BETTY CHARLES ANDERSON (Secretarial Science); *Honorable Mention*—ADELE KNERR (Home Economics); JEAN MARIE MAUNULA (Secretarial Science).

Freshman First Honor—ANNA MAY CARLSON (Lower Division); *Honorable Mention*—EDNA LAVERNE BARNHART (Secretarial Science); EILEEN EDYTHE HOLDEN (Secretarial Science).

The Lipman Wolfe Prizes:
Senior First Honor—WILLIAM CARL WEIR (Agriculture); *Honorable Mention*—CLYDE MARVIN WALKER (Forestry); LOUIS ELLSWORTH KNERR (Engineering).

Junior First Honor—JEANNE HARTMAN POPOVICH (Education); *Honorable Mention*—FRANK ELVEZIO BIASCA (Engineering); DOUGLAS WILLIAM CHAMBERS (Agriculture).

Sophomore First Honor—ED ALFRED ALLWORTH (Secretarial Science); *Honorable Mention*—ROBERT WEST LUNDEEN (Engineering); KATHRYN LOUISE MEAD (Lower Division).

The Chi Omega Prize: EDNA ELIZABETH STURGEON (Secretarial Science).

The E. D. Ressler Memorial: RAE ELAINE BOWMAN (Education).

Phi Sigma Scholarship Award: DOROTHY ELSIE EVENDEN (Science).

The Druscilla Shepard Smith Prize: HELEN LOE ELLE (Secretarial Science).

Locey Athletic Award: MAL EDWARD HARRIS (Forestry).

The Lamplighter Award: ORO ROZELLA HOLADAY (Education).

Tau Beta Pi Local Award: RINALDO BRUN (Engineering); GUILFORD LEROY HOLLINGSWORTH (Electrical Engineering).

Sigma Tau Award: ROBERT WEST LUNDEEN (Engineering).

Eta Kappa Nu Award: EDWARD NORMAN SIDOR (Engineering).

Epsilon Pi Tau Award: CHARLES CLARENCE DUSEK (Engineering).

Sigma Xi Awards: WILLIAM MATTHEWSON STONE (Science); *Honorable Mention:* LESTER OSCAR VAN BLARICOM (Agriculture).

The American Institute of Chemical Engineers Award: FRANK ELVEZIA BIASCA.

The American Society of Civil Engineers Awards: First Prize—JOE ESTILL HAVENNER; *Second Prize*—JERRY JOSEPH CAVANAGH.

The American Institute of Electrical Engineers Awards: GUILFORD LEROY HOLLINGSWORTH.

The American Society of Mechanical Engineers Awards: First Prize—EDWARD DEWITT ROWAN; *Second Prize*—LEWIS HODES; *Third Prize*—IVAN LUCIAN SAUNDERS.

Institute of the Aeronautical Sciences Awards: WAYNE WIESNER; LEWIS ELLSWORTH KNERR, JR.

The Kappa Delta Pi Award: GRACE EMMA HANEKE (Education); HENRY SEVERUS MATSON (Education).

The Women's Auxiliary O.S.P.A. Prize: RUTH EILEEN PETERSON (Pharmacy).

The Lehn & Fink Medal: HELYN LOUISE LONG (Pharmacy).

Daughters of the American Revolution Award: BEVERLY ROWLAND CABANISS (Education).

Altrusa Award: ELIZABETH PARKER (Education).

Mortar Board Senior Award: VERONA AGNES ADKISSON (Home Economics); ANITA JUNE GEIL (Secretarial Science); CHUNG KWAI LUI (Home Economics); SUEN-I WU (Home Economics).

North Pacific Branch of the American Pharmaceutical Association Award: ROBERT LUDWIG JOHNSON.

Student Library Awards: CHANNING BURTON EMBERSON (Agriculture); EDWARD DEWITT ROWAN (Engineering).

United Air Lines Scholarship: WAYNE WIESNER (Engineering).

The Alpha Zeta Scholarship Cup: KENNETH LEON ROBINSON (Agriculture).

Swift & Company Essay Award: VIRGIL DEAN KENNEDY (Agriculture).

The Charles Lathrop Pack Forestry Prize: First Prize—LAWRENCE WILLIAM ZACH; *Second Prize*—BRUNO BERSELLI; *Third Prize*—DAN D ROBINSON.

The Omicron Nu Plaque: LOIS ANNE MCWHORTER (Home Economics).

The Home Economics Freshman Award: MARJORIE ANN WILSON.

The Oregon Home Economics Association Award: EDA FAE SCHRUMP.

The American Society of Mechanical Engineers Northwest Division Awards: First Prize—IVAN LUCIAN SAUNDERS; *Fifth Prize*—BEN BULLWINKLE.

Northwest Society of Highway Engineers Prizes: Second Prize—JOSEPH ESTILL HAVENNER.

Alpha Lambda Delta Award: HELEN ELLE (Secretarial Science).

Phi Chi Theta Freshman Award: EDNA BARNHART (Secretarial Science).

Phi Chi Theta Senior Key: ROSEANN COX (Secretarial Science).

Panhellenic Award: ROSEMARY COCHRAN (Secretarial Science); JEAN YAGER (Lower Division).

Phrateres Scholarship Cup: MARGARET BROWN KECK (Home Economics).

Women's Athletic Association Plaque: MARION KUDRNA (Education).

The Xi Sigma Pi Plaque: FLOYD JOHNSON (Forestry).

Military Commissions

The following students have completed the work in the Reserve Officers' Training Corps, qualifying them for commissions in the Officers' Reserve Corps, United States Army:

Second Lieutenants, Infantry

JAMES DEMPSEY ALLGOOD
HARRY BURTON BLACK
RAYMOND E. BRETT
ROBERT W. CORNWELL
HOWARD L. CORNUTT
LOUIS ALLEN DILLARD
BILL G. FENDALL
JOHN BENJAMIN FENNER
RALPH D. FLOBERG
ELWOOD J. GOODRICH
JOHN DELTON GRAY
CHESTER JACK HARGROVE
RICHARD WILLIAM HIGHLAND
HOWARD B. HOLT
RICHARD B. KENNEDY
LESLIE W. KINCAID
HECTOR MACPHERSON, JR.
ROBERT L. MACROBERT
DONALD W. NANCE
EARL MILTON NEWPORT
ROBERT ELDON PHELPS
MERRILL FRANKLIN SARGENT
KENNETH WAYNE SMITH
LAWRENCE F. SMITH
EARLE E. SWEETLAND
CLARENCE G. THOMPSON
JOHN R. VANGORDER
JACK H. VIELHAUER
CHARLES F. WETHERBEE
PAUL WHITE
ROBERT WONG

Second Lieutenants, Field Artillery

JAMES BARTLETT ALLISON
DEAN A. ALMGREN
HOWARD H. AMOS
JOHN RUSSELL ANDERSON
RICHARD B. BAILEY
BLAIR KENYON BLACKER
WALTER GEORGE CADMUS
WALLACE JOHN CARL
JOSEPH FRANK CLARK
HOMER WILLIAM CLINTON
FREDERICK H. DAHL
CARL W. DETERING
JALMAR RICHARD GERTTULA
JOHN A. HACKENBRUCK
STUART W. HEINTZELMAN
LLOYD VERNON HENRICHS
FREDERICK E. JOEHNKE
WILLIAM F. KENNEDY, JR.
MELVIN R. KNUDSON
PAUL LAMBERT KRUGUR
ERNEST JENNINGS LATHROP
PAUL A. LOOP
EDWARD R. LOVELL
JAMES F. MCKENNA
JAKIE LAVERNE MANN
CARROLL MCBRIDE MERSHON
WILLIAM BOVELL MORSE
HENRY JOHN PAVELEK
DONALD FRANK POLSON
ANDY WALTER PRIBNOW
ORVAL H. RAWIE
CHARLES HENRY RICE
ROBERT H. RIECHERS
STANLEY MCDONALD ROSE
ARTHUR F. SCHOENBORN
EARL RODNEY SIMS
DUDLEY LEE SITTON
GORDON RUSSELL SITTON
THOMAS GEORGE SKINNER
CHARLES EARL WARREN
WILLIAM CARL WEIR
WILLARD ERNEST WILSON, JR.
CLINTON WALTER WYNN

Second Lieutenants, Corps of Engineers

ROBERT L. BECKWITH
MARTIN L. BEYERLEIN
ALFRED H. CANADA
VICTOR STEVENSON CLAY
ROBERT INGALLS CONN
ROLAND E. CRAIG
JERALD M. DAVIES
CHESTER E. ELSTON
JAMES A. GALLAGHER, JR.
HERBERT B. GLAISYER
STEWART G. GREEN
EVERETT ALBERT HANSEN
BRUCE DESBRISAY JONES
RICHARD ALLAN KERRON
ROBERT F. KNAPP
LEWIS ELLSWORTH KNERR, JR.
BOB GRAVES KYLE
WILLIAM L. MCFARLAND, JR.
FREDERICK RUSSELL MCMILLAN
ELLIS EARL PICKERING
MARVIN W. RUNYAN
EUGENE C. SCHIEWE, JR.
GORDON L. C. SCOTT
HAROLD W. SEXTON
ERHARD SJOBLOM
ROBERT EUSTACE SLY
GEOFFREY R. TULLY, JR.
STUART A. WARREN
CHESTER JULIUS WOJAHN

Second Lieutenant, Quartermaster Corps

ALFRED H. PEHRSSON

Students 1939-40

In the following lists, class and major are designated as follows:

CLASS: *fr, Freshman; so, Sophomore; jr, Junior; sr, Senior; gr, Graduate; sp, Special; aud, Auditor.*

MAJOR: *A, Agriculture; AA, Architecture and Allied Arts; BAd, Business Administration (lower division); Bac, Bacteriology; Bot, Botany; Ch, Chemistry; CE, Civil Engineering; ChE, Chemical Engineering; E, Engineering; Ed, Education; EE, Electrical Engineering; Ent, Entomology; F, Forestry; G, Geology; H, Home Economics; IA, Industrial Arts; J, Journalism (lower division); LA, Landscape Architecture; LD, Lower Division (Liberal Arts and Sciences); M, Music (lower division); Mth, Mathematics; ME, Mechanical Engineering; P, Pharmacy; PE, Physical Education (lower division); Ph, Physics; Sc, Science; SS, Secretarial Science; Z, Zoology.*

Students in Regular Session 1939-40

GRADUATE AND UNDERGRADUATE

Abbott, Cora Belle, H jr.....Seaside
Abbott, Donald Ernest, CE so.....St. Helens
Abbott, Forrest J., F jr.....Sargent, Nebr.
Abe, Harry Fukuzo, Z gr.....Portland
Abelgore, Lois Annette, Sc so.....Corvallis
Abraham, Bettie Ann, SS jr.....Albany
Abraham, Woodrow Lee, A so.....Corvallis
Abramson, Erwin Olin, A fr.....Lakeview
Ackerman, Jeanne Marie, H fr.....Rieth
Ackerman, Marie Florence, SS fr..Lakeview
Adam, Barbara Jane, H so.....Dallas
Adam, Betty Jean, P so.....Dallas
Adams, Bertrand Curtis, Ed gr....Corvallis
Adams, Bruce, ME so.....Redmond
Adams, (Mrs.) Elithe Loughary, H gr.....
..... Monmouth
Adams, Howard Marvin, A fr.....Corvallis
Adams, Jesse Cleveland, F jr.....
..... Redlands, Calif.
Adams, John P., LD so.....Weston
Adams, Margaret Richards, H so....Portland
Adamson, Doris, LD fr.....Corvallis
Adamson, Dorothy Fithian, H jr....Lakeview
Addison, John Kenneth, CE jr.....Lorane
Adkins, Harris R., IA fr.....Parkdale
Adkins, Jasper C., A fr.....Parkdale
Adkisson, Verona Agnes, H gr....The Dalles
Adlard, Ethel Richard, A so.....Salem
Adrion, Bernice Gaut, Ed gr.....Corvallis
Aebi, Roy Benjamin, E fr.....Monmouth
Ager, Helen Blanche, Mth sr.....Ashland
Agnew, Maryesther, LD fr.....Portland
Aitken, Melvin Romayne, F sr.....
..... Garden Home
Akin, Stephen Wing, ME so.....Portland
Alber, Frank Edward, E fr.....Oswego Lake
Alborn, Charles Toussaint, E fr.....Astoria
Albus, Lorraine, P so.....Stayton
Alderton, Gordon, ChE gr.....Portland
Alexander, Albert Isham, EE jr.....Corvallis
Alexander, Chloris Emily, M fr.....Albany
Alexander, Clare Frances, H sr.....Philomath
Alexander, Helen Ingle, SS so.....Corvallis
Alexander, Josef Lynn, LD so.....Corvallis
Alexander, Lucien Barton, F sr.....Portland
Alexander, Peggy, SS fr.....Portland
Alexander, Robert M, A so.....Philomath
Alexander, William A., CE jr..Chico, Calif.
Allegre, Dorothy Marie, H sr.....Hood River
Allegre, Robert D., A fr.....Hood River
Allen, Alicia Emiline, H sr.....
..... Los Gatos, Calif.
Allen, Don R., IA so.....Portland
Allen, Doris Jane, SS jr.....Wallowa
Allen, Edward S., A so.....Hood River
Allen, Elton Frank, Ed fr.....Myrtle Creek
Allen, Frances Rose, H gr.....Bend
Allen, James Newton, A so.....Eugene
Allen, Lagrand, EE jr.....La Grande
Allen, Norman Philip, Ed so.....Portland
Allen, Patricia Ann, LD fr.....Portland
Allen, Ralph C., IA so.....Mill City
Allen, Robert Aloys, EE so.....Chiloquin
Allen, Robert S., A so.....Corvallis
Allgaier, Bruce Elliott, Bot jr.....Corvallis
Allgood, James Dempsey, Sc sr.....Dallas
Allhands, Jr., Frank Henry, A gr....Portland
Allison, James B., A sr.....Newberg
Allison, Royal B., CE so.....Portland
Allison, William Andrew, CE jr..McMinnville
Allworth, Ed Alfred, SS so.....Corvallis
Almgren, Dean Arvid, A sr.....Corvallis
Almgren, Mildred Frances, H jr....Corvallis
Alphonse, Lucille Elizabeth, SS jr..Portland
Amacher, Thelma Louise, H fr.....Halsey
Ames, Elizabeth Polly, LA jr.....Portland
Ames, Helen Bess, SS jr.....Astoria
Ammeter, Marguerite Phyllis, Z jr..Portland
Ammons, Thomas Carl, E fr.....Portland
Amos, Howard Hildreth, ChE sr.....Portland
Amos, Lawrence Connell, ChE jr.....Portland
Amundson, Marvin LaRue, E fr.....Salem
Andersen, Joanne Gilla, H so.....Albany
Andersen, Lillian Mae, SS so.....Portland
Anderson, Berniece Venia, LD, fr.....Spray
Anderson, Betty Charles, SS so.....Oswego

Anderson, Charles Lloyd, ChE jr.....Portland
Anderson, Charlotte, H so.....Portland
Anderson, Doris I., H sr.....Monmouth
Anderson, Doris Mae, SS so.....Oswego
Anderson, Dorothy Jean, BAd so..Monmouth
Anderson, Dorothy Louise, LD fr....Portland
Anderson, Eleanor Elizabeth, SS sr..Portland
Anderson, E. William, A gr.....Pendleton
Anderson, Frances Jeanne, SS so....Astoria
Anderson, George Charles, E fr....Corvallis
Anderson, Harold A., BAd so.....Portland
Anderson, Hubert Waterbury, Ph gr.....
..... Corvallis
Anderson, James Leslie, BAd so.....Silverton
Anderson, Joe Raymond, A so.....Ontario
Anderson, John Allen, A fr....Klamath Falls
Anderson, John Russell, ChE sr.....Portland
Anderson, Logan Ellsworth, Ph gr.....Cove
Anderson, Marian Lorraine, SS jr....Portland
Anderson, Miles Andrew, E fr.....Corvallis
Anderson, Noble Theodore, F fr.....Bend
Anderson, Norman William, CE sr..Portland
Anderson, Robert Alex, SS so.....Fairview
Anderson, Robert Peyton, E fr.....Albany
Anderson, Theodore Lester, LD fr..Sherwood
Anderson, Wallace Edward, F gr.....Eugene
Andrews, Ella Melba, H sr.....Eugene
Anliker, Lillian Louise, H sr.....Goble
Appel, Edward Carl, Ent sr.....
..... Etiwanda, Calif.
Apperson, Robert Clifford, IA jr.....Portland
Appleby, Robert Walsh, F so.....Mt. Angel
Applegate, Doris Lucile, SS fr.....Portland
Applewhite, Warren Guy, LD so.....Ashland
Appling, James Burton, A so.....Redmond
Arbuckle, Carol Virginia, SS so.....Ukiah
Archibald, Fred, CE so.....Portland
Archibald, Gene Clair, LD fr.....Medford
Arens, Jim G. J., A fr.....Salem
Arens, Marguerite Louise, H so..Hood River
Arlaskas, Frank, E fr.....Harvel, Ill.
Armstrong, Charles Willard, EE so.....
..... McMinnville
Armstrong, Donald Newton, A so....Corvallis
Armstrong, Malcolm George, E fr....Portland
Armstrong, Mary Louise, H fr.....Portland
Arneson, Martha Susanna, SS sr..Maplewood
Arnest, Betty Jean, H fr.....Cottage Grove
Arnest, Dorris Pauline, SS fr..Cottage Grove
Arney, Kenneth Robert, A fr.....Woodburn
Arnold, John Edward, A fr.....Portland
Arnold, Norma Ellenor, SS fr.....Lakeview
Arnold, Philip Walter, ME so.....Portland
Arnoldus, Robert Thermond, CE so.....
..... Summerville
Arstill, Dorothy Arlene, H fr....Forest Grove
Asai, Masami, Ch jr.....Hood River
Asbahr, Nina E., H sr.....Corvallis
Ash, Brittain Henshaw, F gr.....Eugene
Ash, Martha, SS fr.....Corvallis
Ashbaugh, Carroll DeLancey, E fr..Corvallis
Ashbaugh, Shirley Tamson, SS fr..Corvallis
Ashcraft, Dean Bruner, F so.....Canyonville
Ashenfelter, Dale Evans, SS so.....Condon
Aspinwall, Alta Vivian, H fr.....Salem
Astleford, Paul, A gr.....Newberg
Atkins, Joseph Leicester, SS sr.....Portland
Atkinson, Ruthellyn, H so.....Gresham
Auld, Philip Leroux, Ed sr.....Corvallis
Aungst, Raymond Charles, ME gr.....Baker
Ausland, Vivian Eleanor, LD so..Grants Pass
Austin, Helen Lillian, H gr.....Pocatello, Ida.
Averill, Beth, H so.....Corvallis
Averill, Robert Eugene, A fr.....Corvallis
Avtonomoff, Vadim Nikolaevich, LD so.....
..... Medford

Babcock, Ervan Earl, E fr.....Oregon City
Babcock, Harold, A fr.....Oregon City
Backe, Gordon J., CE sr.....Salem
Bacon, Loren Elmer, LD fr.....Corvallis
Badurina, Lawrence John, A so.....Portland
Baer, Robert Oliver, ME jr.....Milwaukie
Bagby, Logan Hal, LD fr.....Portland
Bailey, Annis Rebecca, H fr.....Portland
Bailey, Bryson R., P so.....Forest Grove
Bailey, Burns Thomas, A jr.....Blitzen
Bailey, Frank Edward, IA so.....Corvallis
Bailey, Gordon, A sr.....Portland
Bailey, James Richard, F so.....Holland
Bailey, Leeds C., A sr.....Blitzen
Bailey, Mary Jean, H fr.....Portland
Bailey, Richard Burke, ChE sr.....Portland
Bailey, Richard Charles, Sc so.....Corvallis
Bailey, Richard John, LD fr.....The Dalles
Bailey, Todd Duane, LD fr.....Blitzen
Bain, George William, F so.....Portland
Bainter, Marjorie Janet, LD so.....Garibaldi
Baird, Ralph, LD fr.....Oakland
Baker, Antionette, H fr.....Wilderville
Baker, Dwight Irwin, ME gr.....Gresham
Baker, Elton Murray, Ch gr.....Corvallis
Baker, Hazel Mae, H so.....Silverton
Baker, Letha Mitts, Non Maj, gr.....
.....Port Orchard, Wash.
Baker, Lyle Albert, F gr.....Ogden, Utah
Baker, Ned Bradbury, Ch gr.....Corvallis
Baker, Richard George, A so.....Hood River
Baker, Robert Marsh, ChE jr.....Hood River
Baker, Vernon Walton, A gr.....Corvallis
Baker, William, F so.....Camas Valley
Baker, William J., LD fr....Hoquiam, Wash.
Baldwin, Gertrude Frances, SS fr..Corvallis
Baldwin, J. Sereno, F so.....Corvallis
Baldwin, Jack, Ed so.....Woodburn
Baldwin, Leona Faye, SS fr.....Lakeview
Baldwin, Marian Elizabeth, H fr....Garibaldi
Bales, Joan Eudora, H gr.....Wallowa
Bales, Phyllis Viola, H sr.....Kimberly
Balfrey, Stanley John, Ed gr.....Etna
Balin, Frances Marie, SS so..Klamath Falls
Ball, William Maurice, A fr....Grass Valley
Ballin, Herbert August, SS so.....Portland
Balsiger, Adele Margaret, SS sr.....Portland
Balsiger, Bette Jane, SS sr.....Portland
Balsiger, Eston Elmer, SS so..Klamath Falls
Band, Bernice, H gr....San Francisco, Calif.
Bandy, Orville L., G sr.....Corvallis
Bangs, Eli Edison, SS sp.....Corvallis
Banko, Winston Edgar, A fr..Yakima, Wash.
Banks, Jack Ralph, F jr.....Portland
Banton, Harold Leroy, P so.....Albany
Barber, Donald Camerson, A so....Marshfield
Barber, Freda Raddall, Ed jr.....Portland
Barber, Rex Theodore, A so.....Culver
Barclay, David Ross, A so.....Corvallis
Barclay, Eva, H jr.....Waldport
Barlow, James Edward, LD fr..Klamath Falls
Barnes, Dean Warren, CE jr.....Willamette
Barnes, Dorisanne, H fr.....Portland
Barnes, Dorothy Jean, H fr.....Sweet Home
Barnes, John Mellon, A fr.....Beaverton
Barnes, Norman Perry, CE sr.....Willamette
Barnes, Robert Francis, IA so.....Bend
Barnes, William Sherman, F sr..North Bend
Barnett, G. Morris, F so.....
..... Guthrie Center, Iowa
Barney, Russell Darwin, P fr.....Portland
Barnhart, Edna LaVerne, SS fr.....Hoskins
Baron, Leo Thomas, SS so.....DePoe Bay
Baron, Lloyd Carl, A sr.....Newberg
Barratt, William Franklin, LD fr..Heppner
Barrett, Zella Mae, SS so.....Albany
Barron, Priscilla Frances, SS so.....Corvallis
Barron, Robert McLeod, F sr.....Corvallis
Barry, Eileene H., so.....Lakeview

Barry, Elizabeth Veronica, SS sr....Lakeview
Barry, Sheldon Richard, A so.....Aumsville
Bartel, Lewis Benny, A fr.....Creswell
Bartell, Virginia Cadence Lee, Ed sr.....
..... Sherwood
Bartholdi, Lester C., A fr.....The Dalles
Bartholomew, Mayrose, H fr.....Estacada
Barto, Pauline Eugene, LD fr..Junction City
Barton, Carl Henry, A jr.....
..... Grass Valley, Calif.
Bartos, Charles James, A sr.....Woodburn
Bartruff, Emery David, E fr.....Salem
Barzee, M. Louise, SS so.....Moro
Batchelder, Wesley Linwood, A sr..Hillsboro
Bates, Barbara May, SS so.....Gearhart
Bates, Benjamin Paul, SS fr.....Corvallis
Bates, Daniel W., A gr.....Seaside
Baucke, Robert Alfred, LD so.....Portland
Bauer, Alice Ann, SS fr.....Corvallis
Bauer, Donald Richard, F so.....
.....Milbrae, Calif.
Baughman, Fred Phillip, E fr.....Albany
Baum, David, A fr.....Union
Baxter, Ethel Delle, H sr.....Spray
Bays, Thomas Pierson, A so.....Lakeview
Bazo, Juan Fontaniel, A so.....Estacion,
Ferrocarril, Junin, Peru, South America
Beagles, Robert, EE jr.....Newberg
Beaird, Beverly Beulah, H gr.....Florence
Beals, Oliver Kirkland, A jr.....Corvallis
Beals, William Myron, P so.....Corvallis
Beaman, William Herbert, E fr.....Reedsport
Beamer, Irene Anita, H sr.....Heppner
Beamer, Lois Elaine, SS jr.....Weston
Bean, Ollie Marie, H fr.....
.....Mount Shasta, Calif.
Beane, Richard Gordon, F fr..Klamath Falls
Beard, Jr. Henry Charles, F so.....Portland
Beason, Robert Miller, E fr.....Baker
Beatie, Charles Foutain, E fr.....Portland
Beatty, Myrtle Dee, LD fr.....Myrtle Point
Beaumont, Jeanne Laura, SS so..Marshfield
Beavert, William Howard, LD fr....Corvallis
Beck, Barbara Ann, SS fr.....Corvallis
Beck, Eleanor, LD so.....Portland
Beck, Howard Virgil, EE sr.....Portland
Beck, Ralph Virgil, A so.....Oakland, Calif.
Becker, Charles Ellis Edward, Ed so.....
..... Olympia, Wash.
Becker, Claire Jeanne, SS fr.....Tillamook
Becker, Leo H., Bac sr.....Daly City, Calif.
Becker, Manning Henry, A fr.....Boring
Beckett, Elaine Joyce, H jr.....Portland
Beckman, Donna Marie, H jr.....Portland
Beckner, Jean Marie, H so.....Portland
Beckwith, Arthur Vance, LD fr.....Corvallis
Beckwith, Robert Lippitt, CE sr.....Portland
Bedingfield, James Arvid, E fr.....Corvallis
Beech, Richard Hawthorne, A sr....Corvallis
Beechler, Vera Louise, H fr.....Salem
Beene, Horace, Bac jr.....Eugene
Beer, Roberta, H sr.....The Dalles
Behrens, Margaret Anne, SS fr.....Baker
Beier, Beverly Lorraine, SS so.....Portland
Beier, Eleanor Violet, H gr.....Newberg
Beistel, Franklin Dean, LD so.....Corvallis
Beling, Lorraine Claire, LD so.....Nehalem
Belknap, Wilford Hall, Sc jr.....Prineville
Bell, George William, F fr.....Portland
Bell, James Wilson, IA so.....Portland
Bell, Kirk Vernon, EE so.....Salem
Bell, Margaret Jean, H fr..Centralia, Wash.
Bell, Ronald Richard, ME so.....Astoria
Bell, Wanda, SS fr.....Corvallis
Bell, Wilma, SS fr.....Corvallis
Bellerby, Eric Gordon, CE so.....Portland
Belshe, Barbara Blanche, H so.....Moro
Belshee, Russel Harvey, A sr.....Moro
Belshee, Winnifred Zoe, Ed so.....Corvallis
Belton, Arthur Leet, IA sr.....Canby
Belton, George Howard, A fr.....Canby
Belz, Albert Robert, EE so.....Eugene
Bemis, Dorothy Joyce, H fr.....Portland
Bendix, Moni, H sp.....Forest Grove
Benedict, Harold Wilson, F so.....O'Brien
Benefiel, Arthur, F so.....Delake
Benefiel, Jeanette Isabelle, LD so..Corvallis
Benesh, Harold Francis, F fr.....Corvallis
Benesh, Robert Horace, F fr.....Corvallis
Bengtila, Donald Morton William, F so....
..... Kernville
Benjamin, Richard William, LD fr.....Aloha
Benner, Genevieve Frances, H so..Portland
Bennett, Barbara Louise, LD so....Corvallis
Bennett, Betty Winnifred, SS fr.....Portland
Bennett, Clarence Sanson, LD fr.....Portland
Bennett, Eugene Newell, LD fr.....Canby
Bennett, Floyd Clark, LD fr.....Portland
Bennett, Lawrence Willson, P fr....Vernonia
Bennett, Margaret Etta, H so.....Portland
Bennett, Robert Delman, LD so..Hood River
Bennett, Virginia Louise, SS jr.....Portland
Benson, Anita Maple, H so.....Springfield
Benson, John Paty, F so.....Berkeley, Calif.
Benson, Maurice Danforth, IA so.....
..... Sidney, Mont.
Benson, Nancy Mary, SS fr.....Portland
Benz, Lucile Helen, LD fr.....Portland
Beougher, Vida Irene, Ed sr.....Bend
Berg, Alan Ben, F jr.....Portland
Berg, Annabelle, Mth jr.....Roseburg
Berger, Burton Erdman, E fr.....Mulino
Berger, C. Richard, Ed sr.....Corvallis
Berger, Gene, H so.....Corvallis
Berger, Robert Oskar, A jr.....Mulino
Bergeron, Theodore Arthur, F so.....
..... Oregon City
Bergholz, Anne South, H sr.....Milwaukie
Bergholz, Robert Frederick, IA jr.....
..... Portland
Berglund, Adolph Milton, F fr.....Oakridge
Bergman, Betty Loretta, H so.....Yachats
Bergstrom, Helen Eleanor, SS so.....Portland
Bergstrom, Ralph Henry A, fr..McMinnville
Berlin, Edgar David, ME so.....Corvallis
Berman, Karl DeForrest, LD so.....Corvallis
Bernier, Elmer Francis, LD fr..Oregon City
Berreman, Delpha Ruth, Ed gr.....Philomath
Berry, Dick, F jr.....Mehama
Berry, Thomas Elwood, Ed fr.....Portland
Berselli, Bruno, F jr.....Portland
Berthold, Ruth Fae, SS fr.....Olex
Bertramson, Bertram Rodney, Ch gr.....
..... Corvallis
Berwick, Arthur Edward, LD fr.....
..... The Dalles
Beshears, John Leonard, Sc sr.....Portland
Besse, Jr., Ralph Stephen, A so.....Corvallis
Bessee, Jack Clinton, E fr.....Marshfield
Bessler, Albert Douglas, F so.....Portland
Beswick, Mary Belle, H sr.....McMinnville
Bever, Dale Nestrud, F so.....Corvallis
Beyerlein, Albert Carl, E fr.....Corvallis
Beyerlein, Martin Leonhard, CE jr..Corvallis
Biasca, Frank Elvezio, ChE jr.....Coquille
Bidwell, Pauline Laura, H jr.....
..... Sacramento, Calif.
Bierly, Amos Wilbur, A sr.....Gervais
Bierly, Lois Evelyn, H so.....Gervais
Biethan, Jack David, LD so.....Portland
Bigger, Barbara Jeanne, H fr..Klamath Falls
Bigham, Jr. Jacob Wimer, ME so.....
..... Oregon City
Billo, James Donald, ME jr.....Portland
Bilyeu, Rhea Jewell, H fr.....Tigard
Binegar, Dorval Ray, Ed fr.....Salem
Binford, Robert Sumner, ME jr....Portland
Birch, Evelyn Mildred, H so.....Warrenton
Bird, Ellen, H so.....Cottage Grove

Bird, James, A fr.....Cottage Grove
Birkemeier, George Renny, CE jr.....
.....Milwaukie
Birkemeier, Richard Daniel, ChE so.....
.....Milwaukie
Bishop, Edwin B., E fr.....Salem
Bishop, Janet Beverly, H fr.....Beagle
Bishop, Rosemary Nan, SS so.....Beagle
Bissey, Ralph Oliver, ChE so..Clay City, Ill.
Bittner, Eleanor Lorraine, SS fr.....Toledo
Bixby, Barbara Ruth, H so.....Multnomah
Bjorklund, Isabel Ann, H jr.....Portland
Bjorndal, Richard Arthur, E fr.....Portland
Black, Berton Elmer, A fr.....Payette, Ida.
Black, Dorothy, H so.....Los Angeles, Calif.
Black, Emily May, H sr.....McMinnville
Black, George Owen, A sr.....Oswego
Black, Gordon Gless, F sr.....Salem
Black, Harry Burton, Sc sr.....Roseburg
Black, Mavis Esther, H sr.....Ontario
Black, Naoma Ruth, H jr.....Corvallis
Black, Ralph Merle, A jr.....Corvallis
Black, Willis Gene, F fr.....Corvallis
Blacker, Blair Kenyon, ChE sr.....Corvallis
Blacker, Kemuel K., F gr.....Corvallis
Blacker, Worth, F gr.....Corvallis
Blackledge, Betty Jane, H fr.....Corvallis
Blackledge, William Oliver, A so..Corvallis
Blagg, Alva Henry, Ch sr.....Hood River
Blair, Beula Anne, SS fr.....Portland
Blair, Bonney Williard, H sr.....
..... South Pasadena, Calif.
Blair, Jay William, CE so.....
..... Los Angeles, Calif.
Blair, Thomas Bruce, ChE so.....Portland
Blake, Edgar William, IA sr.....Albany
Blake, J. Warner, F jr.....Chiloquin
Blake, Martha Jean, LD fr.....Portland
Blake, Philip James, A so.....Salem
Blakely, Carl Frederick, ME sr.....Corvallis
Blakely, Howard Millett, LD so.....Corvallis
Blanchard, Eleanor Jean, SS fr.....Tillamook
Blanchard, Harry, F so.....Redmond
Blanchard, Larry Dale, F so.....Redmond
Blankenbaker, George Dwight, ME so.....
..... Jefferson
Blasen, David William, F fr.....Portland
Blasen, Richard Matthew, ME so....Portland
Blatch, Joseph Hugh, IA sr.....Corvallis
Blatchford, Lennox Alfred, A sr.....Portland
Blauvelt, Inez Margaret, LD fr.....
..... North Sacramento, Calif.
Bleakly, James Elwood, F so....Ida Grove, Ia.
Bleeg, Mary Emily, Sc so.....Portland
Bliss, Alice Irene, SS so.....Portland
Blodgett, Clyde R., Ed so.....Blodgett
Blodgett, Jenetta, SS so.....Corvallis
Blomquist, John Lewis, ME so.....
..... Klamath Falls
Blood, Carl Aaron, IA sr.....Eugene
Bloss, Leulla Alice, LD fr.....Portland
Blosser, Jr. John Henry, A jr.....Hubbard
Blow, Richard Tunstall, III, E fr..Corvallis
Blue, Lawrence Wade, A sr.....Astoria
Blundell, Eileen Marie, SS fr.....Salem
Blundell, Percy Ronald, A so.....Salem
Boals, Mary Elizabeth, LD so....Payette, Ida.
Boals, Roy Logan, ME sr.....Eugene
Bodeker, Constance Marie, H so.....Lyons
Boeckli, Elizabeth Hedwig, H so.....Portland
Boegli, Willis Claire, Non Maj gr....Corvallis
Boehi, Genevieve Henrietta, H jr..Milwaukie
Boehm, Clyde Harry, P sr.....Salem
Bogardus, Margaret, SS so.....Portland
Boge, Jr. Veldon Cecil, F fr.....Beaverton
Boggs, Rexford Thomas, E fr.....Corvallis
Bogner, Charles, A gr.....Lakeview
Bohnenkamp, Grace Helen, H jr..La Grande
Boire, Leo Matthew, A sr.....Portland
Boldon, Bruce Byron, A so.....Corvallis
Bolinger, Duis Donald, Ph gr.....Corvallis
Bolton, Anna Jean, Ed gr.....The Dalles
Bolton, Betty Jane, H sr.....The Dalles
Bolton, Betty Jean, H so.....Oregon City
Bomber, Alfred Paul, A fr.....Portland
Bond, Francis Leroy, F fr.....Glide
Bond, James J., BAd sp.....Oregon City
Bond, William Merrill, F sr.....Portland
Bone, Elizabeth Jeanne, H sr.....Portland
Bonn, Paul Joseph, A so.....Gervais
Bonnell, Daniel Ernest, Ent gr.....
..... Everett, Wash.
Bonner, Boneta June, LD so.....Portland
Bonney, Betty Frances, SS fr.....Seaside
Bonney, James Oliver, F so..Burbank, Calif.
Bonney, Omer Ford, LD sp.....Seaside
Bonney, Robert Milton, CE jr.....Silverton
Boomer, Raymond Lester, A jr.....Pendleton
Booth, Frederick Hoeflein, A sr.....Yoncolla
Booth, James Samuel, LD so.....Corvallis
Booth, Joan, H fr.....Corvallis
Booth, Shirley Marie Currin, H sr..Yoncolla
Boothe, Janice Irene, H gr.....
.....Santa Maria, Calif.
Bork, Herbert Arnold, Ed gr.....Corvallis
Borovicka, Robert Louis, A so.....Portland
Bosch, Marie Aurelia, P so.....Brooks
Boswell, Frances, SS sr.....Ontario
Botkin, Irving Oscar, SS fr.....Estacada
Botsford, Eleanor Himes, H so.....Portland
Botsford, Jean Anne, H sr.....Portland
Botsford, John Selwyn, BAd so.....Portland
Bourassa, David Eugene, A jr..Topeka, Kan.
Bourne, Donald Armstrong, SS so..Portland
Bowen, Lewis Angell, A gr.....Portland
Bowen, Robert Comer, E fr.....Portland
Bowers, Erma Iva, H jr.....Corvallis
Bowman, Emmy Lou, Non Maj gr..Corvallis
Bowman, Flora Jean, G gr.....Prineville
Bowman, Jean A., SS fr.....Silverton
Bowman, June Frances, SS fr.....Silverton
Bowman, Rae Elaine, Ed jr.....Prineville
Boyce, Charles B., LD so.....Portland
Boyd, Charles Alexander, Ch gr..Mt. Vernon
Boyd, Donald Robert, F sr.....Portland
Boyd, Zola Clara, H jr.....Springfield
Boyer, Edward Ancey, E fr.....Roseburg
Boyer, Florence Regine, LD so.....Portland
Boyer, Frederick Eshleman, A fr....Hereford
Boyes, Ralph Lee, EE so.....Tillamook
Boylen, Roberta, SS so.....Pendleton
Boynton, Mary Alys, SS jr.....Eddyville
Bracchi, Robert Roy, EE jr.....Portland
Brace, Alice Lorraine, SS so.....Portland
Bradley, Kenton Tyler, LD so.....Albany
Brady, Eugene Floyd, A fr.....Glendale
Brainard, Fay Alvin, ME jr.....Marshfield
Brainard, Paul Lynley, ME sr.....Marshfield
Brainerd, Gordon Alan, LD fr..Grants Pass
Bramblett, Alice Elinor, SS fr.....Milwaukie
Bramwell, Roberta Kathlyn, SS fr..Corvallis
Branch, Beverly Frances, H so.....Monmouth
Branch, Leota Joyce, SS so.....Monmouth
Brand, Earl Davies, IA jr.....Roseburg
Brandeberry, Ruth, H so.....Portland
Brandon, Margaret Eileen, H sr.....Corvallis
Branson, James Theodore, A gr.....
.....Fort Jones, Calif.
Branson, Philip Forrest, A jr.....Lakeview
Branson, William Pearl, F sr.....Eugene
Brant, Eleanor Rose, LD fr.....Portland
Brantner, John, A sr.....Portland
Brasen, Ralph Daniel, LD so.....Clackamas
Braun, Alvin Joseph, Bot gr.....Corvallis
Brauns, Mary Lucille, Ed gr.....Corvallis
Breckenridge, Clara Marie, SS jr.....
..... Hood River
Breding, Helen E., SS jr.....Pendleton

Breithaupt, Ruby E., H jr.....Corvallis
Brenner, Laura T., SS sr.....Portland
Bretherton, Welles Walter, Non Maj gr.....
..... Portland
Brett, Raymond Elliott, ME so.....
.....Fontana, Calif.
Brewster, Bob Weston, EE so.....Corvallis
Brewster, Richard Leslie, ChE jr....Corvallis
Bricker, William Lee, Ed gr.....McMinnville
Bridges, Joyce Elaine, H jr.....Oakland
Briggs, Bob, A so.....Oregon City
Briggs, Chester Arthur, ME jr.....Portland
Briggs, Jean Esther, SS so.....Portland
Briggs, John Carmon, F fr..Palo Alto, Calif.
Briggs, John Cherry, F so.....Corvallis
Brill, Arthur Thaddeus, ME jr.....Portland
Brindell, Frances Ritz, SS fr.....Beaverton
Brinkman, Mary Jane, H fr.....Portland
Brinkman, Phil M., IA sr.....Portland
Brissenden, Clarence Edwin, A sr.....
..... Clay City, Ill.
Brittain, Leo C., A so.....Wamic
Brittain, Virgil Marion, LD so.....Portland
Broadwater, Kenneth F., SS so.....Corvallis
Broadwater, Robert James, ChE so..Corvallis
Broadwell, Rolland Ernest, CE so..Portland
Brockschink, Frank Roy, CE so.....
..... Cottage Grove
Brodersen, Virginia Ethel, SS jr.....
..... Forest Grove
Brodie, Jack Hubert, A so.....Klamath Falls
Bronleewe, Loren Kenneth, E fr.....Hillsboro
Bronner, Alma Marie, H so.....Portland
Bronson, Verne Dee, F jr.....Harrisburg
Brooks, George Herbert, F so.....Corvallis
Brooks, Gertrude Mildred, H fr.....Salem
Brookshire, Lester Zane, LD so.....Mitchell
Brostrom, Richard Davis, F so.....Oakland
Broten, George Arthur, Ed sr.....Portland
Brothers, Alice Elizabeth, LD fr....Pendleton
Brower, Gerald Loren, EE so.....Milton
Brower, Harold Houck, EE so.....Milton
Brown, Althea Ruth, Ed so.....Portland
Brown, Barbara Ellen, H so.....
..... Los Gatos, Calif.
Brown, Barbara Jean, SS so.....Corvallis
Brown, Betty Bernice, SS fr.....Portland
Brown, Clarence Lyle, LD fr.....Marshfield
Brown, Donna Mae, LD fr.....Portland
Brown, Doris, H jr.....Canby
Brown, Dorothy Frances, SS fr.....Baker
Brown, Francis Leonard, F fr.....Hillsboro
Brown, Hollis, IA so.....Corvallis
Brown, James Harvey, E fr.....Portland
Brown, John Arlon, P jr.....Independence
Brown, John Westly, Ed fr.....Corvallis
Brown, June Marie, SS fr.....Bonanza
Brown, Kathleen Williams, H fr.....
..... Cannon Beach
Brown, Kenneth Wilbur, P so.....Corvallis
Brown, Lewis, LD fr.....Salem
Brown, Lyn Arther, SS fr.....Corvallis
Brown, Margaret May, H sr.....Corvallis
Brown, Orr-Lyda Jean, H fr.....Eugene
Brown, Philip Gordon, EE jr.....Hood River
Brown, Robert Raymer, F fr.....
..... Kalispell, Mont.
Brown, Stuart Morgan, ChE jr.....Portland
Brown, Wallace Millard, A fr.....Hubbard
Browne, Chelsea Henry George, F so.....
..... Terrebonne
Brownell, Robert Marion, ChE sr.....Salem
Browning, Nancy Evans, H fr.....Portland
Brownlie, Jr. John Waddell, LD so.....
..... Portland
Bruce, James Saxon, E fr.....La Grande
Bruckart, Robert Lee, F fr.....Redlands
Brugger, Arthur William, A gr..Multnomah
Bruinsma, Helen, SS sr.....Amity
Brummer, George Merrill, BAd fr....Portland
Brun, Rinaldo, ME sr.....Klamath Falls
Brundage, Albert Carter, F so.....Portland
Brundage, Mary Elizabeth, SS jr....Portland
Bruner, Louis Alden, A fr.....Klamath Falls
Brunquist, Eleanor Lee, H fr.....Parkdale
Bruns, Lester Everett, ChE so.....Sandy
Bruns, Robert Albert, EE jr.....Sandy
Bryant, Shirlee May, SS fr.....Albany
Bubenik, Miles Charles, CE so.....Milwaukie
Bucher, Sherman Datus, SS so.....Troutdale
Bucher, Theodore Kaufman, F so.....
..... Columbus, Ohio
Buckingham, Keith Stanley, A jr.....Monroe
Buckingham, Loree Eugenia, H so....Monroe
Buckles, Mildred Magdalena, P so..Medford
Buckley, Barbara Jean, H fr.....Portland
Bucks, Virginia Mabel, SS fr.....Portland
Buddee, Rudolph Sackett, E fr.....Portland
Budke, Beulah Katherine, Sc sr.....Dallas
Buholts, Wallace Henry, A so.....Corvallis
Bulk, George Kenneth, ME so.....Portland
Bullard, William Ellsworth, P sr..Gold Beach
Bullis, Lee Spencer, LD so.....Medford
Bullwinkle, Jr. Ben B., ME sr.....Portland
Buman, James Beyer, P so.....Portland
Bump, Margaret Fern, H gr.....Portland
Bundy, Dean Floyd, F fr.....Powers
Bunker, Anna Burnette, SS sr.....Corvallis
Bunnell, Robet Ross, LD so.....Summit
Bunzow, James Walter, F fr.....Portland
Burch, Isaac Melvin, A fr.....Salem
Burdick, Bronson, E fr.....Camp Sherman
Burger, Jack Dewayne, LD so.....Portland
Burgess, Clyde Estell, A fr.....Redmond
Burgess, Robert Byron, A fr.....Astoria
Burgess, William Litch, F so.....
..... Columbus, Ohio
Burggraf, Eleanor Lorene, H sr.....
..... Lowden, Wash.
Burk, Gilbert Fred, LD fr.....Corvallis
Burleigh, Glenn Benjamin, A so.....Portland
Burlingame, Mary Chrystabel, H so..Astoria
Burnell, Joel Ernest, CE so.....Corvallis
Burnham, Rose, LD fr.....Adel
Burns, Dale E., F sr.....Corvallis
Burns, John Stuart, Ed gr.....Corvallis
Burr, Elizabeth Julia, H jr.....Seattle, Wash.
Burrelle, Howard Perry, E fr.....Albany
Burris, Mary Ethel, H sr.....Chanute, Kan.
Bursik, John Charles, A sr.....Roseburg
Burt, Marian Lucy, H so.....Corvallis
Busch, James Frederick, ME so.....Silverton
Busch, John Elliott, A sr.....Oregon City
Busch, Keith Nelson, SS jr.....Hillsboro
Bushnell, Walter James, E fr.....Salem
Butcher, Robert Oliver, EE sr.....
..... Worland, Wyo.
Butler, Calvin Jay, BAd so.....Redmond
Butler, Juanita Ellen, H sr.....
..... San Luis Obispo, Calif.
Butler, Marlow Dole, IA so.....Independence
Butler, Wesley, H., CE so.....Corvallis
Butte, Dorothy Maxine, H sr.....Salem
Butzien, Chester Oscar, ChE so.....Portland
Buxton, Don L., A gr.....Corvallis
Buxton, Robert Edward, Ed gr.....Corvallis
Byers, Irwin Lyle, ME sr.....Wendling
Byington, Glenn Louern, LD so.....Corvallis
Byington, Kenneth Frances, ChE jr.....
..... Corvallis
Byrd, Maurice Melvin, SS jr.....Sandy
Bywater, Mary Ellen, E fr.....Salem

Cabaniss, Beverly Rowland, Ed gr.....
..... Klamath Falls
Cabaniss, William Iles, LD so.....Chiloquin
Cadell, Catherine, LD so.....Portland
Cadmus, Coleen Muriel, H fr.....Portland

Cadmus, Walter George, A sr.....Portland
Cadwell, Mary Harriet, LD so.....
..... Carpinteria, Calif.
Cady, Ralph Harlin, P jr....Arlington, Wash.
Caffall, Rex, F so.....Portland
Cahall, Dorothy, H fr.....Portland
Cahill, Robert E., A so.....Adel
Cain, Maxine Virginia, SS jr.....Westlake
Calavan, Edmond Clair, Bot gr.....Jefferson
Calder, Wayne LeRoy, A so.....
..... Laytonville, Calif.
Caldwell, Doris Charlotte Conger, SS sr....
..... Corvallis
Caldwell, Gale Gourley, ME jr.....Albany
Caldwell, Glenn Paul, E fr.....Milton
Caldwell, Mary Frances, SS fr.....Hillsboro
Caldwell, William Ardel, IA sr.....Milton
Calhoun, Wheeler, A sr.....Portland
Callaghan, Marjorie Agnes, LD fr..Portland
Callaway, Lenora Mae, H sr.....Corvallis
Calmettes, Elizabeth Louise, SS fr.....
..... Hood River
Cameron, Marjorie Mollie, SS so.....
..... Grants Pass
Campbell, Albert, A sr.....Prairie City
Campbell, Carolyn Lee, SS so.....Albany
Campbell, Elizabeth Frances, H jr..Roseburg
Campbell, Grace Elizabeth, SS so.....Eugene
Campbell, Keith Cameron, Ch so.....Portland
Campbell, Robert Clinton, ME jr.....Portland
Canada, Alfred Heston, EE sr.....Portland
Canfield, Esther Drew, LD so.....Portland
Canning, Margaret J., H so.....Albany
Capka, Theodore Joseph, F jr.....
..... Middletown, Pa.
Capps, James Herman, EE so....McMinnville
Capps, James William, A so.....Sixes
Carl, H. Gordon, BAd so.....Salem
Carl, Wallace John, A sr.....Arago
Carlson, Anna May, LD fr.....Portland
Carlson, Carl Elmer, CE so.....Portland
Carlson, Carl O. L., P so.....Portland
Carlson, Harold Edward, ME jr....Woodburn
Carlson, Howard Roger, IA jr.....Portland
Carlson, James Edgar, SS so.....Portland
Carlson, John Eldred, SS so.....Baker
Carlson, Theodore Gearhardt, PE fr.....
..... Corvallis
Carman, Kenneth Scott, LD fr.....
..... Columbus, Ohio
Carmichael, Jack Winston, LD fr.....Newport
Carney, Betty Jean, M fr.....Pendleton
Carothers, Bette, H sr.....Corvallis
Carothers, Erva Frances, SS so..Oregon City
Carothers, Raleigh F., A gr.....Woodburn
Carrier, Walter Edwin, E fr.....Roseburg
Carroll, Francetta B., SS jr.....Eugene
Carroll, Lorraine, SS fr.....Klamath Falls
Carson, Harry, P jr.....Salem
Carson, Homer Eugene, Ent gr.....Corvallis
Carson, Ruth Hope, SS fr.....Portland
Carter, Douglas Toner, A so.....Pendleton
Carter, Myrtle Mae, H jr.....Corvallis
Carter, Thelma Eliza, SS so.....Roseburg
Cary, Phyllis Lucile, LD fr.....
..... Gleneden Beach
Case, William Northrop, LD fr.....Portland
Caseky, Frank Edward, Ch gr.....Portland
Casiday, Evadna, Ed fr.....Lakeview
Cason, Harold Gordon, SS jr.....Vernonia
Caster, Marion Bertram, Non Maj gr..Salem
Cate, Rufus Henry, A so.....Corvallis
Catlow, Kathryn Grace, H so.....Bend
Catts, Vernon C., Sc sr.....Woodburn
Causey, George Bigham, Ed so.....Salem
Cavagnaro, Louise Pearl, Sc jr.....Portland
Cavagnaro, Virgil Louis, A fr.....Portland
Cavanagh, Jerry Joseph, CE sr..Oregon City
Cavender, Jack Eldon, Ag fr.....Portland
Cawrse, Kathryn Loretta, H fr.....Cornelius
Cecil, Carmen Lucille, H so.....Portland
Cellers, Stanley William, A sr..McMinnville
Chace, Peter Brooks, LD fr.....Springfield
Chadwick, Margaret I., SS so.....Salem
Chadwick, Shirley Belle, H sr.....Portland
Chamberlain, Earle Wallace, ME jr..Ashland
Chambers, Douglas William, A jr.....Salem
Chambers, Harriet Rosalie, SS fr..Monmouth
Chambers, Lois Eileen, SS fr.....Roseburg
Chambers, Martha-Betz, SS so.....Corvallis
Chambers, Richard F, BAd fr.....Salem
Chandler, Charles Herbert, A jr.....Baker
Chandler, Roger Lowell, ME jr.....Albany
Chaney, Jr., George Hall, LD sp.....Coquille
Chaney, Richard O., Ed so.....Corvallis
Chapin, Donald Glen, BAd fr.....Wemme
Chapman, Clara Jane, Bot gr.....Portland
Charboneau, Melvin, LD so.....Portland
Charters, Clyde Raymond, EE sr.....Portland
Charters, Richard Ernest, SS so.....Portland
Chase, Frank J., LD so.....Glendale, Calif.
Chase, Janet LaVelle, H jr.....Eugene
Chase, Jean Verda, H fr.....Eugene
Chase, Margaret Winnifred, LD fr..Portland
Chatten, Leonard Raymond, F so.....
..... San Francisco, Calif.
Chausse, Marion Lucille, SS jr.....
..... Pocatello, Ida.
Chaves, Martin Joseph, LD so.....Baker
Cheek, Eugenia Anna, LD fr.....Corvallis
Chellis, Lawrence True, IA sr.....Corvallis
Chenoweth, Oscar Ivan, IA so.....
..... McMinnville
Cherry, Mildred Huston, LD so.....Corvallis
Cherry, W. Ray, ME gr.....Lebanon, Ky.
Chesbrough, Warren Templeton, F so.....
..... Cascade Locks
Chester, J. Gordon, A fr.....Astoria
Childs, Winston Leroy, P so.....Hood River
Chin, Dalgen, A gr.....
..... Wuchow, Kwangsi, China
Chindlund, Gifford Kenneth, LD fr..Portland
Chinn, Harding Kemron, A so.....Portland
Chisholm, Howard Langford, A so....Astoria
Chivers, Harold Joseph, SS so.....Portland
Chow, Yeu Wing, A gr.....Hong Kong
Chown, Frank Dewey, SS jr.....Portland
Christenson, George Leon, A so.....
.....Likely, Calif.
Christenson, Chester Lee, A sr.....Monument
Christeson, Roger H., SS jr.....Ontario
Christians, Ted Frederick, IA jr.....Astoria
Christiansen, Carol, SS fr.....St. Helens
Christiansen, June K., H fr.....Portland
Christy, Charles, A fr.....Redmond
Christy, William Harold, F so.....Chiloquin
Churchill, John Henry, E fr.....Portland
Churchman, Oscar Day, LD fr.....Corvallis
Cissman, Stanley Augustus, Jr., F fr.....
..... West Linn
Clampitt, Lorraine Barbara, H gr..Milwaukie
Clampitt, Ruth Gloria, LD fr.....Milwaukie
Clancy, Richard Waverly, E fr.....Portland
Clark, Barbara Jean, SS fr.....Hood River
Clark, Emerson Butterfield, A so.....
..... San Francisco, Calif.
Clark, Eugenia Marie, SS so.....Portland
Clark, Ferne Elizabeth, H so.....Portland
Clark, Frank Harrison, Sc jr.....Portland
Clark, Harland H., F so.....Medford
Clark, Harold Kenneth, LD so.....Portland
Clark, Harry Edwin, A gr.....Dayton
Clark, Hazel Eleanor, SS fr.....Portland
Clark, Joseph Frank, F so.....Portland
Clark, Kenneth Wendell, F so.....Salem
Clark, Lester Walter, ChE so.....Dayton

Clark, Marie Sara, SS sr.....Freewater
Clark, Norman Barlow, LD fr.....Freewater
Clark, Rodney Arthur, EE jr.....Corvallis
Clark, Verda Vivian, H so.....Marshfield
Clark, Virgel Leroy, F so.....Butte Falls
Clarke, Flora Kelsie, Ed jr.....Corvallis
Clarke, Helen Kent, SS so.....Portland
Clarke, Jeanette, H fr.....Corvallis
Clarke, Roscoe Wilson, ME so.....Salem
Clary, Nanette Elizabeth, SS so.....Portland
Clasper, Matthew Boyd, A sr.....Portland
Classen, Aloysius Joseph, ChE sr.....Stayton
Claudon, Marilyn Jean, H so.....Salem
Clausen, John Wesley, Ed gr.....Alsea
Clay, Don, BAd fr.....Corvallis
Clay, Victor S., ME sr.....Harrisburg
Cleghorn, Elizabeth, H sr.....Klamath Falls
Clement, Boyd Leslie, LD fr.....Portland
Clements, George Marvin, LD so..Freewater
Clemons, Cecil Fay, ME so.....Athena
Cleveland, Anson Henry, E fr.....Corvallis
Cleveland, Wendell Howard, A jr....Heppner
Clevenger, Cathryn Carolyn, SS fr.....
..... Arlington
Clevenger, Margaret Elizabeth, H fr.....
..... McMinnville
Clevenger, Scott Philip, Ed gr.....Corvallis
Clevenger, William Kennard, ME so.....
..... Corvallis
Clifton, Thomas Courtney, F so.....
..... Placerville, Calif.
Cline, Charles Oren, SS fr.....Mill City
Cline, Daisy Elizabeth, SS so.....Troutdale
Clinkenbeard, Jr., Karl S., A fr.....
.....South Coos River, Marshfield
Clinton, Homer William, ChE sr.....Corvallis
Clinton, Leland Jack, F jr.....Coquille
Cloake, Wallace Henry, EE sr.....Roseburg
Clogston, Carl Hawk, E fr.....Portland
Clow, James Locke, ME so.....Portland
Clymer, Marian Edith, SS so.....Portland
Coates, William Stanley, A sr.....Tillamook
Cobb, Earl Kendall, A gr.....Portland
Cochran, Grace Lorene, SS fr.....Bend
Cochran, Lee Ira, LD fr.....Corvallis
Cochran, Roger Clay, SS fr.....Corvallis
Cochran, Rosemary, SS so.....Corvallis
Cockerline, Genevieve Ann, SS so..Corvallis
Coe, Everett Lee, EE jr.....Corvallis
Coffey, Frances LaVerne, H sr.....Eugene
Coffey, Milton Ernest, E fr.....Albany
Cohrs, Constance June, SS so..Independence
Cole, James Arthur, IA sr.....Salem
Cole, John Peck, ME so.....Portland
Cole, Loy A., F so.....Mitchell
Cole, Robert William, LD fr.....
..... Woodland, Calif.
Cole, William Roscoe, CE so.....North Bend
Coleman, Bert, A fr.....Dundee
Coleman, Edward LaRay, LD fr.....Astoria
Collard, Charles Gordon, F jr.....Portland
Colle, Edwin Bates, F jr.....Portland
Collie, Robert Lucius, A so.....Hood River
Collier, Wynoka Rexalea, SS so..Hood Hiver
Collins, Alexander Palmer, F sr....Roseburg
Collins, Emma Carol, Bot gr.....Portland
Collins, Jack Rory, E fr.....Hood River
Collins, James R., ME so.....Richmond
Collins, Joseph Stanley, F sr .....
..... Los Angeles, Calif.
Collins, Lauren Tom, F jr .....
..... Los Angeles, Calif.
Collins, Louise Marie, H so.....Nampa, Ida.
Collins, Walter Hayes, Ch gr.....Portland
Colson, Charlotte May, Ed sr.....Portland
Colson, Waymon Chester, A fr.....Baker
Columbia, Joe Louie, A fr.....
..... Gunnison, Colorado
Colville, Hugh Miller, A gr.....
..... Carrollton, Ohio
Combs, Charles Kirk, F sr.....Portland
Combs, Townsel Allen, F so.....Langley, Ky.
Compton, Dorris Jane, SS sr.....Coquille
Compton, Marilyn Ethyl, H jr.....Coquille
Compton, Stanley Phillip, E fr.....Boring
Conant, Edwin Milton, E fr..Worland, Wyo.
Condon, Ruth Arlene, LD so.....Portland
Conger, Florence Mildred, LD fr..Monmouth
Conger, Leona Marian, SS sr.....Medford
Congleton, Ila Rae, SS sr.....Paulina
Conkle, Howard Elliott, F sr.....Corvallis
Conley, Martha Jennise, LD so.....Portland
Conlin, Marie Ellen, Ed so.....Corvallis
Conlin, Mary Agnes, H so.....McMinnville
Conmy, Mary Jane Christine, SS fr....Salem
Conn, Robert Ingalls, ME sr.....Portland
Conner, Hollis Irving, LD fr.....Grants Pass
Connet, Delmer Lee, LD fr.....Lebanon
Conrad, John Francis, A so.....Enterprise
Conrad, John Henry, F fr.....Portland
Conrad, Philip Frank, A jr.....Avelon, Calif.
Conwell, Robert William, Z sr.....Dallas
Conyne, F. Marguerite, H so.....
..... San Diego, Calif.
Cook, Donald Lester, LD fr.....Portland
Cook, Emily Caroline, SS jr.....Medford
Cook, Helen Mae, SS so.....Portland
Cook, Marvin R., A fr.....McCoy
Cook, Milton Marcus, A so.....
..... San Francisco, Calif.
Cook, Philip R., F gr.....Pasadena, Calif.
Cook, Richard Ernest, LD so.....Portland
Cook, Roger Irving, LD fr.....Portland
Cooke, Robert Roland, IA so.....Estacada
Cooke, Warren William, E fr.....Elkton
Cooley, Miriam Corinne, LD fr.....Silverton
Cooley, Ralph Vernon, A gr.....Grandview
Cooney, Wilbur Tarleton, A gr.....Corvallis
Cooper, Caroline, SS fr.....Portland
Cooper, Duahne William, A so.....Drain
Cooper, James Marion, SS so.....Corvallis
Cooper, Mary Jane, H sr.....Milwaukie
Cooper, Roy Franklin, A so.....Corvallis
Cope, Nevin Harvey, CE so.....Medford
Copenhagen, Lester, ME jr.....Portland
Coplen, Lewis H., ChE sr.....Portland
Corbett, Malie, LD fr.....Portland
Cordano, Joseph Andrew, LD so.....Portland
Corey, Betty M., SS fr.....The Dalles
Corey, Rosemary Ellen, SS sr.....Medford
Corl, John Louis, E fr.....Albany
Cornett, Everett Clyde, A jr.....Prineville
Cornutt, Howard LaVerne, IA sr.....Albany
Correy, Thomas Berry, EE sr.....Corvallis
Cottel, Charles Edward, P so.....Portland
Countryman, Jean Louise, LD fr.....Ontario
Courtright, Phyllis Esther, H fr..La Grande
Covell, George H., A sr.....Portland
Coverston, Mason Lynn, F so.....Fallon, Nev.
Covington, Junius Loren, A fr.....Corvallis
Cox, Oren Bruce, ME so.....Portland
Cox, Richard Franklin, A fr.....Hermiston
Cox, Roseann, SS sr.....Corvallis
Cox, Vernon Edward, A fr.....Sheridan
Crabtree, Roe Donald, A so.....Salem
Craddock, Davida E., H so.....Silvies
Craig, Charles F., CE so.....Portland
Craig, Fletcher Marbury, A sr.....
..... Gridley, Calif.
Craig, Roland Eston, ME jr.....Corvallis
Cramer, Owen Putman, F jr.....Portland
Cramer, Ruth, SS fr.....The Dalles
Cramer, William Ernest, CE sr.....Rex
Crane, Evelyn Alice, H so.....Corvallis
Crane, James Norman, A so.....Corvallis
Crane, Madelyn Coral, SS fr..Klamath Falls

Craner, Carlton Herbert, Bac jr.....Portland
Craner, Eugene, LD fr.....Portland
Cranford, William Rupet, EE so.....
..... Walnut Park, Calif.
Cravat, Harland R., F jr.....Milwaukie
Cravath, John Lewis, F jr.....Long Beach
Crenshaw, Clyde Cecil, A fr.....Scio
Crenshaw, Oswald Jason, F so.....Scio
Crews, Delbert Freeman, F fr.....Hillsboro
Crichton, Bruce Albert, BAd so.....Portland
Crist, Vivian Mae, Ed fr.....Corvallis
Croeni, Kenneth, A jr.....The Dalles
Croff, Howard Lester, IA jr.....North Bend
Cronemiller, Shirley Joyce, H sr.....Salem
Cronin, Jess, A so.....Drewsey
Crookham, Robert D., SS jr.....Portland
Crooks, Harold Clinton, E fr.....Corvallis
Crosby, Warren Eugene, LD fr.....Portland
Cross, John Forrest, F sr.....
..... San Bernardino, Calif.
Crow, Doris Norma, SS fr.....Pendleton
Crumb, Samuel Ebb, Ent sr.....St. Helens
Cuffel, Robert Charles, Ed so.....Medford
Culbertson, Earl William, F jr.....Corvallis
Culbertson, George de la Roche, CE jr.....
..... Portland
Culbertson, John S., Z sr.....Portland
Culley, Clifford Samuel, A so.....Weston
Culp, Harold Arthur, G so.....John Day
Culver, Alvin Henry, F fr.....Gales Creek
Cummings, Lyle Amos, F so.....Corvallis
Cummings, Melvin Smith, A jr.....
..... Klamath Falls
Cummins, Ernie Lee, E fr.....Warrenton
Cummins, Kathleen, SS fr.....McMinnville
Cunniff, Vincent Lewis, BAd so.....Portland
Cunningham, Alice Pauline, H jr.....Salem
Currey, Clarence A., F so.....Lakeview
Currey, Eugene Ellsworth, F fr.....Portland
Currie, Alexander Andrew, LD fr.....Condon
Curry, Beth Marie, H so.....Butte, Mont.
Cushman, Howard Eugene, A so.....Condon
Cutler, Robert Hyndman, LD so.....Portland
Cutts, Harvey Verlynne, LD fr.....Lebanon
Cyrus, Eugene Woodrow, E sp.....Salem
Czech, Stanley Frank, Ed so.....Harvey, Ill.

Daggett, Lorne Angus, E fr.....Astoria
Daggett, William Guy, Ed so.....Gladstone
Dahl, Frederick Henry, A sr.....Silverton
Dahl, Kenneth Ward, A sr.....Silverton
Dahl, Paul W., ME so.....Glendale
Dahlgren, Dorothy Ann, H fr.....Warren
Dahlstrom, Richard Arthur, E fr.....Portland
Dailey, Wilbert Francis, F so.....Reedsport
Dallaire, Mary Delphine, H jr.....Medford
Dallas, Catherine Louise, H sr.....Salem
Dalton, Mary Ellen, Ed so.....Dallas
Dalton, Robert Edward, LD fr.....Portland
Dana, Bertha Mae, LD so.....Corvallis
Dana, Roger Ernest, ChE sr.....Corvallis
Daniel, Lenna Collins, Ed sr.....Corvallis
Daniel, William Joseph, A sr.....Corvallis
Daniels, Harry Philmore, A fr.....
.....McKenzie Bridge
Danilson, June Eva, Sc so.....Portland
Danilson, Lovell William, EE so.....Portland
Dannen, Marshall Wayne, A so.....Corvallis
Darby, Donald Russell, E fr.....Portland
Darby, Mary Ellen, SS fr.....Roseburg
Darling, Charles Mortimer, F sr.....Tiernan
Darling, Ned Prier, F so.....Portland
Darnielle, Marjorie Irene, SS fr....Gresham
Dasch, Dale Milton, A gr.....Salem
Dasch, Jack C., F so.....Salem
Davenport, Lester, A so.....Prineville
Davenport, Mark O'Dell, E fr.....
..... Marysville, Calif.
David, Marvin Curtis, F sr.....Portland
Davidson, Georgia, SS fr.....Monroe
Davidson, Louise Andonia, SS so.....Monroe
Davies, George Francis, Ch gr.....
..... Vancouver, B. C., Canada
Davies, Jerald Morris, CE sr.....The Dalles
Daviess, Jeannette Allison, H fr.....
..... Sacramento, Calif.
Davis, Alvah M., A fr.....Corvallis
Davis, Bob, EE sr.....Cornucopia
Davis, Bruce Evans, LD fr.....Albany
Davis, Byron Harold, SS jr.....Coquille
Davis, Frank Richard, LD fr.....Portland
Davis, George B., A gr.....Corvallis
Davis, Henry Ernest, Ed gr.....Chico, Calif.
Davis, John Emerson, Ent gr.....Corvallis
Davis, June Elizabeth, SS so.....Ashland
Davis, Luther Warren, A fr.....Kent
Davis, Robert G., Ed so.....Ashland
Davis, Ronald Willis, A so.....Deer Island
Davis, Thomas Marsh, IA sr.....Portland
Davis, Tom Jefferson, A sr.....Jamieson
Davis, William Bruce, Ch sr.....Portland
Davis, William Llewellyn, LD so.....
..... McMinnville
Davison, Robert Harold, A so.....Heppner
Davolt, Dorothy Gene, H jr.....Corvallis
Dawson, Adrian Coleman, CE sr.....Lorane
Dawson, Alex Reed, Ed gr.....Joseph
Dawson, Jean Augusta, H so.....Albany
Dawson, Roberta Isabel, H fr.....Albany
Dawson, William Ernest, F sr.....
..... Susanville, Calif.
Day, Dora Mae, H fr.....Portland
Day, Joe Warren, LD fr.....Manzanita
Day, Jr., Ralph C., F sr.....Portland
Deal, Jean Leona, Ed jr.....Alsea
Deal, Lois Marie, SS so.....Portland
Dean, Catherine Harriet, H jr.....
..... Payette, Ida.
Dean, Virginia, Sc sr.....Portland
Decatur, Kenneth Steven, F so.....Salem
Decker, Leona Grace, H fr.....Marshfield
Deeney, Hugh Jerome, F fr.....
.....San Francisco, Calif.
de Guggenberg, Nicolo, A gr..Seattle, Wash.
DeHaven, Shirley Ann, SS fr..McMinnville
Dehlinger, Clyde Lincoln, A fr.....
..... Klamath Falls
Dehne, Venita V., H so.....Fort Rock
Dehne, Wilbur Emmett, F jr.....Springfield
Deis, William Henry, ChE so.....Portland
Deklotz, Leonard Anthony, CE gr..Portland
DeKoning, Edwin Wesley, ME so..Portland
de Lancey, Lawrence Marl, ME so..Corvallis
DeLapp, Louis Austin, IA jr.....Bend
DeLong, Brenda Leone, H so.....
..... Glendale, Calif.
DeLong, Lawrence Merton, CE gr..Portland
DeLong, Mae Rea Margaret, H gr.....
..... Glendale, Calif.
Del Ponte, Harold Achilles, F gr.....
..... Klamath, Calif.
Dement, Sam, A so.....Myrtle Point
DeNeffe, Jr. Frederick Mason, SS sr.....
..... Portland
Denney, Margaret Ruth, Sci so.....Beaverton
Dennis, Robert William, E fr.....Portland
Dennis, William Dale, E fr.....Portland
Denny, Arthur Newton, BAd so.....Oakland
Densley, John W., A jr.....Richland
Denslow, Dorothy, Sci sr.....Eugene
Dent, William Elmer, A sr.....Roseburg
Denton, Alice Louise, H fr.....Corvallis
Denton, William Nixon, P sr.....Ashland
Denyer, Russell Hall, EE sr.....Turner
Dernbach, Clifford James, Ch gr....Portland
Despain, Eldon Charles, A so.....Pendleton
Deterick, Alan Winston, A so.....Cornelius
Detering, Carl William, ChE sr.....Portland

Dethman, Robert Allen, A so.....Hood River
Deuell, C. Francis, A so.....Corvallis
Devaney, McDonald Clement, SS so.....
..... Corvallis
Devine, Donald Frederick, ME jr....Hubbard
DeVore, Janice, LD fr.....Oakland
Dewey, Nancy Jean, H fr.....Portland
Dewey, Phyllis Evelyn, SS so.....Portland
deWitt, Laura Louise, SS fr.....Portland
Dexter, Lewis Laverne, Ed jr.....Umatilla
Dey, George Louis, A so.....Lorane
Dicharry, Richard Favre, ME so.....Portland
Dick, Jr. Harry Arthur, BAd so.....Portland
Dickason, Elvis Ernie, Ed so.....Hillsboro
Dickey, Donald C., A so.....Monmouth
Dickey, Phyllis Jane, SS fr....Junction City
Dickey, Robert Benjamin, A so..Forest Grove
Dickinson, Frances Evelyn, H sr.....Eugene
Dickman, Henry Charles, A so.....Portland
Dickson, Frederic Harold, EE gr.....Albany
Dickson, Virginia Lee, LD so.....Shedd
Dietze, Lillian Amanda, H jr.....Lakeview
Dietzman, Harvey Fletcher, A gr.....Salem
Diklich, Antone Peter, A fr.....Oregon City
Dill, Donald Franklin, E fr....Junction City
Dillard, Louis Allen, SS sr.....Roseburg
Dillon, Ira G., ChE jr.....Corvallis
Dillon, Josephine Gertrude, P fr.....Corvallis
Dillon, Selma Rydberg, SS sr.....Corvallis
Dimick, Keene Paul, Ch gr.....Nampa, Ida.
Dimick, Philip Clayton, F so.....Corvallis
Dimitre, Donald Robert, EE jr.....Portland
Dingus, Harriet Wright, SS sr.....Philomath
Dirickson, Myron T. J., BAd fr.....Silverton
Dixon, Bettyjane, Ed sr.....Roseburg
Dixon, Blin S., A fr.....Corvallis
Dixon, Howard Knight, A sr.....La Grande
Dixon, James Victor, Ed gr.....Corvallis
Dixon, Janey Marie, Ed sr.....Klamath Falls
Dmytryk, Edward John, F so.....Corvallis
Doan, Joe Taylor, ME gr.....
..... West Lafayette, Indiana
Doblie, Jr. Delmar Henry, F fr.....Portland
Dockery, Wilson Carl, Ed gr.....Portland
Dodele, Norma Marceil, BAd so..Monmouth
Doerfler, Wallace Joseph, A so.....Salem
Doheney, Bill Clyde, F so.....Haynes, Calif.
Doherty, Bernard Kinman, E fr.....Portland
Doherty, Dale Donald, P sr.....Freewater
Doherty, Raymond Howard, F jr....Medford
Dole, Hollis Mathews, Sc sr.....Grants Pass
Domaschofsky, Betty Jean, H so.....
..... Junction City
Domaschofsky, June, LD fr.....Dallas
Domes, Wayne Albert, SS so.....Rickreall
Donahey, Michael Harold, CE jr.....
.....Oakland, Calif.
Donaldson, Ralph Clark, A so.....Corvallis
Donert, Patricia Douglas, H jr.....Portland
Donohue, Donald Martin, E fr.....La Grande
Dooley, John Gerald, SS sr.....Albany
Dorman, Robert Cutter, E fr.....Portland
Dorner, Erwin Albert, CE so.....Portland
Dorner, Herbert Carl, E fr.....Portland
Dorner, Robert Campbell, F fr.....Portland
Dorris, Barbara Elaine, H fr.....Medford
Dotson, Mable Leora, Ed gr.....Salem
Doty, Maxwell Stanford, Bot gr.....Eugene
Doty, Myron Everett, BAd so.....Portland
Dougherty, Ardythe Wilson, H gr.....
.....Hood River
Dougherty, Robert Watson, Non Maj gr....
..... Corvallis
Douglas, Dorothy Jean, SS fr.....Portland
Douhan, Margaret Elizabeth, Z sr..La Grande
Dow, Doris Azelia, H fr.....Portland
Dow, Kenneth William, A so.....
..... Great Falls, Mont.
Dowd, Jr., Morris Edwin, EE so.....Albany
Downie, Robert Elford, BAd fr.....Portland
Downing, Weldon Guy, A fr.....Elgin
Downs, Donald Eugene, LD so.....Portland
Drager, Jack Leroy, F fr.....Medford
Drake, Betty Lou, H so.....Klamath Falls
Drake, Donald E., Ed sr.....Heppner
Drake, Donald Lincoln, ME so.....
..... Shelton, Wash.
Drake, Ray Wilbert, A so.....Malin
Dresser, Ruth Margaret, SS so..Hood River
Driscoll, Peggy, H sr.....Jordan Valley
Drlica, Karl Francis, Ed sr.....Portland
Drummond, John Paul, F gr.....Logan, Utah
Drury, George Darrel, ME so..Cottage Grove
Drus, Virginia Lillian, SS so.....Portland
Drynan, Douglas Haig, LD so.....Portland
Duba, Harry Vern, E fr.....Corvallis
Dudley, Darle William, ME sr.....Salem
Dudrey, Jack Albert, LD so.....Bend
Duerst, Aileen M., SS sr.....McMinnville
Duerst, Rosyna Gwendolyn, SS fr.....
..... McMinnville
Duesk, Chares Clarence, IA so.....
..... Gladbrook, Ia.
Duffy, John Walter, ME so.....Portland
Duffy, Robert Timothy, E fr.....Bend
Dugan, Alvin Darrell, A fr.....Cottage Grove
Dugan, Charles Wayne, E fr.....Gardiner
Dugan, Jr., John Dallas, F fr..Cottage Grove
Dugan, Kenneth E., Bac so.....Gardiner
Dully, Evelyn Mildred, SS sr.....Portland
Dumdi, Roger Alan, A fr.....Carlton
Dumka, Jr., Joseph, EE so.....
..... Arrowwood, Alberta, Canada
Dunbar, Kay Lenore, LD fr....Klamath Falls
Duncan, Hazel Lucille, H sr.....Ontario
Duncan, James Clinton, F so.....Portland
Duncan, Jim Ed., A fr.....Eugene
Duncan, Julia, SS sr.....The Dalles
Duncan, Mirnie Mae, H fr.....Portland
Duncan, Ralph Williams, ME so.....Burns
Duncan, Robert, CE so.....Cove
Duncan, William Mac, ME jr.....Cove
Dunham, Jr. Charles Larned, SS so..Portland
Dunham, Dale William, A fr..Klamath Falls
Dunham, Dorothy Jean, H sr.....Portland
Dunkin, Mary Elizabeth, SS sr.....Portland
Dunlap, Richard Clayton, F jr.....Portland
Dunn, Edith Marie, LD fr.....Crescent
Dunn, John Elmo, A so.....Corvallis
Dunn, Leland Luverne, IA sr.....Eugene
Dunn, Leslie, H so.....Piedmont, Calif.
Dunn, Lester Clayton, F sr.....Corvallis
Dunn, Wallace W., Ed gr.....Alsea
Dunnavin, Ray Earl, EE so.....Myrtle Creek
Dunton, Willa Dawn, LD fr.....Molalla
Durand, Mary Frances, H jr.....Forest Grove
Durbin, Fred William, Sc sr.....Corvallis
Durbin, Sol, ME sr.....Corvallis
Durdan, Donald Edgar, Ed so.....
.....Eureka, Calif.
Durham, Ruth Ethelyn, LD fr.....Portland
Duruz, Margaret Ann, SS so.....Corvallis
Duruz, Paul Bernard, LD so.....Corvallis
Dustin, Dale, LD fr.....Oregon City
Dutton, Albert Hunter, LD so.....Portland
Dutton, Nancy Jean, SS so.....Portland
Dutton, Rhoda Maxine, SS sr.....Portland
Dutton, Shirley Mae, LD fr.....Portland
DuVall, Clyde Henry, LD so.....Banneville
Duvall, George E., LD so.....Portland
Dykeman, Jean Gordon, LD so.....
..... Vancouver, Wash.

Eagle, Marjorie Loretta, SS so.....Merrill
Eagleson, John Charles, F fr.....Eddyville
Eagy, William Lyle, A fr.....Corvallis

Eakin, Eleanor Lou, SS sr....Alameda, Calif.
Earl, Bobbie, EE jr.....Corvallis
Earl, Lora Lee, H fr.....Corvallis
Earl, Virginia, Ed jr.....Corvallis
Earle, Jim Douglas, BAd so.....Salem
Easson, Jane Lawson, LD fr.....Oswego
Eastman, Mildred Ellen, SS so.....Dallas
Easton, Archie Wayne, P sr.....Portland
Eastwood, Frank Nelson, A sr.....
..... Westminster, Calif.
Ebelen, Thomas Henry, A fr.....Baker
Ebeling, Dick Winfield, CE jr.....Portland
Echanis, Andrew, A fr.....Ontario
Echelbarger, Shirley, SS fr.....
.....Alderwood Manor, Wash.
Eckman, Lucile Evelyn, SS so.....Corvallis
Eddy, Lowell Perry, LD so.....Portland
Edin, Nils, A., F jr.....Corvallis
Edwards, Glenn Dwight, A gr.....
.....Cashmere, Wash.
Edwards, Labrot Bertram, E fr.....Portland
Eggiman, Merlyn William, A so..Oregon City
Eggimann, Forrest Ervin, A jr.....Boring
Eggleston, Alice Louise, H sr.....
..... Sacramento, Calif.
Egland, George Oliver, A gr.....Portland
Ehelebe, Carl F., F sr.....Portland
Ehelebe, Fred Albert, Ed so.....Portland
Ehlers, Dean Robert, SS fr.....Corvallis
Ehlers, Francis Edward, LD so.....Corvallis
Ehrhardt, Robert Paige, LD so.....
..... Spokane, Wash.
Eicher, George John, A sr.....
..... Bremerton, Wash.
Eikrem, Svante, ME jr.....Portland
Elder, Alan Wright, LD so.....Milwaukie
Elder, Rachel Anne, SS so.....Albany
Eldred, Marjorie Alice, H so.....
..... San Mateo, Calif.
Elgin, James Henry, LD fr.....Portland
Elgin, Robert Carlton, Ed jr.....Salem
Elkins, Lenore, H fr.....Molalla
Elkins, Macy Elaine, Ed so.....Molalla
Ell, Ben Roy, A sr.....Portland
Elle, Bruce Lloyd, Ph gr.....Portland
Elle, Helen Loe, SS sr.....Newport
Ellestad, Margaret Ann, H fr.....
..... Coalinga, Calif.
Ellingson, Sig Harold, E fr....Klamath Falls
Elliott, Dortha May, H jr.....Canyonville
Elliott, Edmond Neal, A sr.....Lakeview
Elliott, Herbert Glenn, Ed so.....
..... Myrtle Creek
Elliott, Lee Winifred, H jr....Oakland, Calif.
Elliott, Sidney Henry, A gr.....Redmond
Elliott, Thomas George, A fr.....Pilot Rock
Ellis, Earl Bruce, F fr.....Portland
Ellis, Ralph John, F so.....Beagle
Ellis, Ray Forge, F sr.....Corvallis
Ellison, Raymond Kenney, LD fr....Portland
Ellison, Thomas Winslow, G gr.....
.....Cleveland Hts, Ohio
Ellsworth. Elizabeth G., LD fr.....Portland
Elston, Chester, ME sr.....Hood River
Emberson, Channing Burton, A jr.....
..... Oakland, Calif.
Emerson, Charles L., EE so.....Portland
Emigh, Peter, F fr.....North Bend
Engblom, Harold Ray, A fr.....Independence
England, David Charles, Ch sr.....Eugene
Engle, John Franklin, E fr.....Portland
English, Charles Joseph, A so.....Portland
Enners, Evelyn Maxine, LD fr.....Corvallis
Ennes, June Elizabeth, SS jr.....
..... Rhododendron
Enz, Clark States, LD so.....Corvallis
Enzie, Walter Denton, A gr.....Geneva, N.Y.
Epplett, Louis Edward, Sc sr.....Milwaukie
Ericksen, Mary Louise, H gr.....
..... Tacoma, Wash.
Erickson, Carl Ralph, SS sr.....Portland
Erickson, Donald Leroy, SS sr.....Portland
Erickson, Donald Lindsey, Ch gr.....
.....Longview, Wash.
Erickson, Donald Raymond, A fr.....Hebo
Erickson, Dorothy Thelma, H jr.....Portland
Erickson, Edwin A., F jr.....Clatskanie
Erickson, William Peter, E fr.....Estacada
Eriksen, Harry Walter, LD so.....Portland
Eskola, Howard Henry, A fr.....Astoria
Essary, Geraldine Louise, H so.....Pendleton
Esselstrom, Claude Harrison, F sr..Reedsport
Estes, Donald Robert, F fr.....
.....Los Angeles, Calif.
Estey, Doris Rae, P jr.....Vernonia
Etter, Bill, A so.....Pilot Rock
Etter, Jack Elbert, A sr.....Pilot Rock
Ettinger, Ray Lester, A so.....Medford
Ettinger, Robert Lewis, A so.....Medford
Eubanks, Wallace Bernard, F fr.....Salem
Evans, Arlyn Wayne, Bot gr.....Mosier
Evans, Hazel Anne, LD so.....Sheridan
Evans, Jack Sylvester, Sc jr.....Corbett
Evans, Willis A., A sr.....Pasadena, Calif.
Evenden, Dorothy Elsie, Z sr.....Corvallis
Evenden, William, Bot gr.....Corvallis
Evensen, Paul, Ed fr....San Francisco, Calif.
Everman, Marjorie, H so.....Rainier
Everson, Paul Bennett, F sr.....
.....San Anselmo, Calif.
Every, Robert Wilson, Ent gr.....Corvallis
Ewing, John David, E fr.....Pendleton
Ewing, Park David, LD so....Klamath Falls
Eyman, Steven Jonathan, A so.....Canby
Eyolfson, Urlah Myrle, SS sr.....Portland
Ezell, Albert Iven, Ch jr.....Eugene
Fagan, Cornelius Peter, E fr.....The Dalles
Failing, James Frederick, LD so.....Portland
Fairclo, Marjorie, H jr.....Klamath Falls
Fairfield, Robert G., ChE jr.....Redmond
Fall, Harry Walling, ME jr.....Portland
Fanger, Archie Frank, E fr.....Medford
Farley. James J., A so.....Heppner
Farnsworth, Patricia, LD so.....Ontario
Farnsworth, Robert, A so.....Ontario
Farrar, Hilda Schwartz, H so.....Corvallis
Farrell, AlysBelle Feike, H sr.....Corvallis
Farrell, William King, A so.....Gateway
Farwell, Kenneth Butterick, P jr.....Amity
Faulkner, Henry Belle Joy, SS fr.....Albany
Fearey, Edmund Goddard, E fr.....Astoria
Fee, Jack Joseph, E fr.....Portland
Fehler, Clair LeRoy, SS so.....Corvallis
Fehr, Marshal William, SS so.....Portland
Feikert, Daniel H., CE jr.....Portland
Feldkamp, Wilma Pauline, SS fr....Roseburg
Feldstein, Cyril, Ph gr.....Corvallis
Feller, Charles Robert, ME jr.....Marshfield
Fellman, Lennart, P fr....Beverly Hills,Calif.
Fellows, Dean Claude, F so.....Portland
Fendall, William Gray, Ed sr.....Corvallis
Fender, Dorothy McKey, Ent so.....
..... McMinnville
Fender, Marshall Maurice, F fr.....Prineville
Fenger, Arnold Carl, A sr.....Boring
Fenner, John Benjamin, SS sr.....Portland
Fenner, John Buhl, CE so.....Philomath
Ferguson, George Edward, E fr..Marshfield
Ferguson, Phyllis Jean, SS so.....Oswego
Ferguson, Robert Crawford, LD fr..Portland
Ferguson. Ruth Virginia, LD fr.....Gervais
Fernan, Dorothy Anne, P fr.....Corvallis
Fernan, Genevieve Merilyn, SS so....Corvallis
Ferris, Gordon Robert, LD so.....
..... Cosmopolis, Wash.
Ferris, Kathryn Leola, Sc so.....Portland
Ferron, Jack Edward, IA jr.....Corvallis

Fetterman, John Manley, P so.....Tillamook
Fety, Rodney O., F jr.....Portland
Ficken, Arthur John, F sr.....Juneau, Alaska
Field, Donald Edgar, Ed so.....Medford
Fielder, Jr. Benton, F so.....Berea, Ky.
Fields, Barbara Jane, SS so.....Richland
Fields, Elinor Hamilton, H fr.....Portland
Fillmore, Morton, F jr.....Salem
Findlay, Donald Gramham, E fr.....Portland
Finley, Constance Catherine, LD so..Corvallis
Finley, Marvin Harold, Ed so.....Tigard
Finney, Ruth Elizabeth, SS fr.....Hood River
Fischer, Lois Wilbur, ME so.....Portland
Fischer, Reuben Raymond, Ed gr....Portland
Fish, Edward Corydon, A so.....Eugene
Fish, Robert, A so.....Eugene
Fisher, Lauren, CE sr.....Portland
Fishler, Donald William, A so.....Corvallis
Fisk, Charles M., LD fr.....Albany
Fisk, John Stanley, A so.....Milton
Fitcha, John Halsan, A fr.....Astoria
Fitzgerald, Duane Stanley, F sr.....Coquille
Fitzgerald, Gerald Arthur, F so.....Gold Hill
Fitzpatrick, Paul Edward, E fr.....Tillamook
Fitzpatrick, Robert James, E fr.....Portland
Fitzwater, Bruce Clemence, ME so..Portland
Fix, Vernice Elizabeth, H so.....Hermiston
Fixott, Rupert Edward, LD fr.....Portland
Fleming, Hugh B., EE so.....Milwaukie
Fleming, Jack R., A fr.....Milwaukie
Fleming, Mac Lee, A jr.....Fairview
Fletcher, Robert O., A so.....Eugene
Fletcher, William H., A so.....Enterprise
Flint, Marjorie Louise, H sr.....Grants Pass
Flint, Marybel R., Sc jr.....Beaverton
Floberg, Ralph Donald, F jr.....La Grande
Flood, Elizabeth Jean, Ed sr.....Corvallis
Flood, Eugene H., BAd so.....Pendleton
Flood, Gerhard R., Ed gr.....Westport
Floyd, Jack Wesley, IA jr.....Corvallis
Floyd, Willie Jean, H fr.....Corvallis
Flye, Richard Alden, P fr.....Sheridan
Flynn, Dorothy Naomi, SS fr.....Medford
Flynn, John Millis, A so.....Lakeview
Flynn, Margaret Teresa, SS sr.....Lakeview
Flynn, Noel B., P so.....Lakeview
Fogle, Mack C., A fr.....Bandon
Foley, Edward Michael, ME jr.....Portland
Fong, Dan Chuck, E fr.....Portland
Fong, Daniel King, ME jr.....Portland
Foote, Robert Cross, F fr.....Portland
Forbes, Andrew, A so.....Portland
Forbes, Betty, SS sr.....Portland
Forbes, Stuart Gordon, EE jr.....Portland
Forbis, Truman Fenton, SS fr.....Lebanon
Ford, Dean Wallace, F so.....Medford
Ford, Thayle Morgan, A jr.....Medford
Fordham, Gerald Worth, BAd fr.....Lebanon
Foreman, Betty Lou, LD fr.....Monroe
Forest, Barbara Joan, H so.....Salem
Forman, Tillman Leroy, BAd so.....Boring
Forman, Virginia, H so.....Yuma, Ariz.
Forrey, Robert Henry, LA fr.....Lebanon
Forsgren, Ruth Alice, SS fr.....Portland
Forsteman, Donald T., SS so.....Astoria
Forster, Jessie Elizabeth, Sc so.....Lebanon
Forster, Mabel Ada, H so.....Albany
Foss, John Austin, BAd so.....Moro
Foss, Regis Henry, LD so.....Corvallis
Foss, William Everett, E fr.....Portland
Foster, Arthur Lee, E fr.....Portland
Foster, Catherine Grace, SS sr.....Portland
Foster, Malcolm Eugene, A so.....Ashland
Foster, Theone Vivian, SS sr.....Dallas
Foster, Walter Windfield, LD so..Clackamas
Foster, William Phineas, Ed sr.....Monmouth
Fout, Constance Auzerais, H jr.....
..... Palo Alto, Calif.
Fowler, Betty Jean, SS so.....Medford
Fowler, Franklin Willard, F fr.....Portland
Fox, Betty Ann, P so.....Corvallis
Fox, Esther May Hansen, Ed jr.....Portland
Fox, Eugene Bryant, LD so.....Corvallis
Fox, Harold Orman, LD fr.....Freewater
Fox, Henry Clayton, A jr.....Imbler
Fox, Mary Rees, LD so.....Portland
Fox, Milton Merle, Sc sr.....Salem
Fox, Perry Grant, F fr.....Caves Junction
Foxford, Lawrence Herbert, Bac jr.....Bend
Frakes, Jacqueline Stevenson, H sr.....
..... Portland
Fralick, Katharine Ann, SS fr.....Portland
Francis, Anne E., SS so.....Portland
Francis, Donald Sachse, E fr.....Portland
Francis, Marjorie Elizabeth, LD so..Portland
Francis, Paul Gordon, BAd so.....Portland
Francisco, Clifford Franklin, SS fr.....
..... Corvallis
Frank, Charlotte Elizabeth, H sr.....Portland
Franklin, Arthur, LD fr....Longview, Wash.
Frantz, Dorothy June, SS fr.....Portland
Franzen, Edwin J., Ed gr.....Eugene
Fraser, Alan Raymond, A so.....Moro
Fraser, Robert William, A sr.....Portland
Fraser, Ronald Marlow, A fr.....Portland
Fraser, Virginia, H fr.....Portland
Fraser, William Lyman, ChE so.....Albany
Frasier, George Lewis, F fr.....Keno
Frederickson, Donald Eugene, LD fr.....
.....Hoquiam, Wash.
Frederickson, Florence Aileen, H so.....
..... Corvallis
Free, Martha Eileene, H fr.....Portland
Freed, Cleo Samuel, IA so.....Corvallis
Freed, Henry William, F jr.....Corvallis
Freed, Hilda, P so.....Corvallis
Freed, Virgil Haven, A fr.....Knappa
Freeman, Jay Norton, E fr.....Eugene
Freeze, Alice Lorraine, Sc sr.....Portland
Freiwald, Alfred Corran, F so.....Beaverton
French, Barbara Ellen, Sc jr.....Baker
French, Frances Louise, SS jr..Prairie City
French, Robert Pease, ME jr.....Portland
Fretwell, Lloyd Gratten, F sr.....Portland
Frick, John Henry, ME so.....Portland
Fridley, Catherine Beatrice, A fr.....Wasco
Friedrich, Alvin Bernard, A sr.....Mulino
Frisbie, Harold Raymond, ChE so.....
..... Hood River
Fromm, Conradine, Ed gr.....Albany
Frost. Muriel May, H so.....Newberg
Froude, Carl Julius, F jr.....Portland
Fry, Maralee, SS jr.....Grants Pass
Frye, Jean, SS so.....Birmingham, Ala.
Fuchs, Albert Alfred, A jr.....Newberg
Fugate, Arden Donald, LD fr.....Merrill
Fugate, Raymond Harper, IA sr.....Oswego
Fulker, Lawrence Robert, EE so....Arlington
Fuller, Hardick Harold, BAd so....Corvallis
Fuller, Junette Louise, SS so.....Corvallis
Fuller, LeRoy Ernest, A fr.....Ontario
Fuller, Vivian Darlene, SS so.....Moro
Fulton, Charles Kenneth, F gr.....Corvallis
Fulton, Helen Carmen, Bot gr.....Corvallis
Funke, Dorothy Arline, SS jr.....Bend
Furber, Lewis Edgar, A fr.....Midland
Futter, Vernon Francis, A so.....Moro

Gabriel, James, F sr.....Portland
Galbraith, Margaret, H fr.....
..... Vancouver, Wash.
Galbreath, Thelma, Sc jr.....Sherwood
Gallagher, Doris, H fr.....Corvallis
Gallagher, James, ChE jr.....Corvallis
Gallagher, Kenneth, ChE sr.....Salem
Gallaher, Evan, A fr.....The Dalles
Gallien, Jean, H sr.....Portland
Galligan, Mary, H sr.....Chula, Calif.

Gallo, Tom, F so.....Cottage Grove
Gamwell, James, SS jr.....Powers
Ganger, William, E fr.....Pendleton
Gannon, Harry, E fr.....Portland
Gardner, James, E fr.....Glendale
Gardner, John, F so.....Portland
Gardner, Royal, IA jr.....Hillsboro
Gardner, Theodore, LD fr.....Hillsboro
Garland, Virginia, H fr..Menlo Park, Calif.
Garlock, June, H sr.....McMinnville
Garmire, Francis, E fr.....Canby
Garnjobst, Henry, SS sr.....Corvallis
Garnjobst, William, LD fr.....Corvallis
Garris, Eldon, F fr.....Gaston
Garvik, Donald, F so.....Bend
Garvin, Albert, LD so.....Portland
Garwood, LeRoy, F fr.....Eugene
Gaskill, Warren, ChE fr.....Albany
Gates, Avon, H so.....Elkton
Gates, Clarice, SS sr.....Portland
Gates, Ernest, A so.....Portland
Gates, John, ME jr.....Portland
Gates, John Ralston, F fr.....Corvallis
Gates, Ruth Adele, H fr.....Redmond
Gauthier, William D., Ed so.....Cove
Gavin, Patrick Arthur, LD so.....Portland
Gayer, Michael Paul, IA so.....Butte, Mont.
Gaylord, Eleanor Holbrook, H sr.....Portland
Gearhart, John B., ChE jr.....Myrtle Point
Gee, Wing Choi, ChE fr....Vancouver, B. C.
Geer, Marvel Levi, F fr.....Cottage Grove
Gehrs, Louise Alta, SS sr.....Portland
Gehrs, Virginia Olive, SS so.....Portland
Geiger, Edward Joseph, F jr.....The Dalles
Geil, Anita June, SS sr.....Portland
Geil, Louis Richard, F sr.....Corvallis
Geimer, Leon Stanley, A fr.....Portland
Gelbrich, Louis Charles, E fr.....Bend
Gelford, Irvin Lyons, LD so.....
..... Los Angeles, Calif.
Gensman, Lee Robert, ME so.....Portland
Gent, William Harold, A so.....Enterprise
George, Paul Howard, A so.....Corvallis
George, Robert Dale, P fr.....Baker
George, Ruth May, H sr.....Corvallis
Geren, Donald, A fr.....Scotts Mills
Geren, Walter, F jr.....Scotts Mills
Gergen, Frank Wilcox, E fr.....Boring
Gerhard, Walter Franklin, E fr.....Medford
Gerking, Harold Charles, A sr.....Pendleton
Gerlach, Benjamin Felton, CE jr.....Tigard
Gerow, Theodore Mannville, E fr....Portland
Gerry, James Roland, SS fr.....Haines
Gerttula, Jalmar Richard, A sr.....
..... Brownsmead
Gerttula, Kenneth Eugene, A jr.....
..... Brownsmead
Getz, Jr., Horace Eschelman, ChE fr.....
..... Klamath Falls
Geyer, Robert Wendell, LD so.....Corvallis
Gibson, Arnold Gervase, F jr.....Merlin
Gibson, Robert C., LD fr.....Junction City
Gibson, Victor Emery, LD fr.....Salem
Gies, Carl Parker, ChE so.....Salem
Giffin, Daniel Anthony, E fr.....Eugene
Gilbert, Constance Marguerite, LD fr..Canby
Gilbert, Edward Eugene, A sr..Nampa, Ida.
Gilbert, Eldon J., Sc sr.....Corvallis
Gilbert, Francis Palmer, F jr.....Portland
Gilbert, Henry Leonard, LD so.....Corvallis
Gilbert, Jim W., E fr.....Portland
Gilbert, Vernon Richard, Sc sr.....Portland
Gilkey, Grace Irene, H sr.....Salem
Gilkey, Helen Esther, SS so.....Salem
Gilkey, James Laurence, F so.....Dayton
Gilkey, Richard Wallace, Sc so.....Dayton
Gill, Mary Ellen, H so.....Newberg
Gillespie, Donald Ray, E fr.....Medford
Gillette, Jean, H sr.....La Verne, Calif.
Gilliam, Louis Leonard, F so.....Heppner
Gillmor, Robert Emery, EE so.....Moro
Gilmore, Geraldine Faith, LD fr.....Corvallis
Gilpin, John Ashbrook, Sc sr.....Portland
Gilpin, William Roderick, CE so.....Portland
Gish, Forrest Reid, A so.....Portland
Gittings, Grace Edith, SS sr.....Prineville
Giustina, Natale Bernard, ME jr.....Goshen
Glaisyer, Herbert Bernard, CE jr.....Salem
Gleeson, (Mrs.) Barbara Ann, SS sp.....
..... Corvallis
Gleeson, Joyce Elaine, LD so.....Portland
Glenn, Oliver Steele, ME sr.....Salem
Glibert, Stanley Mellish, E fr.....Portland
Glover, Fred Arthur, A jr.....Klamath Falls
Glunz, Leon Alvin, F so.....Brownsville
Glynn, Jack Kenneth, LD fr.....Beatty
Gnos, Joe Herbert, A sr.....Hillsboro
Godard, J. Burrell, ME jr.....Tillamook
Godard, Lauren Francis, F so.....Tillamook
Goddard, Arthur Winn, LD so.....Portland
Goddard, Robert Dean, Ed fr.....Portland
Godfrey, William Thomas, EE sr.....Portland
Godsey, Laurence Gordon, E fr.....Estacada
Goffard, Joseph William, ChE fr.....Portland
Goin, Wilma Agnes, SS fr.....Toledo
Goldsmith, Betty Ann, H gr.....Forest Grove
Goldstien, Charles J., F fr.....Portland
Goldy, Ben, EE sr.....Ashland
Goman, Edward Gordon, Ed fr.....Albany
Gomes, Betty Jean, SS fr.....Portland
Good, Renald Vance, ChE so.....Lowell
Goodrich, Elwood Johnny, SS sr.....Portland
Goodrich, Esther Doris, H gr.....Philomath
Goodwin, Marjory, H so.....Manteca, Calif.
Goodwin, Robert C., A fr.....Portland
Goodyear, Elvin Earl, SS so.....Pendleton
Goodyear, Hal Eugene, F so.....
..... Weaverville, Calif.
Gorbould, Robert Clarence, Ed so.....
..... Long Beach, Calif.
Gordon, Erma Beatty, Ed gr.....Corvallis
Gordon, Florence Adeline, P fr.....Hillsboro
Gordon, Norma Esther, H sr.....Helix
Gordon, Wallace Eric, EE jr.....Dufur
Gorman, Ralph Stoddard, ChE fr.....Baker
Gorril, Charles Hatherly, A so.....
..... Oakland, Calif.
Gorton, William Winfield, A gr.....Corvallis
Gory, Eddie Ray, AA so.....Portland
Gosney, Clyde Albert, A so.....Marshfield
Gould, Earl Elmer, G jr.....Allegany
Goyette, Willard Ernest, A so.....Eugene
Grabenhorst, Anna Mae, H so.....Salem
Graef, Frances Louise, SS jr.....Oswego
Graf, Therese Anne, LD so.....Corvallis
Grafe, Herman Le Roy, E fr.....Idanha
Grafe, Willis Raymond, IA fr.....Idanha
Graff, Russell Milon, ChE jr.....Hood River
Grafton, Barbara J., LD fr.....Malin
Gragg, Maribeth Lucille, SS jr.....Baker
Graham, Howard Edward, Ent jr.....
..... La Grande
Graham, John McIntyre, P sr.....Portland
Graham, Marion E., LD so.....Albany
Gramms, Grace Miriam, SS jr.....Astoria
Granat, Karl Henry, F so.....Portland
Grant, Catherine Elizabeth, Ed fr....Portland
Grant, Eugene Frederick, EE jr.....
..... Modoc Point
Grant, Mary B., BAd sp.....Portland
Grant, Mona Berenice, H so.....Corvallis
Grauer, John Foerste, J so.....Beaverton
Graves, Elizabeth, H so.....Toledo
Graves, Jack Pittman, A so.....Salem
Gray, Jr., Arthur Edwin, F fr.....Leaburg
Gray, Eugene Roy, A so.....Portland
Gray, James Latimer, AA so.....
..... Juneau, Alaska

Gray, John Delton, SS sr.....Corvallis
Gray, Philip Richard, A sr.....Junction City
Gray, Phyllis Bernadene, H so.....Seaside
Gray, Robert Roe, LD fr.....Corvallis
Gray, Waldo, LD so.....Grants Pass
Green, Harry Gordon, E fr.....Portland
Green, Herman George, A so.....Portland
Green, John James, E fr.....Klamath Falls
Green, Robert Fairbanks, F so.....Portland
Green, Stanley Adair, Ed gr....Junction City
Green, Stewart Garrison, CE so.....Portland
Greendale, Irene Mary, H fr.....Portland
Greenough, Quentin Carl, Ed so.....
..... San Gabriel, Calif.
Greenwood, Dorothy Margaret, SS sr.....
..... Wemme
Greenwood, Mary June, H fr.....Wemme
Greiling, Ralph Delmar, EE so.....Portland
Grell, Delman Gene, A fr.....Albany
Gresham, Evelyn Laverne, SS sr.....Nehalem
Gribbin, Frankie Eleanor, SS so.....
..... Weiser, Idaho
Griebeler, Wilbur Lewis, A jr.....Gaston
Griffin, Geoffrey, LD fr.....Pendleton
Griffith, Carl Thornton, LD so.....Burns
Griffith, John Elwyn, A fr.....Corvallis
Grimes, James Henry, ME so..Central Point
Grimes, John Keith, A sr.....Harrisburg
Grimes, Virgene, H jr.....Bend
Grimshaw, Ray Marshall, BAd fr....Portland
Grimstad, Frances, SS so.....Astoria
Grise, Dorwin Edward, CE so.....
..... Klamath Falls
Griswold, Judy Jaynes, H sr.....Corvallis
Griswold, Robert, Jr., Loring, SS so.....
..... Corvallis
Groce, Jack Francis, LD fr.....Portland
Groshong, James Willard, LD so.....Corvallis
Groshong, Robert James, A sr.....Albany
Gross, David Frederick, ME so.....Corvallis
Gross, Eileen May Kinney, SS so..Corvallis
Gross, James Howard, F fr..La Jolla, Calif.
Gross, Wendell Albert, A sr.....Halfway
Gross, William Ellis, F sr.....Halfway
Grout, Benjamin, F so.....Portland
Grubb, Wayne Charles, Ed gr.....Corvallis
Gubser, Cecil Ennis, A sr.....Oswego
Gubser, Dorothy Mae, H so.....Oswego
Guenther, Lloyd M., ChE so.....Hillsboro
Guerber, Norman L., A so.....Corvallis
Guerrant, Evelyn Anne, H fr.....Pendleton
Guinn, Alice Jane, LD fr.....Fossil
Gullixson, Richard Lawrence, LD fr.....
..... Portland
Gunderson, Norman, A so..Bremerton, Wash.
Guptill, Kenneth Edmund, E fr..Oregon City
Gurley, Wayne, F gr.....Canby
Gurwell, George Leslie, LD so.....Seaside
Gustafson, Fred Darold, G sr.....Portland
Gustafson, Reginald Leland, P fr.....Portland
Guthrie, Joseph Leroy, ME so.....Salem
Gutze, Dorothy Paula, Ed jr.....Portland
Guyer, Muriel Jean, H fr.....Gaston
Guyer, Ranell Clifford, F so.....Baker

Haag, John William, A so.....Warrenton
Haag, Hope, H jr.....Corvallis
Haas, Iola R., P so.....Sheridan
Hachler, Frank Eugene, A so.....Maupin
Hackenbruck, John Anthony, A jr.....
..... Corvallis
Hackleman, Virginia Elaine, LD so....Albany
Hackney, Phyllis Leona, H so.....Burns
Hadwen, Susanne Gaylard, H so.....
..... Duncan, B. C.
Hagen, Gordon William, A so.....Bend
Hager, Harriet Elizabeth, SS so.....Heppner
Hahn, Robert Eugene, Ch sr.....Corvallis
Hainz, Florence Creszentia, H fr.....Lebanon
Hale, Gordon Hayes, F sr.....Eugene
Haley, Iola Louise, H jr.....Malin
Haley, James Frederick, EE sr.....Seaside
Haley, Kent Lambert, Ed sr.....Corvallis
Haley, Lucile Lathrop, SS sr.....Portland
Halfhill, Donald Wesley, ME jr.....Ashland
Hall, Donald Gary, ChE fr..Olympia, Wash.
Hall, Norman Elmon, SS so.....Portland
Hall, Robert Murray, A so.....Ontario
Hall, Stacy Berchard, F fr.....
..... San Francisco, Calif.
Hall, Virginia Laura, LD so.....
..... Arcadia, Calif.
Hallberg, Donald Oscar, A jr.....
..... Sebastopol, Calif.
Hallberg, Robert John, A so.....
..... Sebastopol, Calif.
Haller, Ellen Ruth, LD fr.....Portland
Haller, Eugene James, Ent gr.....
.....Sault Ste. Marie, Mich.
Hallin, George Hugo, F fr.....Lyons
Hallmark, William Lewis, ME so.....Cove
Hallock, Richard John, A fr.....
..... National City, Calif.
Halverson, William Meral, ME so..Portland
Hamacher, Helen Ann, H so.....Corvallis
Hamer, Austin Frank, A so.....Corvallis
Hamilton, Alice Billie, A so.....Portland
Hamilton, Libby Jane, Ed jr..Central Point
Hamlin, Willard Andrew, LD fr....Corvallis
Hamm, Gayle Ardis, SS fr.....Salem
Hamm, Trepha Mae, H fr.....Philomath
Hammack, Brice Levi, F jr....Yreka, Calif.
Hammack, Ross Robert, IA so.....Lostine
Hammer, John Gordon, LD fr.....Portland
Hammer, Leo Ray, E fr.....Salem
Hammers, Lewis Angle, Ed so....Harvey, Ill.
Hampton, Dorothy Ann, SS fr.....
..... Bellingham, Wash.
Hampton, Elizabeth Anne, LD fr.....Astoria
Hampton, Robert Stephen, ME so..Pendleton
Hampton, William Harold, Ed jr.....Portland
Hanchett, Warren Crawford, F so..Corvallis
Hancock, Keith Ogden, F sr.....Portland
Hancock, Margaret Lee, H so.....
..... New Meadows, Idaho
Hand, Jr., Howard Willis, E fr.....Corvallis
Hand, Jean, SS so.....Corvallis
Handelin, Charles Boyd, ChE fr..Marshfield
Haneke, Grace Emma, Ed so.....La Grande
Haney, Edward George, IA fr.....Seaside
Haney, Jr., Guy, LD fr.....Seaside
Hanley, James David, ME so.....Baker
Hann, John Herbert, F jr.....Otter Rock
Hanna, Frances Ellen, SS fr.....Pendleton
Hannam, James Lee, Bac gr.....Portland
Hannaman, Jack Walter, E fr.....Salem
Hannan, Helen Anna, H fr.....Portland
Hanneman, Eugene Doerfler, F so....Portland
Hanscom, June Meredith, SS fr.....Portland
Hansell, Jack Wesley, A fr.....Salem
Hansen, Charles D., LD fr....Norman, Nebr.
Hansen, Charlotte, H so.....Portland
Hansen, Clay Henry, F so.....Davis, Calif.
Hansen, Everett Albert, ChE sr..Marshfield
Hansen, Harvey Edwin, F so.....Prineville
Hansen, Irene Ruth, H fr.....Portland
Hansen, John Preston, A so.....Portland
Hansen, N. John, A jr.....Portland
Hansen, Robert William, Ch so.....Astoria
Hansen, Victor Anker, E fr.....Hood River
Hanson, Jean Elizabeth, H so..Forest Grove
Hanson, Richard Milam, LD so....Corvallis
Hapke, Leon, F so.....Portland
Happold, Betty Marie, LD fr.....Heppner
Harber, Alvin B., A fr.....Salem
Hardie, Waldo Richard, Ch sr.....Eugene
Hardman, Lawrence Eddy, A fr.....Portland

Hardman, Margaret Roberta, H jr.....
.....Vancouver, B. C.
Hardy, Dorothy June, SS fr.....Corvallis
Hardy, John Lyman, E fr.....Portland
Hardy, Thomas Austin, LD so.....Corvallis
Hargood, Adeline Beatrice, H so.....Portland
Hargrove, Chester Jack, SS sr.....Corvallis
Harley, Edward Livingstone, F fr.....
.....Albuquerque, New Mexico
Harnisch, Merceil Echo, H so.....Albany
Harper, Herbert Ewing, Sc jr.....Medford
Harper, Jim Arthur, A sr.....Houlton
Harper, Ralph, Ed fr.....Portland
Harper, Thomas J., A jr.....Junction City
Harrang, Arnold Kenneth, A sr.....Foster
Harriman, Bill, A fr.....Lakeview
Harrington, Betty Jean, LD so....Marshfield
Harrington, Corrine Meyer, H jr.....
..... Bozeman, Mont.
Harris, Alice Caroline, H so.....
.....Penticton, B. C.
Harris, Harriet Louise, H so.....Corvallis
Harris, Irwin Cecil, Ed jr.....Corvallis
Harris, Mal E., F sr.....Glendale, Calif.
Harris, Maxine Eleanor, SS so.....Portland
Harris, Raymond Dale, F fr.....Portland
Harris, Richard Irving, P fr.....Ontario
Harris, Robert Leslie, ChE jr.....Roseburg
Harris, Rolland Williams, ME so.....
..... Piedmont, Calif.
Harris, Russell James, IA so.....Corvallis
Harris, Willotta Ellen, H jr.....Willamina
Harrison, Catherine Ellen, H fr.....Gresham
Harrison, Dorothy M., H fr.....
.....Drumheller, Alberta, Canada
Harrison, John William, E fr.....Portland
Harrison, Lyle F, sr.....Corvallis
Harrison, Wallace, SS so.....Portland
Harry, George Yost, A sr.....Portland
Harstad, William Cooper, LD fr.....Milton
Hart, Gladys Irene, SS fr.....Roseburg
Hart, Thomas Mathew, ME so.....Nehalem
Hartley, Gordon Ernest, ME so.....Chitwood
Hartman, Junior LeRoy, LD fr.....
..... Independence
Hartwell, Milton Ellsworth, EE so.....Salem
Hartwig, Jr. Otto Robert, ChE so..Portland
Hartzog, David Henry, A sr.....Lakeview
Harvey, Dale, F sr.....Oakland
Harvey, Edward Winslow, A gr.....
..... Amherst, Mass.
Harvey, Eugene Glen, E fr.....Molalla
Harvey, James Eldon, A fr.....Pendleton
Harvey, Jerry, SS jr.....Portland
Harvey, Margaret Jean, P sr..Klamath Falls
Harvey, Thais L., SS fr.....Paisley
Harvie, David Harrison, Ed gr.....Albany
Harwood, Eugene William, A sr.....
..... St. John, Wash.
Hashitani, Roy R., A jr.....Nyssa
Haskell, William Lantz, A sr.....
..... Los Angeles, Calif.
Hassler, LeRoy James, A so.....Corvallis
Hatch, Roscoe Baldwin, E fr.....Falls City
Hatfield, Arlie Laurence, Ed gr.....Corvallis
Hatfield, Roy Virgil, A fr.....Roseburg
Hathaway, James Robert, A fr.....Halsey
Haughton, Mason Charles, A so.....Portland
Hauser, Kenneth Douglas, E fr.....Portland
Havenner, Joseph E., ChE sr.....Corvallis
Hawkins, Donald David, A fr.....Adams
Hawkins, Margaret Mary Jane, LD fr.....
..... Adams
Hawkins, William Francis, E fr.....
..... Fort Stevens
Hawley, Joaquin Philip, Sc jr.....Eugene
Haworth, David Wallace, E fr.....Portland
Haworth, Evelyn Mae, Ed jr..Parma, Idaho
Haworth, Virginia Maxine, SS jr....Portland
Hay, Betty, H sr.....Portland
Hayden, Alice Lanore, Ed so.....Estacada
Hayden, Elmo Fremont, Ed so.....Estacada
Hayden, Emmett Bush, LD so.....
..... Klamath Falls
Hayden, James Edward, ME jr.....Ontario
Hayes, James M., Ed so.....
..... Sacramento, Calif.
Hayes, Margaret Louise, H so.....Brooks
Hayes, Jr., Thomas Lloyd, LD so..Portland
Haynes, Gordon Keith, BAd fr.....Yamhill
Hays, Jr., Lewis Tompkins, F so....Portland
Hayworth, Margaret Chloe, SS so.....
..... Harrisburg
Hazeltine, Helen Carral, H so....Hood River
Heacock, Mary Pauline, H jr.....Boring
Healy, Robert James, ME sr.....Portland
Heath, Colis, F fr.....Lyons
Heath, Harriette Ann, LD fr.....Corvallis
Heckard, Jr., Roy Earnest, LD fr.....Seaside
Hector, Milton Thomas, E jr.....Corvallis
Hedberg, Kenneth Wayne, LD so....Corvallis
Hedeen, Lester Culver, ChE so.....Portland
Hee, Mew Sin, H fr.....
..... Waimea, Kanari, Hawaii
Heerdt, Martin, A sr.....Portland
Hegardt, Harry Newton, A fr.....Redmond
Hehnke, H. Beula, LD so.....Corvallis
Heid, Philip Staley, G so.....Portland
Heidrich, Bill Edmond, A fr..Sprague River
Heimann, Howard Henry, E fr.....Corvallis
Heimerdinger, Robert Eugene, SS jr.....
..... Lebanon
Heinemann, Virginia Elizabeth, SS fr.....
..... Portland
Heinonen, Philmore Alfred, P jr.....Amity
Heinonen, Raymond Gilbert, A fr.....Amity
Heintzelman, Stuart Winfield, F sr.....
..... Glendale, Calif.
Heisel, Manville Marion, LD so....Tillamook
Heitert, Charles Daniel, E fr.....Portland
Held, Bernice Jenette, SS jr.....Corvallis
Held, (Mrs.) Mary Jeannette, H so.....
..... Corvallis
Helenius, Elmer Harold, A jr.....Portland
Helstrom, John Edward, A fr.....Astoria
Hembree, Mary Jane, SS fr.....Lafayette
Hemingway, George Danforth, ME so.....
..... Astoria
Hemingway, John Stewart, ME so....Astoria
Henderson, Francis Myron, F jr....Corvallis
Henderson, George D., LD so.....Albany
Henderson, Jean Elaine, H fr.....Corvallis
Henderson, Mary Adelaide, H fr.....Houlton
Henderson, Robert William, SS so..Portland
Henderson, Robert W., F gr.....Moro
Hendrix, Ralph Wilson, E fr.....Alsea
Hennigh, David Edgerton, A so.....Corvallis
Henninger, Carl J., LD fr.....Portland
Henningsen, Theodore Orvald, LD fr.....
..... Astoria
Henny, Joseph, A fr.....Brooks
Henrichs, Lloyd Vernon, A sr.....Moro
Henrickson, Otto Elmer, LD fr.....
..... Estacada
Henry, Gilbert Edward, SS sr..Garden Home
Hentze, Merle Leland, A so.....Junction City
Heppeard, John Alexander, LD fr..Portland
Herberger, Robert Darrell, A so..Canyon City
Hering, Carl, ChE sr.....Portland
Herman, Mary Virginia, H sr.....Portland
Herman, Muriel Lucille, H fr.....Bandon
Hermann, E. Earl, A fr.....La Grande
Herrala, Carlo Oscar, ME jr.....Portland
Herrall, Charles William, IA so....Portland
Herron, Barbara Spencer, H so.....Eugene
Herron, Richard M., ME so.....Portland
Hershey, Bessie Arlene, SS fr.....Corvallis

Hershey, Dee Veere Leon, A so.....Corvallis
Hershey, Jennie Alice, SS fr.....Corvallis
Herz, Glenn Edward, ME so.....Yamhill
Hess, Harold Omar, LD fr.....Corvallis
Hess, Marion Helen, H so.....Jefferson
Hetherington, Jeanne Ellyn, LD fr.....
..... Oakland, Calif.
Hewitt, Irva Jean, SS sr.....Corvallis
Hiatt, Lloyd Rex, ME jr.....Ontario, Calif.
Hibbs, Nelson Wentworth, ChE fr....Portland
Hickey, Marie Louise, H fr.....Portland
Hickman, Richard Dene, A fr.....Portland
Hickok, Elaine Audrey, SS so.....Portland
Hicks, Arthur Barney, E fr.....Portland
Higbee, V. Byron, A jr.....Tillamook
Higgins, John Richard, Sc so.....Baker
Highland, Richard William, Ed sr.....Bandon
Hildebrandt, Arnold Emil, A jr.....Sheridan
Hildebrant, Louis Howard, E fr....Silverton
Hill, Dorothy M., Ed sr.....Baker
Hill, Harry Pershing, SS so.....Oswego
Hill, Marie Jeannette, SS fr.....Portland
Hill, Richard Allan, E fr.....Corvallis
Hill, Robert Munger, Ed sr.....Hood River
Hill, Roy William, LD so.....Hubbard
Hill, Russell, A sr.....Wheeler
Hillis, Robert H., SS fr.....Brownsville
Hillway, Virginia Dorothea, H so..Corvallis
Hilton, Duncan Earl, LD so.....Corvallis
Hilton, Elizabeth McKay, LD fr....Corvallis
Hinkle, Walter Berkley, A so.....Portland
Himelwright, Alice Jane, SS so.....Corvallis
Himelwright, Ilda Ruth, LD fr.....Corvallis
Himmel, Glenn Ernest, ChE sr.....Salem
Himmelright, John Ramsdell, E fr.....
..... Beaverton
Hines, Lee Myrl, A so.....Beaverton
Hinricks, Shirley Vivian, SS so..Hood River
Hirstel, Robert, SS sr.....Portland
Hoaglund, Robert Jene, AA fr.....
..... Central Point
Hobart, Wilbur Eugene, A fr.....Woodburn
Hobbs, Elizabeth Anne, Ed sr.....Portland
Hocken, John Allyn, SS sr.....Corvallis
Hockersmith, Keith Neil, A sr.....Beagle
Hodes, Lewis, ME sr.....Portland
Hodes, Louise Esther, LD fr.....Corvallis
Hodges, Marguerite Virginia, H fr.....
..... Cottage Grove
Hodges, Nelson Andrews, A so.....
..... North Hollywood, Calif.
Hodgin, Sylvia Lee, H sr.....La Grande
Hoefer, Viola Grace, Ed fr.....Albany
Hoerner, Richard Hollis, LD so....Corvallis
Hofeldt, Vaughn Harold, F jr.....Portland
Hoffman, George Robbins, ChE so.....
..... Multnomah
Hoffman, Jane Bartron, SS so.....Roseburg
Hoffman, Robert A., A so.....Portland
Hofsted, Eugene Albert, F so.....Portland
Hohmann, Emma Marie, LD so.....
..... Cottage Grove
Holaday, Oro Rozella, Ed sr.....Corvallis
Holbrook, Ruth, Bot jr.....Corvallis
Holcomb, Barbara Katherine, H fr....Portland
Holcomb, George Noble, A so.....Richland
Holcomb, Helen Lurley, PE fr.....Richland
Holcomb, Shirley Katherine, H fr....Portland
Holcombe, Robert Carter, SS fr.....Portland
Holden, Eileen Edythe, SS fr.....Salem
Holechek, Lillian Grace, SS fr..Independence
Holeman, Euzetta Pearl, SS jr.....Eugene
Holladay, Blaine, A gr.....Santa Quin, Utah
Holland, Woodrow Wilson, F jr.....Eugene
Hollen, Ted Edward, A so.....Condon
Hollenbeck, Leighton Eldridge, F so.....
..... Portland
Hollenbeck, Vera, H so.....Corvallis
Hollingsworth, Georgiana, LD so.....Portland
Hollingsworth, Guilford LeRoy, EE sr.....
..... Eugene
Hollinshead, Wilma, SS fr.....Bend
Hollis, James Clifton, SS fr.....Portland
Hollister, Robert H., BAd so.....Portland
Holloway, James W., LD so.....Portland
Holloway, Wayne Robert, P fr.....Ontario
Holloway, Jr., William Arthur, LD so.....
..... Medford
Hollowell, Homer Errol, SS so..Oregon City
Hollstein, Jean Wilson, IA so.....Salem
Holm, Karl Helge, ChE sp....Pomona, Calif.
Holmes, Fred Carter, F jr....Berkeley, Calif.
Holmlund, David Theodore, ChE jr..Portland
Holstrom, Everett Wayne, F sr.....Westfir
Holt, Betty Jane, H sr.....Pendleton
Holt, Howard Blom, Ed sr.....Corvallis
Holt, Lois Dorothy, SS fr.....Corvallis
Holt, Margaret Anne, LD fr.....Harrisburg
Holt, Marjorie Jane, H fr.....Harrisburg
Holt, Walter Armand, A fr.....Pendleton
Holton, Harvey Lloyd, A fr.....Nyssa
Homchick, Richard A., LD so.....Portland
Honnold, Leonard Richardson, A jr.....
..... McMinnville
Hooley, M. Elizabeth, LD so.....Eugene
Hoover, Dudd Woodward, E fr.....Portland
Hoover, Ellean Merle, Sc sr.....Portland
Hoover, Hilty Elmira, SS fr.....Portland
Hoover, Irene Mae, Sc jr.....Portland
Hopfer, Ednamae, H fr.....Portland
Hopkins, Earl Wayne, SS fr.....Portland
Hopkins, Mary Florence, SS so.....Portland
Hopkins, William Blair, LD fr.....Corvallis
Hopper, Ruth Elizabeth, H so.....Portland
Horenstein, Milton, Sc sr.....Portland
Horn, Robert Aaron, F so.....
..... Pottsville, Pennsylvania
Horney, Erwin, E fr.....Madras
Horning, Pearl, H gr.....Corvallis
Horstkotte, Gerry Arthur, ME so.....Bend
Horstkotte, Priscilla Walsh, LD so.....Bend
Horton, Jean Inez, H so.....Portland
Horton, Joan B., H so.....Klamath Falls
Hosmer, Helen Lorene Alnutt, SS jr.....
..... Corvallis
Hosmer, Kenneth Leavitt, P so.....Corvallis
Hosmer, Wilbur Newton, ME so.....Corvallis
Hotchkiss, Beatrice Mabel, H jr.....Lakeview
Hotchkiss, Donald P., A so.....Lakeview
Houck, Robert Lee, Ed gr.....Portland
Houk, Marie Lois, Ed sr.....Perrydale
Houk, Mary Jane, SS so.....Redmond
Houk, Telia Ann, H so.....Redmond
Houliston, Craig, F so.....
..... Prospect Park, Penn.
House, Donald Francis, IA fr.....Medford
House, Irvin Ellis, EE so.....Medford
House, Jack LeRoy, E fr.....Stanfield
Hovee, Harry Juel, E fr.....Oregon City
Hovee, Raymond Melvin, BAd so.....
..... Oregon City
Howard, Carl Robert, LD fr.....Corvallis
Howard, Frances Evelyn, SS fr.....Corvallis
Howard, James Joseph, LD so.....
..... Fairbanks, Alaska
Howard, Joe William, A jr.....Terrebonne
Howard, Maxine Eleanor, H sr.....Eugene
Howard, Robert Francis, AA fr.....
..... Ilwaco, Wash.
Howden, Lloyd George, A sr.....Olex
Howe, George Charles, ME sr.....Portland
Howe, Lloyd Virner, IA sp.....Albany
Howe, Maxine Vivienne, H so.....Portland
Howe, Ruth Genevieve, LD so.....Portland
Howe, Wanda, SS so.....Trail
Howe, Wayne Richard, A fr.....Roseburg
Howell. Bessie Opal, H so.....Forest Grove
Howell, Dorothy Jean, H so.....Astoria

Howell, Wallace Page, LD fr.....Troutdale
Howell, Warren Gage, LD fr.....Troutdale
Howlett, Richard Douglas, E fr....Portland
Hoyer, William H., A sr.....Portland
Hubbard. Kenneth C., CE sr.....Dundee
Hubbard, Leon V., A jr.....Corvallis
Huber, Donald Joseph, E fr.....Eugene
Hubler, Annette Elizabeth, H fr.....Corvallis
Huey, James Olen, ME so.....Pendleton
Huff, Douglas E., CE so.....Portland
Huff, Harold Scott, Ed sr.....Beaverton
Huff, John Ralph, LD fr.....Beaverton
Huffine, Nellie Gertrude, H jr.....
..... Ponca City, Oklahoma
Huffman, Jr., George William, F fr.....Salem
Huffman, William L., LD fr.....Stayton
Huggins, William Herbert, EE jr....Eugene
Hughes, Alice Eletha, SS jr.....Corvallis
Hughes, Clyde, P so.....Eugene
Hughes, Muriel Edythe, SS fr.....Medford
Hugie, Vern K., F gr.....Corvallis
Hulbert, Stanley Alan, F fr.....Blue River
Hulen, Kathryn LaVerne, LD fr.....
..... North Bend
Hulett, Henry Russel, Ch so.....Beaverton
Hull, Frank Williams, SS so.....Medford
Hull, Jr., Thomas N., ME so.....Brookings
Hulse, Bruce Thomas, Sc so.....Sherwood
Humble, Mabel Matilda, Ed so..Canyon City
Humphrey, Irma Ruth, Ed sr.....Pilot Rock
Humphrey, Virginia Jean, Ed sr..Pilot Rock
Hunger, Richard H., ME so.....Forest Grove
Hunt, Calvin Lawson, Sc so..Klamath Falls
Hunt, Jack Horace, F so.....Coquille
Hunt, James Marston, LD fr..Klamath Falls
Hunt, Laurence, BAd so.....Hermiston
Hunt, Marjorie Fern, H so..Palo Alto, Calif.
Hunter, Alexander Paton, G jr.....
..... Everett, Wash.
Hunter, Floyd William, LD so.....Portland
Huntington, Collis Philip, P so.....Marshfield
Hurd, Ernest, E fr.....Eugene
Hurley, Ivoline Alice, H so..Tacoma, Wash.
Huseby, Ellsworth Nelson, SS sr.....Portland
Hussa, Billie, H fr.....Portland
Hutchens, Donald Bryce, P jr.....Corvallis
Hutchens, Josephine, SS sr.....Forest Grove
Hutchens, Ronald Hildreth, CE so.....
..... Klamath Falls
Hutchinson, Alfred C., Sc so.....Pendleton
Hutchinson, Arthur Elberg, A gr.....
..... Pendleton
Hutchinson, Davis, Sc sr.....Corvallis
Hutchinson, Harriett, H gr.....Corvallis
Hutchinson, James Lyle, A so.....Helix
Hutchinson, Murl Walter, G jr..Days Creek
Hutchinson, Thomas Dale, BAd so.....Helix
Hutchinson, William Grenville, Sc sr..Astoria
Hutchison, Ralph Jordan, ME so..Pilot Rock
Hyatt, Russell F., A so.....Baker
Hyland, Beatrice Anne, H so.....Eugene
Hyland, Donald Martin, F sr.....Corvallis
Hyre, Robert Glen, J fr.....Parkdale
Hyslop, William Wallace, SS sr.....Corvallis

Igo, Robert Benjamin, SS fr.....Oregon City
Iiams, Meryl Austin, LD fr.....Corvallis
Iliff, Frances Edith, H so.....Independence
Illige, Denis J., LD fr.....Milwaukie
Ingenhutt, William Weeks, F sr.....Powers
Ingle, Dorena Vae, H sr.....Corvallis
Ingle, Elmer Claude, F so.....Corvallis
Inskeep, John Jerry. A gr.....Oregon City
Insley, Lewis Evans, A fr.....Roseburg
Ireland, Barbara Nunamaker, P so.....
..... Hood River
Ireland, Homer Eugene, LD so.....Corvallis
Ireland, John Edward, CE so.....Portland
Irish, Arthur Edward, A so.....Willamette
Irish, Margaret Virginia, H fr.....
..... Seattle, Wash.
Irvin, Darrell Virgil, A fr.....Union
Isaacson, Martha Elizabeth, SS so....Astoria
Isted, Maurice Ray, F sr.....Bend
Itschner, Edith Rose, Ed so.....Molalla
Iverson, De Forest Dale, CE so.....
..... Los Angeles, Calif.

Jack, Jean Albert, Ch gr.....
..... Tekamah, Nebraska
Jacka, Philip Ronald, A fr.....
..... Mill Valley, Calif.
Jackson, Dean Edward, P fr..Cottage Grove
Jackson, Dorothy Scott, SS so.....Corvallis
Jackson, Lester James, A fr.....Corvallis
Jackson, William Ceamore, P fr.....Corvallis
Jacobs, Frank, LD fr.....Corvallis
Jacobs, Joseph Henry, ME so.....Reedsport
Jacobson, Alice Carolyn, H jr....McMinnville
Jacobson, Harold Norman, A gr.....Astoria
Jacobson, Henry John, EE so.....Portland
Jacobson, Margaret Hanna, LD fr..Portland
Jacobson, Omer Theodore, E fr.....Portland
Jacoby, Barbara Claire, SS jr.....Toledo
Jacoby, Donald R., ME so.....Toledo
Jacoby, Gainey Edward, CE jr.....Creswell
Jacquemin, Francis Paul, F sr.....Corvallis
Jacquemin, Toini Lammi, Bot sr.....Corvallis
Jaeger, Joseph, F so.....St. Louis, Missouri
Jager, Edgar Thomas, A so.....Junction City
Jakus, Lyle Alton, E fr.....Astoria
James, Gale Justin, F fr.....Salem
Jamison, Dagmar Louise, SS so.....
..... Ann Arbor, Mich.
Jandrall, Keith Llewellyn, ChE so.....Seaside
Janelle, Laura, SS fr.....Gardiner
Janik, Stanley C., ChE sr.....Hullt
Janis, Mary Ann, SS fr.....Portland
Jann, Philip Eugene, ChE so.....Portland
Jantzen, Albert John, P fr.....Tangent
January, Maxine Helen, SS fr.....Corvallis
Janzen, Frank Martin, Ed gr.....Corvallis
Jefferys, Donald Goman, Ed so.....Albany
Jeffries, Glendon Kale, ME so.....Paisley
Jeffries, Howard Tinkham, LD so..Corvallis
Jelsma, Walter Peter, Ed jr....Grand Rapids
Jendrzejewski, Bernard John, A fr.....
..... Hermiston
Jendrzejewski, V. Helen, H sr.....Hermiston
Jenkins, Homer Amos, P fr.....McMinnville
Jenkins, Marjorie Cleone, SS so....Corvallis
Jenks, Edward Wyatt, F so.....Tangent
Jenks, Melvin Charles, LD so.....Tangent
Jennings, Lucile Alice, H so.....Corvallis
Jensen, Marjorie, Ed jr.....Rainier
Jensen, Stanley Edward, A so.....Tigard
Jepson, Richard James, J fr.....Fairview
Jerman, Wilda Jean, BAd so.....Salem
Jernigan, Mildred Norene, H fr.....Portland
Jessel, Joel Costen, LD fr.....Ashland
Jester, Maxine, SS so.....Grants Pass
Jett, Ruth Allis, SS fr.....Portland
Jewel, Marion Clair, E fr.....Bend
Jewett, Robert Vincent, ChE sr.....Portland
Jobson, Robert Mullard, A fr.....Warrenton
Joehnke, Frederick Edward, A sr.....Canby
Johannsen, Frederic Carl, SS jr.....Lebanon
Johnson, Allan Tyler, ChE fr.....Portland
Johnson, Andrew Eric, P so.....Ashland
Johnson, Arnold John, P so.....Silverton
Johnson, Audrey Louise, H fr.....Philomath
Johnson, Betty Jean, SS fr.....Seaside
Johnson, C. Edmund, ME so.....Portland
Johnson, Carl Peter, IA so.....Eugene
Johnson, Dorothy Bell, LD so....Port Orford
Johnson, Earl Edwin, P so.....Astoria
Johnson, Earl Kermit, A so.....Silverton
Johnson, Elliott Carl, A so.....Portland

Johnson, Emily Miller, Ed sr.....Portland
Johnson, Esther Vivian, H so.....Corvallis
Johnson, Floyd, F jr.....Klamath Falls
Johnson, Fred Richard, IA sr.....Corvallis
Johnson, George Glen, EE so.....
..... San Diego, Calif.
Johnson, Jr., Harry, EE so....Klamath Falls
Johnson, Helen Gertrude, H jr.....Corvallis
Johnson, Herbert Edward, A fr.....Portland
Johnson, Janice Louise, H so..Oakland, Calif.
Johnson, Jeanne Marie, H fr..Eureka, Calif.
Johnson, John Edgar, A sr.....Wallowa
Johnson, Karl Richard, Ch gr.....Corvallis
Johnson, Kathryn Anne, SS so.....Portland
Johnson, Lois Maxine, H fr....Klamath Falls
Johnson, Malcolm Julius, A jr.....
..... Garden Home
Johnson, Margery Bell, LD fr..Klamath Falls
Johnson, Marjorie Ann, SS fr.....Salem
Johnson, Marjorie Mayo, SS sr.....
..... Myrtle Creek
Johnson, Mark Alan, A so.....Astoria
Johnson, Mary Jane, SS sr.....La Grande
Johnson, Merle L., P sr.....Astoria
Johnson, Norman Henry, F fr.....Portland
Johnson, Norman Theodore, P fr.....Newport
Johnson, Patricia Humbird, SS so..Portland
Johnson, Ralph Fredrick, A so.....Astoria
Johnson, Richard Darrel, BAd so..Corvallis
Johnson, Robert Alexius, E fr.....Portland
Johnson, Robert Dale, SS so.....Portland
Johnson, Robert Leonard, ChE jr....Corvallis
Johnson, Robert Ludwig, P so....Oregon City
Johnson, Robert Morton, E fr.....Portland
Johnson, Robert Ritchie, ChE jr..Enterprise
Johnson, Rodney Saylor, EE so.....Portland
Johnson, Roger Wallace, A jr.....Beaverton
Johnson, Terrence Floyd, Z so.....Portland
Johnson, Valdemar Peter, CE sr.....Corvallis
Johnson, Wayne Leland, A fr..Weiser, Idaho
Johnston, Jesse Ross, A sr.....Parma, Idaho
Johnston, John Mitchell, SS so.....Portland
Johnston, Paul Miller, Ed so.....Nyssa
Johnston, Peggy McGavock, SS so..Portland
Johnston, Robert Rex, A so.....Salem
Jolley, Kenneth Binnington, A fr.....
..... San Bernardino, Calif.
Jonasson, Carl Victor, CE so.....Portland
Jones, Bruce D., CE sr.....Portland
Jones, David Boone, A so.....
..... Berkeley, Calif.
Jones, Dick Chinn, F so.....Pasadena, Calif.
Jones, Dwight Leslie, EE sr.....Seal Rock
Jones, Lawrence Edward, CE jr.....Albany
Jones, Myrtice May, H fr.....Kerby
Jones, Robert Carl, E fr.....Eugene
Jones, Wilbur William, Ed gr.....
..... Klamath Falls
Jordan, Kenneth Trew, F jr.....Portland
Jorgenson, Henry, SS sr.....Corvallis
Jossy, Donald Wayne, A sr.....Portland
Joubert, Andora Caroline, EE so.....Portland
Joyce, James Woodbury, A jr.....Portland
Judd, Elizabeth Anne, LD fr.....Portland
Judson, Charles James, E fr.....Portland
Julian, C. Rex, A so.....Lyons
Junor, Mary Jane, H sr.....Portland

Kabler, Donald, A sr.....Eugene
Kachelhoffer, Victor Fernald, E so.....
..... Corvallis
Kadu, Jack, P gr.....Aumsville
Kageyama, Molly Mariko, SS jr.....
..... Hood River
Kahn, Joel Frederick, Ed so.....Portland
Kahr, Russell Shreeck, A jr.....Beaverton
Kaleshnik, Ray Frank, EE sp.....Portland
Kalibak, Daniel Charles, Ed fr.....Portland
Kalsch, Wilford Joseph, A sr.....Cornelius
Kamara, Gilbert Victor, SS fr.....Astoria
Kamm, Kathryn Gray, SS fr.....Portland
Kandra, Ivan, LD fr.....Merrill
Kandra, Lawson Louis, A fr.....Merrill
Kangas, Helen Siama, SS fr.....Portland
Kanipe, Ames Louisa, gr.....Corvallis
Kanzler, Harrell Walter, E fr.....Portland
Kaptur, Lawrence Leo, CE so.....Portland
Karamanos, Helen Mabel, LD fr.....Portland
Karns, Harry Kenneth, F so.....La Grande
Karstens, Hans C., Sc sr.....Helix
Kaster, Dorothy, SS fr.....Salem
Kato, Jack Shigeo, A fr.....Boring
Kato, Masa Masao, Z gr.....Boring
Kautz, Rosalind Marie, SS so.....Portland
Kay, Barbara Aileen, SS so.....Ashland
Kay, James Ralph, A fr.....Enterprise
Kean, William Paul, E fr.....Albany
Keasey, Richard Allen, CE sr.....Portland
Keating, Ann Marie, H fr.....Pendleton
Keck, Dennis Clifford, ME jr.....Nyssa
Keck, Margaret May, H sr.....Corvallis
Keck, Willard, EE so.....Nyssa
Keeney, Nell Mary, H fr.....Corvallis
Keep, Maxine Myra, LD so.....Portland
Keep, Virginia Irene, H jr.....Portland
Keerins, Bob Colombus, LD fr.....Izee
Keester, Inez, Ed gr.....Albany
Keilholtz, Gerald Watson, Ch gr.....
..... Oxford, Pennsylvania
Kellas, Don, EE so.....Portland
Kelleher, Rose Alice, H fr.....Portland
Kelleher, Virginia Agnes, SS so.....Portland
Keller, Dick Frederick, SS fr.....Corvallis
Keller, Stuart Robert, E fr.....Portland
Kelley, Mary Jeanne, H fr.....Portland
Kelley, Richard Ralston, CE sr.....Portland
Kelley, Woodrow Owen, BAd fr.....Astoria
Kellmer, Charles Hebbard, LD so....Portland
Kellogg, Billie Virginia, SS sr.....Marshfield
Kellogg, Robert Bressler, SS so.....Corvallis
Kelly, Arthur Richard, IA so.....Corvallis
Kelly, Elbert Erin, ME so.....Corvallis
Kelly, Joyce Adair, P so.....Corvallis
Kelly, Pat James, F fr.....Empire
Kendle, Richard Claude, LD fr.....Scio
Kendrick, Gordon, SS fr.....Stayton
Kendrick, Olive Helena, A sr.....
..... Hightown, Virginia
Kendrick, Patricia Alberta, A so.....
..... Hightown, Virginia
Kennedy, Donal Craig, E fr.....Corvallis
Kennedy, Georgia Jacobs, LD so....Corvallis
Kennedy, Norman James, F so.....Tillamook
Kennedy, Richard B., A sr.....Portland
Kennedy, Sybil, H so.....Gateway
Kennedy, Virgil Dean, A sr.....Dayville
Kennedy, William Francis, Ed sr....Corvallis
Kennell, Ella Irene, H sr.....Portland
Kenny, Charles Lawrence, A fr.....Moro
Kenny, Glen W., IA jr.....Corvallis
Kenny, M. Anita, H sr.....Moro
Kenny, Robert Earl, EE jr.....Corvallis
Kent, Earl Bothwell, A fr.....Klamath Falls
Keppel, William Henry, EE so.....Corvallis
Kern, Richard Harrison, LD fr.....Corvallis
Kerns, John Paul, A sr.....Klamath Falls
Kerr, Laurence C., F fr.....Tillamook
Kerron, Richard Allan, EE sr.....Portland
Kerry, Robert Harold, EE fr.....Taft
Kershaw, Keith, A sr.....Corvallis
Kessel, Eva Mae, H so.....Sweet Home
Kester, Marian Louise, H fr.....Monmouth
Kettering, Jean, LD fr.....Corvallis
Kibbe, Dorothy Janet, SS so.....Salem
Kickbusch, Evelyn Zeta, H so.....Springfield
Kickbusch, Winifred Arlene, H fr.....
..... Springfield
Kiddle, Clyde Louis, ME so.....La Grande

Kierulff, John Lorenz, ME sr.....Portland
Kik, Charles Clause, LD fr.....Hermiston
Kilborn, George Ross, E so.....Portland
Kilbuck, Elizabeth Henry, H jr.....
..... Hood River
Kilbuck, John Henry, LD fr.....Hood River
Kim, Chai Hoon, A gr.....Tongchum
District, Kangwon Province, Korea
Kimmel, Karl Frederick, P so.....Riddle
Kimmey, Francis Edward, F jr.....Corvallis
Kincaid, Leslie W., A sr.....Ashland
Kindle, Helen Jean, SS fr.....Medford
Kindred, Ione Bonnie, SS so.....Medford
King, Clyde Wendell, CE sr.....Alvadore
King, Edward Jower, E fr.....Portland
King, Emily Francine, Sc so.....Portland
King, Evelyn Lenora, SS sr....Klamath Falls
King, Evelyn Louette, SS sr.....Portland
King, Jean Marietta, Ed so.....Portland
King, Robert Lionel, ME so.....Portland
King, Robert William, F fr.....Salem
King, Royal Clayborn, CE so.....Silverton
King, Ruth Frances, H so.....Corvallis
King, William Paul, E fr.....Salem
Kingma, Tena, H so.....Portland
Kinney, Robert A., F fr.....Portland
Kinnicutt, Eugene Walter, A fr.....Corvallis
Kinser, Anne Susan, SS fr.....Portland
Kipper, Louis Eugene, P fr.....Philomath
Kirby, Herbert LeRoy, ChE fr.....Medford
Kirby, Kenneth William, A fr.....Hood River
Kirby, William Benton, ME so.....Scio
Kirk, Jack Eugene, F jr.....Albany
Kirk, W. Duane, ME jr.....Corvallis
Kirkham, Susie Ellen, H so.....Troutdale
Kirkpatrick, Howard William, F sr..Portland
Kirkpatrick, Lois Bernadine, H so....Corvallis
Kirsch, Ernest J., A sr.....Maupin
Kirwan, James Gordon, EE sr.....Portland
Kisselburgh, Jim Alexander, A so.....
..... Los Angeles, Calif.
Kister, Albert Theodore, LD fr..Oregon City
Kiyokawa, Emi, H jr.....Hood River
Kiyokawa, Sigeo Alvin, EE so....Hood River
Klein, Kenneth Jay, SS fr.....Portland
Klein, William Dick, A so.....Denver, Colo.
Kletzer, Kenneth Miles, IA so.....Portland
Kline, Sid L., LD fr.....Corvallis
Kling, John Bernard, F so.....
..... Milwaukee, Wis.
Klingler, Lorene, SS so.....Sandy
Klock, Imogene Helen, SS fr.....The Dalles
Knapp, Charlotte Edna, LD so.....Wilbur
Knapp, Robert Findley, ME jr.....Wilbur
Knerr, Adele, H so.....Portland
Knerr, Lewis Ellsworth, ME sr.....Portland
Knouff, William Arthur, ChE so.....Portland
Knower, Irene Louise, SS fr.....Salem
Knowles, Roberta Hibberds.....Corvallis
Knox, Alan H., A so.....Portland
Knox, Edna Lucille, H jr.....Medford
Knox, Phyllis Anne, H fr.....John Day
Knudson, Gene David, F gr.....Weston
Knudson, Melvin Robert, F sr..Libby, Mont.
Koberg. Gordon Earl. E fr.....Hood River
Koch, Fred Curtis, LD so.....Portland
Koch, Jack James. A so.....Salem
Koehler, Arthur Theodore, F so.....Nashville
Koehler, Delbert William, EE so.....Portland
Kohler, Morris Henry, A so.....Sutton, Neb.
Kohler, Victor Otto, A jr.....Sutton, Neb.
Kollins, Charles J., IA fr.....Corvallis
Kollins, Elaine J., H sr.....Corvallis
Kopf, John Lawrence, LD so.....Portland
Kortemever, Henry Alvin, ME so.....Salem
Koski. Reino Oliver, A gr.....Portland
Kotchik, Walter John, ME so.....Portland
Kower, Eugene W., F so.....Portland
Kraft, Clarence Arthur, Ed jr.....Corvallis
Kranick, Martin E., CE sr.....Bandon
Kraus, Alexander Chloris, M fr.....Corvallis
Kraus, Frederick Charles, LD so.....Portland
Kraus, George, A fr.....Aurora
Kraus, John Francis, A sr.....Aurora
Kraxberger, Ralph Rufus, A fr.....Canby
Krebs, Rodena Louella, H fr.....Pendleton
Krehbiel, Norman Dale, CE so.....Salem
Kreul, Ruth Eloise, H so.....Portland
Krieger, Marshall Henry, F so.....
..... Hastings, Neb.
Kroder, Beatrice Helen, H fr.....Portland
Krous, Elwyn S., A sr.....Medford
Krueger, Gordon Arnold, BAd so.....Salem
Krueger, Helen Margaret, H fr..Oregon City
Kruger, Earl Marion, A so.....Portland
Kruger, Merle Clarence, Ed so.....Corvallis
Kruger, Paul Lambert, F sr.....Portland
Krumbein, Lewis Williams, LD fr..Portland
Kruse, Betty Belle, LD fr.....Sherwood
Kudrna, Marion D., Ed sr.....Dayton
Kudrna, Vivian, SS jr.....Dayton
Kudrna, Donald J., A gr.....Prineville
Kuehnel, Raymond Frank, SS fr.....Portland
Kuhl, Philip J., A sr.....Prairie City
Kull, Inez Elizabeth, Sc so.....Portland
Kumler, Marion Lawrence, A jr.....Bay City
Kunselman, Robert F., SS fr.....
..... Vancouver, Wash.
Kunz, Sara Claire, H fr.....Wilbur, Wash.
Kuvallis, George N., IA so.....Portland
Kuvallis, John Nick, EE jr.....Portland
Kyle, Bob Graves, CE sr.....Monroe
Kyle, David McVicker, F sr.....Florence
Kyle, Harold Lester, F so.....Forest Grove
Kyle, Winona Edna, SS sr.....Jewell
..... Gunnison, Colorado
LaBaun, George Bradford, LD fr..Willamina
Lacklen, Marjorie Jean, SS so.....
..... Palo Alto, Calif.
Lademora, Eliseo Ylisan, Ch gr.....
..... Passi, Iloilo, Phillippines
Lahnum, Willard Webster, A gr.....
..... Gunnison, Colorado
Laing, Charlotte E. Latourette, SS so.....
..... Corvallis
Laing, John Edward, SS so.....Corvallis
Laing, Roberta Louise, SS so.....Portland
Laird, Burton Hale, Sc so.....Roseburg
Laird, Dorothy May, SS so.....Joseph
Laird, Jack, P so.....Klamath Falls
Lake, Adelaide Valeta, Ed gr.....Corvallis
Lamb, Audrey Elvera, SS so.....Estacada
Lambert, William Edward, CE so.....
..... Summerland, Calif.
Lambrecht, William Anthony, LD fr.....
..... Stayton
Lamm, William Henry, ChE sr.....
..... Whittier, Calif.
Lance, Margaret Maree, H sr.....Corvallis
Lance, Robert Verdelle, SS so.....Corvallis
Landforce, Andrew S., A so.....Corvallis
Landon, Jeannette, H so.....Portland
Landquist, Virginia, H gr.....Corvallis
Landwehr, Johanna Jane, BAd so.....Astoria
Lane, Don, A jr.....Corvallis
Lane, James H., A so.....Corvallis
Lane, Philip Nathan, F so.....Warm Springs
Lang, Robert William, A gr.....
..... Woodsfield, Ohio
Langan, William Martin, A sp.....Corvallis
Langdon, Cecil Raymond, A so.....Ukiah
Langdon, Trevah Jane Weissenfluh, H fr
..... Ukiah
Lange, Harold David, Ch so.....Tillamook
Langford, George Thomas, A fr.....Bend
Langhei, Emma Tordine, Ed sr.....Toledo
Langley, Evan Ira. Z sr.....Fairview
Lankow, Richard Paul, ME jr.....Portland

Lano, Ruth, Ed fr.....Corvallis
Lantz, Duane Arthur, E fr.....Molalla
Larfield, Donald C., PE fr.....Seaside
Larkin, Ernest E., Ch gr.....Reno, Nevada
Larkin, Jr., Ernest Edward, Ch gr.....
..... Reno, Nevada
Larsell, Robert, E fr.....Portland
Larsen, Carl V., ME sr.....Corvallis
Larsen, Evelyn Marie, H sr.....Albany
Larsen, Lyle Vernon, E fr.....Albany
Larson, Frans Peter, LD so.....Woodburn
Larson, Harry William, A fr.....Astoria
Larson, Kermit Gustaf, A fr.....Portland
Larson, Marjorie, LD fr.....Portland
Larson, Milner Loyd, F fr.....Portland
Larson, Morris, ME so.....Portland
La Salle, Guy Edward, ME so.....Gladstone
LaSater, Louise, LD fr.....Corvallis
Lassen, Mary Esther, H so.....Portland
Latham, Royce Myrtle, SS fr..McMinnville
Lathrop, Ernest Jennings, A sr.....
..... Central Point
Lattanzi, Thomas William, A fr....Milwaukie
Laughlin, Sybil Constance, H sr.....Astoria
Launtz, Burdet Walker, ChE sr.....Portland
Lausmann, Joseph Hermann, CE so..Portland
Laver, Margaret, H so.....Hillsboro
Lawrence, Jean Maynard, Ed jr.....Portland
Laws, James Noah, E fr.....Astoria
Laws, Richard Harrison, LD so.....Salem
Lawson, Crayton F., A sr.....Salem
Lawson, Leon Louie, A sr....Pasadena, Calif.
Lawson, Ronald Walker, AA fr.....Portland
Lay, Stuart Raymond, A fr.....Eugene
Leabo, Karl Francis, SS so.....Albany
Leach, Alvin, A fr.....Dilley
Leaf, Claud Stanley, ME fr.....Portland
LeBond, Ida Virginia, H so.....Portland
Lee, Allen, A so.....Roseburg
Lee, Charlotte Louise, Bac sr.....Portland
Lee, Feung B., P so.....Corvallis
Lee, Frank, EE sr.....Portland
Lee, Grover Gherald, A fr.....
..... North Bend, Wash.
Lee, Heloise, H so.....La Grande
Lee, James Knight, LD fr.....Corvallis
Lee, Lael Charles, A fr....Los Angeles, Calif.
Lee, Lois, H fr.....Haines
Lee, Mabel G., SS jr.....Corvallis
Lee, May Chiao, H so.....Portland
Lee, Richard Harwood, A fr.....Corvallis
Leech, Fannie Louise, Ed fr.....Blodgett
Leedy, James Donald, E fr.....Brooks
Leehmann, Caryl Mary, H sr.....Lakeview
Leehmann, Walter Herman, A so....Lakeview
Leever, William Hamilton, G jr.....Ashland
LeFevre, Jeanne Pauline, SS fr.....Portland
Leibbrand, Gladys, SS so.....Corvallis
Leigh, Mary Carol, H so.....Roseburg
Leinassar, Jorma M., Sc so.....Astoria
Leinonen, Martin, CE so.....Portland
Lekberg, Marjorie Ann, H fr..Klamath Falls
Lemcke, Robert Warren, A fr.....Seneca
Lemon, Berlan, Ed jr.....Corvallis
Lemons, Clifton Wayne, A sr.....John Day
Leonard, Beatrice Adair, H so.....Silverton
Leonard, Leona Charlotte, H fr.....Portland
Leonard, Lucile, Ed sr.....Corvallis
Leonard, Robert Eugene, A fr.....Silverton
Leovich, John Joseph, Ed so.....Portland
Lerback, Verne Jens, BAd fr.....Astoria
Leslie, Robert Taber, Ed sr.....Klamath Falls
LeTourneux, Robert Law, SS fr.....Portland
Levin, William Baldwin, ChE sr.....Portland
Levitt, Vivian Viola, SS so....Junction City
Levy, Louis, ME so.....Baker
Lewis, Arthur Allen, A fr.....Corvallis
Lewis, Charles Henry, E fr.....Marshfield
Lewis, Charles Stewart, F so.....
..... Columbus, Ohio
Lewis, Donald E., BAd so.....Corvallis
Lewis, James Clement, A gr.....Corvallis
Lewis, John H., A so.....Reno, Nevada
Lewis, Margaret Jeanne, H so.....Portland
Lewis, Margaret Mary, J so.....Portland
Lewis, Marjorie Florence, H fr.....Portland
Lewis, Mary Elizabeth, SS fr.....Corvallis
Lewis, Richard Quintin, LD so.....Wilark
Lewis, Roberta Virgene, SS so.....Prineville
Lewis, Roger Darwin, A fr.....Salem
Lichtenthaler, Dorothy Elain, H fr.....
..... Newberg
Lierman, Elmer H., A jr.....Independence
Liesegang, Harold H., Ed so.....Echo
Lieuallen, Johanna Mae, SS so.....Athena
Lightfoot, William Carleton, A jr.....
..... Fontana, Calif.
Lillebo, Joyce Letha, E fr.....Reedsport
Lillig, Everett Huston, ME so.....Portland
Lincks, Darrell Robert, IA so.....Roseburg
Lind, Arthur Burton, BAd fr.....Portland
Lind, Richard Clarence, SS fr.....Corvallis
Lindenbaum, Jacob, ChE sr.....Klamath Falls
Lindgren, Margaret Dora, H so.....Corvallis
Lindh, Jack Donald, LD fr....Klamath Falls
Lindsay, Ernest Marvin, A so.....Shedd
Lindsay, Lucile Bennett, LD fr.....Philomath
Lindsay, R. Grant, A fr.....Shedd
Lindsay, Robert Crawford, F fr.....Portland
Lindsten, Alvin, F sr.....St. Helens
Lineberry, John Parker, Ed jr.....Corvallis
Linklater, Bernice Elaine, H so.....Portland
Linnell, Marvin Richard, LD so.....Medford
Lipp, Betty Louise, BAd fr.....Oswego
Lisbakken, Robert Ben, EE jr.....Portland
Liseth, Sigurd Adolf, E fr.....Portland
Lissy, Floyd Kenneth, E fr.....Portland
Little, Mildred Joyce, H jr.....Eugene
Littleton, Robert Thomas, Sc so.....Eugene
Littrell, Lois Jane, Sc so.....Marshfield
Litwiller, Earl Milo, A gr.....Independence
Liu, Ben Yim, EE gr.....Portland
Liu, Tsui Chieh, Bot gr.....
..... Hotje, Shantung, China
Livezey, Robert Lee, LD so....Stockton, Calif.
Livingston, Richard Graham, P so....Corvallis
Lloyd, Philip Arthur, EE jr.....Portland
Locke, John Anthony, LD fr.....Portland
Locke, Ralph Ngan, E fr.....Portland
Lockhart, Cecile Vivienne, Sc jr....Philomath
Lockhart, Robert Kennon, E fr....Philomath
Lockren, Esther Sigrid, Ed jr.....Corvallis
Lockren, Helen Shirley, Ed sr.....Corvallis
Lockwood, Alferd Eugene, CE so....Corvallis
Lockwood, Raymond Marshall, LD fr.....
..... Corvallis
Lockwood, Robert Addis, LD so.....Portland
Loe, Edna Mae, H sr.....Corvallis
Loe, Thelma Alberta, LD fr.....Corvallis
Loeffler, Elenore Gertrude, SS so....Portland
Loeffler, Robert Allan, LD fr.....Medford
Loffer, Jesse D., Ed sr.....Tiller
Lofland, Adrian Mason, A sr.....Eugene
Loftis, Ellen Aubrea Wright, H so.....
..... Corvallis
Lofts, Arthur William, E fr.....Hood River
Logan, Ruth Evelyn, LD so.....Skidmore
Lohr, Cortland Paul, E sp.....Corvallis
Lombard, Colmar Delroy, IA so....Portland
Lommen, Neil Stanley, A sr.....Mohler
Londershausen, Gertrude Sophia, SS so....
..... Dayton
Loney, Robert David, SS fr.....Portland
Long, Alma Louise, BAd fr.....Pendleton
Long, David Robert, A fr.....Portland
Long, Floyd Edwin, A so.....Pendleton

Long, Helyn Louise, P sr.....Bend
Long, Jay B., A gr.....Corvallis
Long, Merle Aldridge, CE so.....Albany
Long, Robert A., AA fr.....Corvallis
Long, Wallace Sherman, F so.....
..... Patterson, Calif.
Longcor, Janet Amelia, H so.....Portland
Longueville, Bob A., Ed gr.....Sisters
Longwood, Franklin Russell, F gr....Corvallis
Look, Melvin Edwin, A fr.....The Dalles
Loomis, Barbara Ellen, H fr.....Toledo
Loomis, Harry L., BAd fr.....Corvallis
Loomis, Hazel Arlene, SS jr.....Medford
Loomis, Lynn Coleman, ME so.....Eugene
Loomis, Mary Katherine, LD so.....
..... Yuba City, Calif.
Looney, Jack Lewis, A so.....Tangent
Looney, Virginia Ruth, SS so.....Tangent
Loop, Audrey Jane, H fr.....McMinnville
Loop, Gene Lois, SS jr.....McMinnville
Loop, Paul Allen, ChE sr.....McMinnville
Loosley, Marie Eulala, H jr.....Fort Klamath
Lord, L. William, BAd so.....Portland
Lorenz, Robert Vernon, EE so.....Salem
Lound, Frank E., F jr.....Baker
Lovell, Edward Raymond, A sr.....
..... Long Beach, Calif.
Lovin, Robert Joseph, Ch gr.....Portland
Lowe, David Arthur, CE so.....Corvallis
Lowe, Gordon Philip, EE so.....Portland
Lowery, William Clayton, A sr.....Portland
Lowry, Wallace Dean, G gr.....Medford
Ludwig, Florence Elizabeth, Ed so..Corvallis
Luehrs, William Clifford, P so.....Ontario
Luelf, Oscar Albert, A gr....Corso, Missouri
Luft, Daniel Alfred, A fr.....Portland
Lui, Chung Kwai, Ph gr..Hong Kong, China
Luman, David Ira, A so.....Medford
Lundahl, Milton D., Sc jr.....Portland
Lundeen, Robert West, ChE so.....Westport
Lundell, Marienne Ewert, SS so.....Portland
Lundquist, Ronald Emrick, BAd fr....Carlton
Lundy, Victor Clemens, P fr.....
..... McCredie Springs
Lusby, Alice Marie, P so.....Eugene
Luther, Frank Louis, A so.....Portland
Luttrell, Shirley Kathleen, H gr.....
..... Yreka, Calif.
Lyman, John Bower, ME so.....Toledo
Lynch, John Paul, E fr.....Corvallis
Lyndon, Virginia Elizabeth, H fr..Corvallis
Lynn, Charles E., E fr.....Dallas
Lyon, Orvin Albert, LD so.....Corvallis
Lyon, Virgil C., A so.....Corvallis

McAlister, Jim J., A so.....Enterprise
McAllister, Eileen Mary, SS sr.....
.....Burlingame, Calif.
McAllister, June Fame, LD fr.....Albany
McAllister, Lee Anthony, ME so.....Salem
McAlvage, Edward Michael, F so..Corvallis
McArthur, Dorothy Louise, H so.....
..... Cupertine, Calif.
McAuley, Milton Kenneth, F so.....
..... Klamath Falls
McBroom, Frances Mariel, Sc jr.....Portland
McCalla, Monte Jane, Ed fr.....Corvallis
McCalley, Roderick Gilbert, ME sr..Portland
McCallister, Alan Finley, CE so.....Corvallis
McCallister, Marjorie Elizabeth, H so.....
..... Corvallis
McCallister, Robert Delmar, LD so....Astoria
McCambridge, John Robert, A jr.....Vale
McCarthy, Clarke, A sr.....Marshfield
McCarthy, Jack M., LD fr.....Portland
McCarty, Frances Jane, SS fr.....Heppner
McCarty, Vesta Mae, H fr.....Condon
McCaulou, Alfred Eugene, E fr.....Toledo
McClain, Gene Harold, A gr..Sumner, Wash.
McClain, James Harold, ChE sr.....Portland
McClay, Robert, Ed so.....La Grande
McClellan, Thomas J., LD so.....Albany
McClintock, Jr., John Leighton, ChE so....
..... Portland
McClurg, Donald, A fr.....Portland
McCluskey, Elizabeth Aileen, H so....Toledo
McConnel, Anna Frances, Ed sr.....Shedd
McConnell, Robert Bruce, F sr.....Portland
McCord, Ona Elaine, SS so.....Oakland
McCorkle, Alexander, LD fr.....Sherwood
McCormack, Maynard Henry, F sr.....
..... Roseburg
McCoy, Eugene Burton, A fr.....
..... Bakersfield, Calif.
McCoy, Kenneth Duncan, EE so.....Salem
McCraw, William Harrison, E fr.....Portland
McCready, Betty-Sue, H jr.....Corvallis
McCubbins, Kenneth Charles, A so..Corvallis
McCugh, Ralph Morgan, ME so.....Goshen
McCulley, Nina Rae, LD so.....Hermiston
McCullough, Rodney Edwin, A fr.....Haines
McCurdy, Howard Earl, Ch gr.....Corvallis
McCurdy, Jo Janelene Test, H so....Corvallis
..... Corvallis
McDermid, Donald Orton, A sr.....Wasco
McDermid, Jack T., A so.....Pendleton
McDermid, Margaret Grace, H fr.....Wasco
McDonald, Norman James, F so.....Portland
McDougal, John Clair, LD fr.....Portland
McEachron, Mary Lou, H so.....Portland
McEldowney, Robert Armstead, F so.....
..... Wahiawa, Oahu, Hawaii
McElhinny, Charles Stuart, E fr.....Salem
McEwen, Charlotte Anne, H jr.....Riverside
McFadden, Wainard Stephen, Ed sr.....
..... Corvallis
McFadden, William Stuart, LD fr..Portland
McFarland, Jr., William L., ME so.....
..... Corvallis
McFarling, Dalbert Florzel, LD fr....Portland
McFetridge, George Budd, F so.....
..... San Diego, Calif.
McGeorge, Rosemary, H fr.....Marshfield
McGilchrist, Isabel Scott, H so.....Salem
McGill, Anie Pauline, SS sr.....Ontario
McGill, John Ross, A fr.....Ontario
McGilvery, Robert Warren, Ch jr.....Coquille
McGinnis, Charles James, LD so.....Portland
McGinnis, James Lewis, ChE so.....
..... Spokane, Wash.
McGinnis, Margaret Frances, H jr..Corvallis
McGovern, Donald Kenneth, IA so....Monroe
McGowan, Carl James, CE jr.....Lebanon
McGuire, Kathryn Ellen, SS sr..McMinnville
McHenry, Rilla Rae, H so.....Corvallis
McIntosh, George Gardner, LD fr..Corvallis
McIntosh, Richard Glen, LD fr.....Corvallis
McIntyre, Ethel Murphy, Ed gr.....Albany
McKalip, William Ward, Ed gr.....Corvallis
McKamey, Roberta, H jr.....Portland
McKay, Douglas, BAd so.....Salem
McKay, Maurice Pool, A fr.....Troutdale
McKay, Muriel Pool, H jr.....Troutdale
McKay, Myrtle Margot, H sr.....
..... Vancouver, B. C.
McKay, Ruth Elizabeth Short, A sr....Boring
McKean, Robert Eugene, IA so.....Roseburg
McKee, Charlotte Marie, H so.....Salem
McKee, Jack Wesley, A so.....Nyssa
McKee, Myrl Leroy, IA so.....Eugene
McKee, William Howard, ME sr.....Albany
McKenna, James Francis, F jr.....
..... San Diego, Calif.
McKennett, Gordon E., E fr..Jennings Lodge
McKenney, June, LD fr.....Portland
McKenzie, Nadyne, H sr.....Adams
McKenzie, Roderick Tullock, A so.....
..... Port Orford

McKern, Merroll Elton, Ed so....Mt. Vernon
McKey, Phyllis Mirian, LD fr.....Corvallis
McKinlay, Philip France, G jr.....Salem
McKinley, Loren Dehne, LD so.....Tillamook
McKinnell, James Neeley, E fr..Forest Grove
McKinney, Earl Stephen, Ed jr.....Amity
McKinnon, George Ellis, A fr.....Prineville
McLagan, Erman Roy, IA fr.....Tangent
McLain, Alvin Glen, P jr.....Holley
McLain, Elizabeth Irene, LD fr.....Holley
McLain, Mildred Fern, SS sr.....Wallowa
McLaughlin, Doris Elaine, SS fr.....Oswego
McLaughlin, Douglas, LD fr.....
..... Beverly Hills, Calif.
McLean, Corwin Duncan, ME so....Corvallis
McLellan, Daniel Joseph, A so.....Salem
McLellan, Sara Jean, H jr.....Salem
McLeod, Robert William, E fr.....Bend
McLucas, Elizabeth Ann, H fr....Hood River
McMahon, Martin Eugene, E fr.....
..... Beattie, Kansas
McManus, Leonard Murray, SS sr..Portland
McMaster, Charmon Louise, Ed so.....
..... Oakland, Calif.
McMillan, Donald D., ME so.....Corvallis
McMillan, Frederick Russell, EE sr.....
..... Corvallis
McMillan, Metta Marie, H fr.....Troutdale
McMindes, Margaret Rae, SS jr.....Astoria
McMullen, Esther, H fr.....Hermiston
McMullen, Frances Lee, H fr..Klamath Falls
McMurdo, Scott Holdman, LD fr....Heppner
McNair, James H., P so.....Ashland
McNair, Viola May, SS fr.....Ashland
McNary, David Capp, A so....Colusa, Calif.
McNaught, David Arthur, E fr.....Portland
McNeal, Francis Harrison, A fr.....Bartlett
McNeil, Fred George, SS sr.....Halsey
McNulty, Eugene, F so.....Woodburn
McNutt, James, LD so.....Halfway
McPartland, James Neilen, A sr.....Richland
McPherson, Mildred Naomi, H jr....Corvallis
McPherson, Ray Lewis, E fr.....Portland
McQueen, Stuart Vincent, SS fr.....Portland
McRae, Jr., Forbes William, ME so....Burns
McRae, Marion Alexander, LD fr.....
..... McMinnville
McRae, Norman Byron, SS fr.....Burns
McReynolds, Everett Roscoe, Ed fr..Tangent
McWherter, Paul Vernon, ME so.....Coquille
McWhorter, Doris Mae, H fr.....Corvallis
McWhorter, Lois Anne, H sr.....Corvallis
Maa, I. William, E fr.....Portland
Mabry, Eleanor Bennett, LD sp..Gales Creek
MacArthur, Duncan McCoy, LD fr.....
..... Corvallis
MacArthur, William Lewis, ME so.....
..... Corvallis
MacDonald, Arch Bauer, CE jr.....Oceanlake
Macdonald, Billy, A so....Santa Maria, Calif.
MacDonald, Norma, H so.....Corvallis
Mace, Jack Charles, F so.....Corvallis
Mace, Robert Upton, A so.....Central Point
Mack, Forbes John, LD fr.....Salem
MacKay, Norman H., Ch sr.....Portland
Mackey, James Emil, F sr.....Portland
MacLagan, David Kramer, LD fr.....
..... Long Beach, Calif.
MacLean, James Archibald, ChE sr..Portland
MacLeod, Heather, H sr..Long Beach, Calif.
Macpherson, Jr., Hector, A sr.....Albany
MacRae, Elwin, EE jr.....Corvallis
MacRae, Kenneth, Ed jr.....Corvallis
MacRobert, Robert LaZelle, SS sr....Portland
Madden, Myrno Arthur, F sr.....Lonerock
Maddox, Dale LaVerne, A fr.....Oakland
Maddox, Jacob, E fr.....Salem
Madigan, Edward John, Ch gr.....Corvallis
Madison, Robert Max, EE jr..Grande Ronde
Madison, Roland Franklin, E fr.....
..... Grande Ronde
Madsen, Allen W., E fr.....Sisters
Madsen, Anna Mathildia, Z jr.....Portland
Magill, Lloyd Gilbert, ChE sr.....Silverton
Magnuson, Carl Albin, A sr.....
..... Lynwood, Calif.
Magnuson, Ralph Eugene, A sr.....Sheridan
Magruder, Mary Elizabeth, LD fr..Corvallis
Mahon, Juanita Maria, SS jr..Cannon Beach
Main, Charles Lorence, IA jr.....Portland
Majer, Lucile Geraldine, H fr.....Salem
Major, Betty Jane, SS so....Palo Alto, Calif.
Makinson, Cloyd B., A sr.....Halfway
Maliytes, Pete, F jr.....Corvallis
Mallery, Wright T., F so.....Glide
Mallett, Jane Clare, Ed so....San Jose, Calif.
Malmberg, Don B., F fr.....Portland
Malmi, Eleanor Edith, SS so.....Portland
Malo, Jr., Roy Octave, LD fr.....Sheridan
Maloney, Gene, SS so.....Portland
Maloy, LaReine Mildred, LD so..Port Orford
Maltby, Wilbur William, A so.....Alsea
Mandic, Frank Joseph, Ed jr.....
..... Los Angeles, Calif.
Mandic, John Joseph, LD so.....
..... Los Angeles, Calif.
Maneely, Robert Warren, E fr.....Corvallis
Mangold, Alyene, SS fr.....Portland
Manley, Dorothy Mary, SS jr.....Corvallis
Manley, Harold Leonard, CE so.....Corvallis
Mann, Elwyn Fremont, F sr.....Canby
Mann, Jakie LaVerne, A sr.....Portland
Manning, Harry Lawrence, CE so.....
..... Grants Pass
Manning, Marcia Marguerite, H fr.....
..... Grants Pass
Manock, Eugene Randolph, F fr.....Aurora
Marble, Harold Arthur, ME jr.....Hermiston
Marcy, Ben Hall, ME sr.....West Linn
Marcy, Donald Eugene, Z sr.....Portland
Marin, Kendall Charles, LD so.....Pendleton
Mariner, Frank Converse, A so.....Portland
Marinos, Homer Samuel, LD fr....Milwaukie
Maris, Robert West, LD fr.....Halsey
Maris, Zelna Marian, LD fr.....
..... Smith River, Calif.
Mark, Margaret Lucille, H fr.....Portland
Markman, Marvin LaVern, CE so.....
..... The Dalles
Marks, Leslie Jack, A so.....Imnaha
Marr, Raymond William, E fr.....Glide
Marsden, Douglas Jeremiah, EE so..Molalla
Marshall, Charles Dunlap, ChE so..Portland
Marshall, Larry Thomas, F so.....Vernonia
Marshall, Thomas George, E fr.....Roseburg
Marshall, Verna Mae, H fr.....Mulino
Martel, Donald Joseph, AA jr.....Corvallis
Martin, Chester Kapla, LD fr.....Waldport
Martin, Douglas Harold, F fr.....
..... Santa Maria, Calif.
Martin, Douglas John, ME sr.....Corvallis
Martin, Douglas Wayne, A fr.....
..... Buckley, Wash.
Martin, Jack Philip, LD so.....Gold Hill
Martin, James Allen, SS so.....Corvallis
Martin, Rance Norman, SS fr.....
..... Phoenix, Arizona
Martin, Robert Dareld, F so.....Bend
Martin, Shirley Virginia, LD fr.....Hillsboro
Martin, Vernon Luther, BAd so.....Corvallis
Martin, Winifred Louise, H jr..Cutler City
Martini, Russell Ferdinand, ME so..Portland
Martinson, Eleanor Elizabeth, LD fr..Albany
Mason, Bert, F so.....Ione
Mason, Don, A fr.....Portland
Mason, John William, F sr.....Beaverton

Mason, Melvin Elmer, SS so.....Yamhill
Masson, Wilfred Victor, A sr.....Mt. Vernon
Masters, Forrest Edmund, BAd so..Corvallis
Mastin, Henry Earl, A so.....Waldport
Matheny, Collin Robert, E fr.....Wauna
Matheny, Donald Edward, P so....Falls City
Mathes, Jr., Adolphe Joseph, IA so..Portland
Mathes, Robert Lee, A so.....Colbert, Wash.
Mathews, Ernest Everett, A sr.....Portland
Mathews, Keith Wayne, CE so.....Salem
Mathews, Richard Donald, LD so..Tillamook
Mathews, Willis Woodrow, Z so....Tillamook
Mathis, Laurence A., LD fr.....The Dalles
Mathisen, June Charlotte, SS jr.....Hillsdale
Matson, Henry Severus, Ed so.....Mulino
Matson, W. Eugene, E fr.....Albany
Matson, William Werner, Ed so.....Mulino
Mattern, Calvert Moulton, ME jr..Portland
Matteson, Sanford R., EE so.....Gaston
Matthew, Norman W., F so.....
..... Berkeley, Calif.
Matthews, Jr., James Abner, E fr..Portland
Maunula, Jean Marie, SS so.....Astoria
Maus, Calvin Donald, F jr.....Thurston
Mauser, R. Kent, E fr.....Seaside
Maw, Mary Virdia, H fr.....Toledo
Maxwell, Benjamin William, A fr.....Dayton
Maxwell, Robert Ballard, P so..Los Angeles
Maxwell, Willard Warren, LD so.....
..... Oregon City
May, Michael Lawrence, P fr.....
..... Grand Island, Nebraska
May, Stanley Woodrow, F so.....Grants Pass
Mayer, Joella Anna, H so.....Lebanon
Mayfield, Millicent Gertrude, P so.....
..... Enterprise
Maynard, Clara Cornelia, H gr.....
..... Corning, Calif.
Maynard, Marguerite Annie, H fr.....
..... Corning, Calif.
Mays, Lawrence K., F so.....Corvallis
Mead, Dorothy Ellen, H jr.....Corvallis
Mead, Helen Amber, H sr.....Pendleton
Mead, Henry Douglas, A jr.....
..... Juneau, Alaska
Mead, Jean, H fr.....Jennings Lodge
Mead, Kathryn Louise, LD so.....Medford
Mead, Pierre Dubois, BAd so....McMinnville
Meade, Marian June, SS fr.....Grants Pass
Meade, Richard K., LD so.....Arcata, Calif.
Mealey, Keith L., Sc so.....Gresham
Means, Carolyn Nancy, SS so.....Redmond
Mears, William Maxwell, A fr.....Beaverton
Medlin, Jack W., E fr.....Harper
Mee, Robert Sanford, SS so.....Portland
Meek, Edward Colton, Sc so.....Portland
Meeker, Herbert Wade, Bot sr.....Portland
Mehlhaf, Richard William, A so.....Corvallis
Meier, Harold Samuel, IA jr.....Corvallis
Meier, Paul Emanuel, E fr.....Corvallis
Meiners, William Robert, F so.....Pendleton
Mele, Angelo Micheal, LD fr.....Corvallis
Melson, Lewis Byron, CE sr.....Salem
Melum, Richard Willie, F so.....Canby
Melvin, Louis Chester, Ent so.....Corvallis
Melvin, Louise, SS fr.....Portland
Melvin, William Edward, F fr.....
..... Winnetha, Illinois
Mendenhall, Bob Llewellyn, BAd so.....
.....Portland
Menig, Margaret Faye, H gr.....Portland
Menzies, Walter Paul, LD so.....Corvallis
Mercer, Franklin Bruce, ME so.....Condon
Mercer, Robert Tressler, CE so.....Portland
Meredith, Nancy Elizabeth, H sr.....Portland
Merewether, Fremont Walter, F sr.....
..... Willamina
Mergentime, Max, A gr.....
..... Brooklyn, New York
Merkle, John, Bot gr.....Norman, Okla.
Merrifield, John Turner, CE so.....Sheridan
Merrill, Donald Lee, LD so.....Portland
Merrill, Mareth J., A fr.....Monument
Merriss, Martin Daniel, Sc sr.....Portland
Merritt, James Caldwell, F fr.....Portland
Merryman, Frank Jesse, E fr.....Corvallis
Mersdorf, Frank Steiner, F so.....Eugene
Mershon, Carroll McBride, A sr....Corvallis
Mesler, Franklin Merrill, A so.....
..... Gasport, New York
Metcalf, Angenette, SS fr.....Corvallis
Metcalf, Cecelia Edith, Ed jr.....
..... Battleground, Wash.
Metcalf, Cleve Robert, A so.....
..... Philipsburg, Mont.
Metz, Lee Marven, Sc fr.....Klamath Falls
Metzger, Jr., Floyd Sanford, E fr..Portland
Metzger, William Robert, Ed sr.....Gresham
Meyer, George Newton, BAd fr.....Corvallis
Meyer, Margaret Marie, H jr.....Dundee
Meyer, Otto John, Ed fr.....Salem
Meyer, Robert Alvin, A fr.....Portland
Meyer, Robert J., CE so.....Portland
Meyer, William Fredrick, Ch sr.....Corvallis
Meyer, William George, EE sr.....Dundee
Meyers, Donald Dale, ME sr.....Portland
Meyers, Dorothy Jane, Ed fr.....Marshfield
Meyers, Margaret Jean, H so.....Portland
Michael, Robert Ray, EE sr.....Junction City
Michel, Dorothea Joyce, H fr.....Wilbur
Mickel, Bernice Elizabeth, SS fr.....Portland
Mickels, Jack, A so.....San Gabriel, Calif.
Midcap, James Raymond, F so.....Salem
Miers, Edward John, IA jr.....Portland
Mikesell, Oscar Edwin, A gr.....Corvallis
Miles, Carter Earl, A jr.....Portland
Miles, Orval Clinton, F so.....Cloverdale
Miller, Alva Lou, SS fr.....Pendleton
Miller, Bernard J., LD fr.....Enterprise
Miller, Beth Allaire, H so....Jennings Lodge
Miller, Bonnie Belle, SS so.....Gervais
Miller, Jr., Chester Arthur, LD so..Portland
Miller, Clarence William, LD so....Corvallis
Miller, Dale Lawrence, ME jr.....Portland
Miller, Ellen Walton, H sr.....Portland
Miller, Eugene Wesley, LD so.....Portland
Miller, Floyd Lewis, LD fr.....Blachly
Miller, Harold Petter, E fr.....Corvallis
Miller, Helen Roberta, LD fr.....Salem
Miller, Henry William, E fr.....Baker
Miller, Ira Edward, EE so.....Gold Beach
Miller, James Earle, ME so.....Beaverton
Miller, James Edgar, F jr.....Tujunga, Calif.
Miller, Katherine Estella, H sr.....Salem
Miller, Leo E., A sr.....Gold Beach
Miller, Lynn Theodore, ME so.....Astoria
Miller, Margrette Evans, Ed sr.....Portland
Miller, Melvin Arthur, A sr.....Blachly
Miller, Myrl Raymond, LD so.....Enterprise
Miller, Myron Scoville, LD so.....Astoria
Miller, Olin Russell, F so.....Jefferson
Miller, Phillip Earl, CE so.....Corvallis
Miller, Phyllis, H so.....Gold Hill
Miller, Phyllis Ann, SS so.....Portland
Miller, Robert, LD fr.....Portland
Miller, Robert Bernard, E fr.....Woodburn
Miller, Ronald Thomas, ME jr.....Portland
Miller, Rozella Edyth, H fr.....Carlton
Miller, Ruth Genevieve, H so..Linden, Calif.
Miller, Sarah Earnheart, H so.....Pendleton
Miller, Shirlee Louise, LD fr.....Enterprise
Miller, Vernold, LD so.....Hood River
Miller, William Patrick, ME so.....Portland
Mills, Allen Fredrick, A sr.....Cove
Mills, Jacqueline B., H sr.....Corvallis
Mills, Julia H., SS sp.....Eugene
Mills, Thomas Lockman, EE jr.....Corvallis
Mills, Victor Blackford, ME sr.....Portland

Milne, I. Betty, SS fr.....The Dalles
Milne, Muriel Emeline, H so.....Yamhill
Milne, William Stockton, E fr.....Portland
Milnes, Russell Eloes, E fr.....Lorane
Minar, Jackson, A fr.....Salem
Minard, Carol Elaine, H fr.....Salem
Minden, Mary Beth, H gr.....Nampa, Ida.
Minear, Robert C., ME jr.....Medford
Mineff, Helen Francis, SS so.....Baker
Miner, William Lybrand, ME so....Portland
Minick, Marvin Scott, CE so.....Eugene
Mink, Wesley Stiles, E fr.....Portland
Minkoff, Mary Elizabeth, SS fr.....Clatskanie
Minson, Richard Douglas, A jr.....
..... Powell Butte
Mitchell, Vernon Wilson, A sr.....Madras
Mittet, Albert J., CE so.....Astoria
Mitznger, Amanda A., Ed gr.....Albany
Mitzote, James, LD fr.....Portland
Moe, Harold William, Ed gr.....Corvallis
Moe, Marguerite Delores, H so.....Corvallis
Moe, Virginia, H fr.....Portland
Moen, Einar C., F so.....Portland
Moffet, Glenn Vincent, E fr.....Medford
Mohr, Ralph Weldon, A fr.....Hood River
Mole, Richard Melvin, LD fr.....Medford
Molin, Joan Elizabeth, LD so.....Portland
Monjay, William David, LD fr.....Portland
Monroe, Carolyn Grace, H so.....Bonanza
Monroe, Guy Oliver, A jr.....Mulino
Monroe, Jean Doris, H so.....Mulino
Monroe, Melvin Candee, A sr.....Parkdale
Moor, Willard LeRoy, LD fr.....Parkdale
Moore, Dorothy A., H fr.....Brooks
Moore, George Robert, E fr.....
..... Roseburg, Wash.
Moore, Harvey Lee, A fr..Hollywood, Calif.
Moore, James Quentin, P fr.....Myrtle Creek
Moore, John Edwin, IA so..Hollywood, Calif.
Moore, Kenneth Allen, A fr.....Portland
Moore, Marian, H fr.....Corvallis
Moore, Mary Elizabeth, H so....Emmett, Ida.
Moore, Rosalind, LD so.....Dillard
Moore, Virginia Ethyle, Ed so.....Corvallis
Moore, Wanda Ardelle, Ed so.....Corvallis
Moore, William Thayer, BAd fr.....Portland
Moorman, Madison Kent, ME so....Gilchrist
Moran, Robert, LD fr.....Corvallis
Mordoff, Douglas Forsythe, ChE so.....
..... Klamath Falls
Morey, Jr., David N., ME so.....Milwaukie
Morgan, Donald Earle, EE sr.....Portland
Morgan, Helen Marguerite, SS fr.....Albany
Morgan, Justin Thomas, F so.....Gaston
Morgan, Lawrence DeWitt, A so....Portland
Morgan, Mildred Marie, SS so.....Eugene
Morgan, Philip Raymond, A jr.....Marshfield
Morgan, William Dunn, F jr.....Albany
Morgansen, Gleen George, IA jr.....Portland
Morris, Elizabeth Vanlandingham, SS so..
..... Corvallis
Morris, Helen Deane, SS jr.....Waldport
Morris, James Marshall, LD fr.....Portland
Morris, Joan Katherine, SS fr.....Portland
Morris, Marian Jewell, Ed gr.....Lebanon
Morris, Theodore Norman, P fr.....Mapleton
Morrison, Fritz Montraville, F so.....
..... Grants Pass
Morrison, Jack Earl, A sr.....Portland
Morrison, John Donald, F so.....
..... San Mateo, Calif.
Morrison, Rheta Hope, H gr.....Mulino
Morrison, Robert Angus, E fr.....Portland
Morrison, Robert Nathan, IA sr.....Portland
Morriss, Stewart, LD so.....Portland
Morrow, Alberta Cavender, H sr.....Medford
Morrow, Nancy Catherine, SS fr.....Medford
Morse, Dorene Lucille, SS fr.....Prineville
Morse, Fred Baker, ME so.....Corvallis
Morse, Jean, H sr.....Portland
Morse, Sara Lee, SS jr.....Prineville
Morse, June Elizabeth, H sr.....Prineville
Morse, William Bovell, A sr.....Corvallis
Mortensen, Al M., E fr.....Portland
Morton, Jacqueline Jean, H fr..Cottage Grove
Moser, Margaret Louise, LD fr..Rupert, Ida.
Mosier, Judith T., Ed sr.....Corvallis
Mosier, Naomi, Ed so.....Corvallis
Moss, Harry, P fr.....Portland
Mostul, Hilmar Erling, AA fr..Oregon City
Mott, Albert Warren, ME jr.....
..... Sacramento, Calif.
Moulton, Ralph Richard, ChE so..Grants Pass
Mowry, Paul, LD so.....Corvallis
Moyer, Leonard Rhodes, SS so.....Portland
Moyer, Louise Edith, H so.....Heppner
Moyer, Miriam Susan, H jr.....Heppner
Mudge, Barbara Anne, LD fr.....
..... College Park, Davis, Calif.
Mudge, Ross, ME so.....Portland
Mueller, Edward William, A fr..Oregon City
Mulder, Jack Taylor, LD so.....Gold Beach
Mulkey, Dorotha Mae, H fr.....McMinnville
Mulkey, LaVelle Daisy, LD fr....Philomath
Mullen, Margaret, H jr.....Portland
Mullen, Max Roland, E fr.....Bandon
Muller, Howard, A so.....Helix
Mullett, Donald Joseph, F so.....Portland
Mullins, Geraldine Standley, SS fr.....
..... Hermiston
Mumm, Don Jurgen, A so.....Pendleton
Muncey, Freda, H jr.....Salem
Mundorff, Lloyd, LD so.....Cornelius
Mundorff, Rosamond, H fr.....Cornelius
Munford, James Kenneth, Ed gr..Corvallis
Munsey, Delman Graham, LD fr.....Albany
Munson, Harry Charles, A gr.....Corvallis
Murch, Harold F., A sr.....Portland
Murdock, Helen Grace, LD so.....Corvallis
Murdock, Jr., Louis John, IA jr.....Eugene
Murphy, Alfred Henry, F jr.....
..... Piedmont, Calif.
Murphy, Dan Paul, P so.....Gresham
Murphy, Ethel May, SS fr.....Harrisburg
Murphy, George John, Sc sr.....
..... Salt Lake City, Utah.
Murphy, Marion Louise, Ed jr.....Portland
Murphy, William Matthew, A fr.....Arock
Murray, Edward Anne, ChE gr.....
..... Tacoma, Wash.
Murray, Freeman Charles, IA so.....Bend
Musback, Charles G., IA so.....
..... Underwood, Iowa
Musselman, Merl Frank, LD fr.....Corvallis
Mutti, Lena Bertha, SS jr.....Portland
Myer, William John, F so.....Klamath Falls
Myers, Franklin Oliver, E fr.....Eugene
Myers, John Edward, A so.....Bend
Myers, Opal Irene, H jr.....Cottage Grove
Myers, Paul B., Sc so.....Portland
Myers, Pauliene Alemdia, H jr.....Estacada
Myers, Thomas Arthur, BAd so.....Elgin
Myers, William Benton, A fr.....Bend

Nadon, Gene R., A so.....Astoria
Nail, Jack Roderick, Ent gr..Spokane, Wash.
Naillon, Geraldine Marie, LD fr.....Ontario
Naillon, Jacob Duane, ChE jr.....Ontario
Nance, Donald Wesley,, Ed sr.....Hood River
Nash, Harold Anthony, A sr.....Corvallis
Nash, Rodney Henry, E fr.....Spray
Nass, Cecil Raymond, IA so.....Myrtle Creek
Nattkemper, L. Clark, Bot gr.....
..... Long Beach, Calif.
Naylor, Jr., William Edward, F jr.....Bend
Nebergall, Don Burton, BAd so.....Albany
Nee, William Joe, Ed gr.....Canby
Neeley, Joe Wilburn, F fr.....Portland

Neely, William Vernon, A fr.....Beavercreek
Neer, Natalie Ann, H jr.....Salem
Neese, Robert Piggott, A so.....Portland
Nehl, Kay Louise, SS fr.....Portland
Neilsen, Katharine Margaret, LD fr.....
..... Portland
Nelson, Barbara June, LD fr.....Portland
Nelson, Dorothy Louise, H sr.....Portland
Nelson, Elton Glenn, Bot gr.....Corvallis
Nelson, Harold Charles, A jr.....Astoria
Nelson, Harold Garwood, ME so.....Salem
Nelson, Ira Norman, A fr.....Lexington
Nelson, Jean Kari, SS sr.....Portland
Nelson, John J., ME so.....Portland
Nelson, Leona Helen, SS so.....Oregon City
Nelson, Melvin Bernard, CE so.....Corvallis
Nelson, Nellie, SS so.....Portland
Nelson, Richard Morris, E fr.....Portland
Nelson, Richard Theodore, LD fr....Medford
Nelson, Robert Elmer, A sr.....Gresham
Nelson, Willard Ernest, A so.....Bend
Neptune, Doris Ellen, Ed gr.....Salem
Nestelle, Frederick Hammond, ChE fr.....
..... Portland
Neugart, Raymond, Ed sr.....Corvallis
Neuman, Frank Albert, Ed sr.....Corvallis
Neuner, Elizabeth, H fr.....McMinnville
Newberg, Arthur Joel, F gr.....Corvallis
Newcomb, Alice Elizabeth, H fr..Monument
Newcomb, Gerald T., A gr.....Corvallis
Newcomb, Hugh Ross, A gr.....
.....Newton Centre, Mass.
Newell, Ben Allen, A jr.....Dundee
Newell, Charles Frederic, A fr.....
..... Los Angeles, Calif.
Newell, Jr., George Cecil, CE so....Redmond
Newell, William Allen, CE jr.....Portland
Newhouse, Neil William, EE jr.....Portland
Newman, Eleanor Catherine, SS so.....
..... Portland
Newman, Juanita, SS fr.....Corvallis
Newman, Norman John, LD fr..Elbe, Wash.
Newman, Richard Joseph, EE gr.....
..... Mountain Lakes, N. J.
Newport, Earl Milton, Sc sr.....Tangent
Newton, Torrey Alexander, F jr..Monmouth
Nibecker, Jack F., A so.....San Mateo, Calif.
Nibler, Gerald, A gr.....Albany
Niblock, Russell Ambler, F sr.....Scappoose
Nichols, Lorraine Velma, SS fr.....Portland
Nicolen, Dwight O., F fr.....Altadena, Calif.
Niederer, Charlotte, H fr.....Multnomah
Niederer, Homer Elbert, E fr.....Multnomah
Nielsen, Robert Gene, EE so.....Eugene
Nielsen, Tom Frederick, A jr.....
..... Whittier, Calif.
Nielson, Kathryn LaVerne, Ed so.....Ontario
Nielson, Roderick, A jr.....Bandon
Niemi, Toivo Henry, E fr.....Astoria
Nietert, John Wilbert, LD fr.....Portland
Nill, Martin William, Sc jr.....Clarno
Nilsen, Dorothy A., H so.....Eureka, Calif.
Nilson, June Vivian, SS jr.....Portland
Nilsson, Nils Norman, A gr.....
..... Anaconda, Montana
Nisbet, Gladys Delphine, H fr.....Portland
Nisley, Joe Edward, ME sr.....Roseburg
Nissen, Ronald Kenneth, A fr.....Sheridan
Noble, Lois Baldwin, LD so.....McMinnville
Noble, Marvin Boone, F gr.....Corvallis
Nock, Betty V., SS so.....Oswego
Nock, George Webster, SS so.....Elgin
Noel, Jean Alice, SS so.....Corvallis
Nolan, Betty June, H fr.....Portland
Nolan, Charles, IA so.....Portland
Nolton, Elizabeth, LD fr.....La Grande
Nonken, Jean Dorothy, LD fr.....Corvallis
Norby, Harold Arthur, EE so.....Newberg
Nordling, Barton Gustabe, ME sr..Corvallis
Norman, Jerold John, E fr.....Portland
Northcraft, Herbert L., ME so.....Brockway
Northrop, Paul Edward, ChE so....Portland
Norton, Cecil, J fr.....Kent
Norton, Homer Hine, A so.....
..... Painesville, Ohio
Noth, Vivian E., H so.....Salem
Nowl, Victor Lane, J sp.....Corvallis
Nowotny, Dorothy Jane, SS fr.....Portland
Nunamaker, James Robert, A sr.....
..... Hood River
Nunenkamp, Victor Louis, F so.....Portland
Nunnenkamp, William Edward, IA jr.....
..... Portland
Nylander, Mildred Katherine, SS sr.....
..... North Bend
Nyquist, Ethna Irene, LD fr.....Astoria

Oard, Albert Grant, F fr.....Burns
Oberson, Alvin Loren, LD fr.....Albany
Oberteuffer, William Healy, A so.....Oswego
O'Brien, Jack C., E fr.....Oregon City
O'Connor, John Raymond, Sc so.....Medford
O'Donnell, Harold Constantine, Sc sr.....
..... Hornbrook, Calif.
Oetinger, William Charles, E fr.....Portland
Oetjen, Marie E., SS sr.....Corvallis
Ofner, Frank Robert, ME jr.....Portland
Ogle, Barbara E., SS so.....Pendleton
Ohlsen, Hannah Fay, LD fr.....Corvallis
Ohlsen, Harry, F sr.....Yoncalla
Ohm, Otto Walter, A so.....Salem
Olausen, Geraldine Olga, SS fr.....Bend
Oldfield, George Murray, Ed jr.....Milwaukie
Oldfield, Raymond, EE jr.....Leaburg
Olds, Betty Lou, LD fr.....Grass Valley
Olds, Willard Dean, SS fr.....Grass Valley
Oliphant, Evelyn Gladys, H fr.....Portland
Oliphant, Fern Opal, SS sr.....Portland
Oliva, Bernard M., P so.....Rainier
Oliva, Geraldine Mary, SS jr.....Corvallis
Olleman, Charlotte Lauretta, H jr.....
.....Maywood, Illinois
Olliver, Eleanor Anne, SS so.....Portland
Olmstead, Lloyd Charles, A so.....
..... Modesto, Calif.
Olmstead, Melvin Everett, AA fr..The Dalles
Olsen, Dorthea Minta, H fr.....Medford
Olsen, Jr., Edward Carl, LD fr.....Pendleton
Olsen, Harold Oscar, EE so.....Portland
Olsen, Richard Young, LD fr.....Lakeside
Olson, Alvin E., EE jr.....Sweet Home
Olson, Arthur Eugene, CE jr.....Bandon
Olson, Audrey Virginia, P fr.....Bandon
Olson, Dean Karl, ChE fr.....Portland
Olson, Donald Richard, ME so.....Eugene
Olson, Dorothy Louise, LD so.....Salem
Olson, Oliver Dale, Sc jr.....Corvallis
Olson, Evelyn Mary, SS fr.....Portland
Olson, Robert D., A so.....Ashland
Olson, Sylvanne, H fr.....Newport
Olts, Charles Alfred, F jr.....Grants Pass
Oman, Henry, EE sr.....Milwaukie
Onishi, George Toshio, A so.....Portland
Oorthuys, Catherine Marie, Ed gr....Corvallis
Ordway, Arlo Blaylock, Ed so.....Corvallis
Ordway, Marguerite Clark, H jr.....Corvallis
Orell, Bernard Leo, F gr.....Portland
Orr, John Ray, A so.....
..... Fairbanks, Alaska
Orr, Mildred Catherine, H sr.....
..... Vancouver, B. C.
Osanik, Alec, G gr.....Astoria
Osborn, George Palmer, F so....Oregon City
Osborn, George Rogers, ChE fr.....Culver
Osborn, Robert Otto, Sc jr.....Forest Grove

Osborne, Herbert Tilden, CE so.....
..... Tulelake, Calif.
Osborne, Richard Davison, ChE fr..Portland
Osburn, Aletheia, H gr.....Imperial, Calif.
Osterloh, Wilbur Marshall, BAd so.....
..... Beaverton
Ostlind, Benjamin Rolfe, ME so..Marshfield
Ostlind, Herbert John, Sc sr.....Salem
Ostman, Eve L., LD fr.....Seaside
Ostrom, Sumner William, E fr.....Milwaukie
Oswald, Fred James, ME so.....Pendleton
Othus, Marjorie Jane, H jr.....Portland
Otis, Chester E., A sr.....Myrtle Point
Ott, Marjorie Elizabeth, LD fr.....Roseburg
Ottaway, George Hollis, A sr.....Aurora
Otterbein, Jr., Paul Donald, F fr.....
..... Klamath Falls
Otterson, Joe, F fr.....Corvallis
Ottmer, Walter E., F so.....
..... West Bend, Wisconsin
Otto, Berton Reed, LD fr.....Milwaukie
Otto, Phyllis Loretta, H jr..Glendale, Calif.
Ottoman, Robert Lee, F sr.....Medford
Ousterhout, Lawrence Elwyn, A fr..Medford
Owen, Clara Josephine, LD so.....Oswego
Owens, Victor Gustiv, Ed sr.....Dayville
Oxenrider, Ralph Robert, A fr.....Marshfield

Packard, Martin E., LD so.....Corvallis
Page, Lawrence Fremont, Ed sr.....Burns
Palmer, Donald Leland, BAd so.....
..... Seattle, Wash.
Palmer, Juen Erla, H so.....
..... Klamath Falls
Palmer, Karl Gilbert, F jr.....Portland
Palmer, Wendell Hall, LD so.....Corvallis
Pankow, Charles Francis, EE jr.....Portland
Pape, Stanford Clay, F fr.....Corvallis
Pape, Harry Dean, ME so.....Portland
Parent, James Fred, A so.....Freewater
Paris, Andrew John, F so.....Salem
Park, Charlotte Helena, H fr.....Redmond
Parker, Allen Hudson, A fr.....Portland
Parker, Dorothy, Sc so.....Portland
Parker, Elizabeth Rose, Ed sr.....Ontario
Parker, Frank Freeman, LD fr.....Astoria
Parker, Geraldine Marguerite, H so....Salem
Parker, Harry Birdette, A sr.....Corvallis
Parker, Howard Wesley, E fr.....Astoria
Parker, Vernon LeRoy, SS so.....Gresham
Parker, William Beverly, A fr.....Boring
Parkhurst, Elma Vera, H jr.....Eugene
Parks, Alton Lloyd, F so.....Newport
Parks, Floyd Elwood, A so.....Elgin
Parman, Margaret Ann, H jr.....Condon
Parmenter, Russell Dale, IA sr.....Corvallis
Parmley, Cecil James, F so.....Tillamook
Parmley, Clifford Bethel, ME sr.....Tillamook
Parr, Gregory Turley, E fr.....Marshfield
Parrish, Virginia Louise, Ed sr.....Portland
Parry, Georgia, H jr.....Newberg
Parsons, Donald Herbert, E fr.....Portland
Parsons, Eugene Philip, BAd so.....
..... McMinnville
Parsons, Lewis Francis, IA jr.....Multnomah
Pashcild, Victor Albert, E fr.....Hammond
Paszkowski, Joseph Bernard, EE so..Portland
Patch, H. Wendell, CE so.....Canby
Patrick, Payl C., A so.....Corvallis
Patterson, Bill, A so.....Midland
Patterson, Mark Matthew, ME sr....Portland
Patterson, Muriel Cleone, LD so....Portland
Patterson, Ross Kendrick, EE so.....Portland
Patton, Clifford Porter, A jr....Junction City
Patton, Frances Louise, H fr.....Baker
Patton, Laura Joyce, LD so.....Portland
Patton, Madeline Edith, SS so.....Helix
Patton, Marshall Loren, A jr.....Helix
Patton, Shirley Elizabeth, H so.....Portland
Patton, Wilbur Charles, F sr..Mahomet, Ill.
Paulsen, Arney Sandy, A fr.....McMinnville
Paulsen, Richard Clement, P so.....Astoria
Paulson, Doris May, H fr.....Corvallis
Paulson, Richard Guy, BAd fr.....Portland
Pavelek, Antone John, A jr.....Woodburn
Pavelek, Henry John, A sr.....Woodburn
Payne, Mary Esther, LD fr.....Clatskanie
Pazina, Robert Verne, ChE fr.....Portland
Pearn, William Francis, LD so.....Portland
Peart, Vera Mary, LD so.....Central Point
Peat, Richard Philip, LD so.....Lakeview
Peck, Clinton Kenneth, F so.....Lexington
Peck, Ellwynne Edgar, A fr.....Lexington
Peck, Harrison, E fr.....Portland
Peck, Richard Max, Sc jr.....Portland
Peck, Sam Thomas, BAd fr.....Marshfield
Pederson, Carl Douglas, Ed fr.....
..... Fairfax, Calif.
Pederson, Harold L., SS so.....Corvallis
Pederson, Raymond Andrew, ME jr.....
..... Corvallis
Peebler, Francis Eugene, A gr.....Pendleton
Peek, Ardys Eudora, SS so.....Monroe
Peeke, George Owen, LD so.....Astoria
Peery, Kelton Ferguson, P so....McMinnville
Pehlke, Donald Earl, Sc so.....Corvallis
Pehrsson, Alfred Hildgar, ChE jr.....Halsey
Pelham, Walter Cyrenus, E fr.....
..... Canyonville
Pell, Willard Mathew, A fr.....Pendleton
Pena, Robert Victor, A so.....
..... Camarillo, Calif.
Pengra, Fred Carlton, BAd so.....Albany
Penland, Nell Mary, H sr.....Pendleton
Pennington, Lloyd Drew, Ch gr.....Portland
Penson, Margery Jene, SS fr.....Corvallis
Peoples, Arlene Elizabeth, H jr.....Bend
Peoples, Betty Janiece, H so.....Bend
Peppard, Eva Irene, H fr.....Hillsboro
Perkins, Imogene, SS fr.....McMinnville
Perman, Kenneth Ray, A sr.....Portland
Perman, Mildred Lucile, LD so.....Portland
Perret, George Albert, ME so.....Portland
Perry, George Francis, IA so.....St. Helens
Perry, Roy, A sr.....Lakeview
Perryman, J. Warren, Ed fr.....Corvallis
Persey, Harold Herman, A sr.....Corvallis
Persinger, Eloise Mary, SS fr.....Portland
Person, Robert Pershing, ME jr.....Roseburg
Perttula, Howard William, P sr....Marshfield
Peters, Adel, SS sr.....Portland
Peters, Betty, SS fr.....Portland
Peters, George Donald, A so.....
..... Ventura, Calif.
Peters, Jean Wilma, SS fr.....Portland
Peters, Norman Robert, A so.....
..... Ventura, Calif.
Peters, Otto Francis, F sr.....Redmond
Peters, Paul, E fr.....Clackamas
Petersen, Arthur Berg, LD fr.....Portland
Petersen, Hal E., Ed fr.....Eugene
Petersen, Jack W., LD so.....Ashland
Petersen, Owen Kent, A so.....Junction City
Peterson, Arnold Frederick, A sr.....Helix
Peterson, Carl Adolph, F sr.....Portland
Peterson, Carl Arthur, LD fr.....Portland
Peterson, Clara, H sr.....Estacada
Peterson, Curtis Jerome, A so.....Portland
Peterson, Estella Ceceilia, H gr.....Corvallis
Peterson, Evelyn Carroll, LD fr.....Portland
Peterson, Harold John, IA sr.....Beaverton
Peterson, Harold William, LD so.....Dallas
Peterson, James Arthur, LD so.....Roseburg
Peterson, Jean Bernice, SS fr.....Portland
Peterson, Katherine May, H sr.....Ontario
Peterson, Lois, H fr.....Rockaway
Peterson, Lyndon Leroy, ME jr.....Portland

Peterson, Nick William, F jr.....
..... Redding, Calif.
Peterson, Ruth Eileen, P sr.....Huntington
Peterson, Valgene, ME so.....Rockaway
Peterson, Vernon Paul, E fr.....Helix
Peterson, Veva Lorraine, LD fr..Marshfield
Peterson, Virginia Ruby, H fr.....Portland
Peterson, Wayne Layton, F so.....Woodburn
Petit, Cecil Earle, Ed gr.....Corvallis
Petrasek, Lou Wilson, LD fr.....Malin
Petrie, Gordon, E fr.....Portland
Pettit, Lyle Leroy, LD fr.....Corvallis
Petty, Andrew Joseph, A fr.....Creswell
Petty, Oliver Wendell, F sr.....Creswell
Pfaender, Barbara Louise, LD so....Portland
Pfarr, Lowell Robert, A gr.....
..... Berkeley, Calif.
Pfeiffer, Corinne, H sr.....Portland
Pfeiffer, Kedric Oliver, IA jr.....Portland
Pfotzer, John Paul, E fr.....Portland
Phelps, Francis Earl, LD fr.....Jefferson
Phelps, Robert Eldon, SS sr.....Grants Pass
Phelps, William Stoddard, F so.....Portland
Philbrook, George Warren, A so.....Portland
Philippi, Gloria Hazel, A jr.....Blalock
Philippi, Roy, A so.....Blalock
Phillips, Jack Edward, EE so.....Portland
Phillips, Lavergne Allan, ChE sr.....Portland
Phillips, Martha Ruth, H fr.....
..... Stockton, Calif.
Phillips, Robert LeRoy, LD fr.....Astoria
Philp, Donald Brainard, BAd so.....Portland
Phinney, Lyle, EE so.....Philomath
Pickard, Herbert, A sr.....Coupeville, Wash.
Pickens, Virginia Helen, P sr..Klamath Falls
Pickering, Ellis Earl, CE sr.....Warrenton
Pickett, Loris James, BAd fr.....Glendale
Pierce, Alnora, Ed jr.....Portland
Pierce, Dorothy Pearl, H so.....Pendleton
Pierce, Helen Elizabeth, H sr....Boise, Idaho
Pierce, Joseph Clancy, LD fr.....Portland
Pierce, Margaret Evans, Ed jr..Boise, Idaho
Pierce, Vard Mateland, LD fr.....
..... Walla Walla, Wash.
Pierson, Margie Mae, SS fr.....Lakeview
Piha, Louis Gerald, LD fr.....Portland
Pillow, Braden, A gr.....Corvallis
Pillster, Rodney Edward, A fr.....Boring
Pingel, Doris Nora, H so.....San Jose, Calif.
Pingel, Nellie Gertrude, H fr.....
..... San Jose, Calif.
Pinkerton, Thomas Dean, LD fr.....Moro
Piper, Margaret LeVan, Ed jr.....Clackamas
Pitblado, Jean Elizabeth, H fr.....Portland
Pitney, Jim, A so.....Junction City
Pitney, William Ernest, A sr.....Eugene
Pittenger, Louise, H fr.....Corvallis
Pitts, Houston Rutledge, A fr.....Medford
Pitzing, Ellamae Lucille, SS fr.....Lebanon
Plagmann, Lawrence LaVerne, P sr..Albany
Planansky, Robert Almstead, ME jr....Baker
Plants, Clyde Morie, F fr.....
..... Redwood City, Calif.
Platt, Jean Berniece, SS fr.....Medford
Platt, Raymond Arthur, A so.....Corvallis
Pleasant, Nina Ruth, Ed so.....Dallas
Ploub, Jacob James, E fr.....Monmouth
Plov, George T., Sc sr.....Monroe
Plummer, Ruth S., SS sr.....Dallas
Plympton, Don Fred, LD so.....Portland
Plympton, Robert Armstrong, LD so.....
..... Portland
Poage, Irene Mable, H so.....Nyssa
Pochelu, John Frederick, A so.....Paisley
Poindexter, Betty Jane, J so.....Portland
Polehn, Clara Alma, H fr.....Oregon City
Pollard, Robert Allen, Ed so.....
..... Eureka, Calif.
Polson, Donald Frank, A sr.....Portland
Pomeroy, Robert Newell, CE so.....
..... Sausalito, Calif.
Popovich, Jeanne Hartman, Ed jr....Corvallis
Popovich, Milosh, ME gr.....Corvallis
Port, Frances Maude, H jr.....Jacksonville
Porter, David, E fr.....Waterloo, Iowa
Porter, Harry Baxter, LD so.....Corvallis
Porter, Lawrence David, BAd so.....Portland
Porter, Jr., Louis Kenneth, E fr.....
..... Klamath Falls
Porter, Robert Milo, A fr.....Roseburg
Porterfield, Donald R., A jr.....Oregon City
Post, Herbert Franklin, IA so.....Post
Post, Richard Lewis, Ent gr..Rochester, N.Y.
Post, Walter Hajo, E fr.....Portland
Postlewaite, William Donald, A fr.....
..... McMinnville
Potter, Clive C., A so.....Susanville, Calif.
Potter, Edward Miles, A fr.....Portland
Potts, Dawna, LD fr..... Colton
Pound, Robert Allen, LD so.....Salem
Poutala, Carlo Andrew, ChE fr.....Portland
Poutala, Iris Lucille, H jr.....Portland
Powell, Betty Jane, SS so.....Moro
Powell, Wallace Bertram, E fr.....Corvallis
Powell, William Henry, A so.....Weston
Power, Cecile Dolores, LD so.....Portland
Powers, Carl Blaine, IA so.....Corvallis
Powers, William Elliott, ME so.....Pendleton
Pownder, Clarence Merle, ChE jr..Portland
Poysky, Kathryn Phyllis, LD so..Clatskanie
Prather, Robert Wilder, LD fr.....Portland
Pratt, Harland Leo, A gr.....Corvallis
Prescott, Hubert William, A gr.....Ashland
Prescott, John Standish, F so..Alberni, B.C.
Pressler, Claude D., Sc so.....Myrtle Point
Preston, Millicent Caroll, Ed so.....Corvallis
Prestwood, Jr., Marvin Spurgeon, E fr....
..... Portland
Pribnow, Andy Walter, F sr.....Portland
Price, Alvin LeRoy, BAd fr.....Sherlin
Price, Donald Nelson, A so.....Corvallis
Price, Dorothy Marie, Ed sr....Klamath Falls
Price, George, E fr.....Portland
Price, James, gr.....Forest Grove
Price, Kent Herbert, A so.....Portland
Price, Margaret, H fr.....Weston
Price, Phyllis Ann, H fr.....Leland
Price, Zona Catherine, H gr.....Weston
Prickett, Oradell Rose, H jr.....Hillsboro
Priday, Warren John, F so.....Gateway
Primus, Geraldine Mary, H fr..Independence
Prindle, Audrey Shirley, Ed gr.....Corvallis
Prindle, Lisbeth Ann Richards, H so.....
..... Portland
Pritchett, Wilson Stanley, EE sr.....Corvallis
Prouty, Donald Cummins, SS so..Warrenton
Prouty, Ray Arthur, IA jr.....Astoria
Prudhomme, Robert White, A fr....Portland
Pruitt, Kenneth Louis, Ed so.....Grants Pass
Pugh, Paul Richard, A sr.....Shedd
Purcell, Antoinette Valerian, H so..Corvallis
Purdy, James Granville, ChE fr.....Portland
Purtzer, Jean Elizabeth, LD so.....Corvallis
Purtzer, W. James, LD fr.....Corvallis
Purvine, Claudnia Elizabeth, SS so.....
..... Independence
Purvine, Julius, A fr.....Independence
Putman, Ila Louise, H jr.....Springfield
Putnam, Catherine, SS sr.....Pasadena, Calif.
Putnam, Iva Marie, H so.....Corvallis
Putnam, Nancy Ann, LD fr.....Salem
Pyatt, Alice Kathryn, SS jr.....Corvallis
Pyle, Keith Brenaman, LD fr.....Corvallis
Pyle, Theodore Roosevelt, E fr.....Lacomb

Quade, Eleanor Caroline, H fr..Oregon City
Quigley, Bruce Allan, E fr.....Portland

Quinby, Gilbert Farrand, EE so.....
..... Palo Alto, Calif.
Raabe, Howard William, Ed gr.....Corvallis
Raasina, Roy Milton, A sr.....Astoria
Rachford, Warren Everett, F so.....Portland
Radcliffe, Tom Heber, F so.....Klamath Falls
Rader, Dale Alten, SS so.....Portland
Radliff, Richard Allen, A jr.....Hood River
Rafei, Mahmoud Sami, Bot gr..Cairo, Egypt
Rafei, Samia, H sp.....Cairo, Egypt
Ragland, Willis Eugene, F so....Hutchinson
Ragsdale, Elbert, A sr.....Rickreall
Raines, Ralph Waldo, E fr.....Forest Grove
Ralston, John Curtis, A fr.....La Grande
Ramage, Gilbert Hugh, A so.....Woodburn
Rambo, Bob Wallace, Ed fr.....Portland
Ramsay, Richard Dale, F jr.....Corvallis
Ramsdell, Margaret Catherine, H so.....
..... Lakeview
Ramsdell, Vittz-James, LD so.....Westfir
Randall, Dorothy Ellen, H so.....Milwaukie
Randall, Howard Lester, EE sr.....Portland
Randleman, Merle Jason, Ed so..Myrtle Point
Randrup, Charles William, F jr.....
..... Susanville, Calif.
Raney, Marjorie, SS fr.....Portland
Rankin, Lewis Myers, F so.....Eugene
Rankin, Stuart Randolph, A so....Hermiston
Rapp, Floyd Eugene, F fr.....Crawfordsville
Rasaka, Lawrence John, A gr.....Dayton
Raser, Jr., William Vincent, F sr..Portland
Rasmusen, Robert James, BAd so....Portland
Rasmussen, Emil Oluf, LD so.....Portland
Rasmussen, Randall, BAd fr.....Portland
Rau, Robert Lawrence, SS so.....Portland
Rauch, August Henry, F jr.....Lexington
Rave, Katharyn Shrum, H gr.....
..... Monroe, Wash.
Rave, William J., Ch gr.....Tacoma, Wash.
Ravenscraft, Florence Edith, Ed sr..Corvallis
Rawie, Orval Henry, F sr.....Albany
Rawls, Frederick Franklin, Z so....Corvallis
Rawls, Joseph A., Bac so.....Corvallis
Rawson, James Foster, F fr.....Portland
Ray, Billy Roger, Ch gr.....Nampa, Ida.
Ray, Edna, A fr.....Klamath Falls
Raymond, Mary Louise, H jr.....
..... Hamilton, Mont.
Raymond, Norman George, E fr..Warrenton
Rea, Thell Eugene, Ed so.....Scio
Read, Donna Gertrude, SS so.....Corvallis
Read, Howard Kenneth, F jr.....Culver
Read, Irene Janette, H sr.....Klamath Falls
Read, Jean Dolores, SS fr.....Salem
Read, Maluta Ethelyn, H gr.....Eugene
Read, Zeta Elaine, H fr.....Corvallis
Reams, Robert Wayne, LD fr.....John Day
Redden, George Hamlet, Ed fr.....Bend
Redden, Ruth Lois, H so.....Bend
Redelings, Elizabeth Abbott, A gr.....
..... San Diego, Calif.
Redelings, Margaret Abbott, H sr.....
..... San Diego, Calif.
Redmond, Alice J., P fr.....McMinnville
Redmond, Marjorie May, P fr.....Prineville
Reed, Claude Russel, ChE jr.....Medford
Reed, Edwin Ward, J fr.....Mikkalo
Reed, Hanford Herschal, Ed so.....Elgin
Reed, Hazel Louise, SS fr.....Elgin
Reed, Robert C., A fr.....Eagle Point
Reed, Ruth Anna, H gr.....Portland
Reed, Starr William, F so.....Sherwood
Reed, Stephen Hartwell, LD so.....Corvallis
Reed, Virginia Maxine, H so.....Portland
Reed, Wallace James, E fr.....Salem
Reedy, Carrie Evalyn, H so.....Corvallis
Reeher, Rachelle Anne, SS jr..Forest Grove
Reese, Evelyn Lucile, H so.....Tillamook
Reetz, Mary, SS sr.....Corvallis
Reeves, Shirley Alice, LD fr.....Corvallis
Refvem, Robert M., EE so.....Stanfield
Reid, Frank David, A sr.....Rufus
Reid, Kenneth Ridgeway, A fr.....Portland
Reiner, Zaneta Isabel, H fr.....Dallas
Reish, Gene Harry, LD so.....Corvallis
Reith, Jane Lenore, H jr.....Portland
Rendahl, Ruth Adeline, SS fr.....Portland
Renne, Nancy Jane, H so.....
..... East Nicolous, Calif.
Renney, Clinton W., A sr.....Astoria
Renshaw, LaVerne Minnie, SS so..Corvallis
Renwick, Helen Miram, H fr.....
..... Vancouver, B. C., Canada
Reser, Alerita Josephine, H fr.....Condon
Rexford, Francis Lewis, Sc jr.....Corvallis
Reynertson, Don LeRoy, F fr.....
..... Hollywood, Calif.
Reynolds, Frances Marie, Ed so.....Portland
Reynolds, Ralph Kerr, ChE jr.....Portland
Rhoads, Owen Rivers, LD fr.....Portland
Rhoads, Robert Franklin, E so.....Troutdale
Rhyne, James Frank, LD fr.....
..... San Antonio, Tex.
Rhynearson, Edna Silverthorne, H sr.....
..... Corvallis
Rice, Archie Homer, CE so.....Portland
Rice, Charles Henry, A sr.....
..... Fort Jay, New York
Rice, Don Brooks, LD so.....Chiloquin
Rice, Gale Fauss, LD so.....Chiloquin
Rice, John Morley, LD so.....
..... Fort Jay, New York
Rice, Leonard Walter, A sr.....Grants Pass
Rice, Robert Lamar, BAd fr.....Huron, S. D.
Rich, Art Ivan, F fr.....Portland
Rich, Saul, Bot gr.....Oxnard, Calif.
Richards, Dortha Bernice, H sr.....Portland
Richards, Guy Everett, Ed so.....Albany
Richards, Lisbeth Ann, H so.....Richmond
Richardson, Bob Palmer, SS so.....Corvallis
Richardson, Marian Bernice, SS fr..Tangent
Richardson, Richard LeVoyle, ME sr..Bend
Richens, Janet, Sc so.....Portland
Richens, Kent J., BAd so.....Corvallis
Richey, Jean, H fr.....Boring
Richman, Lorene Elizabeth, H so.....
..... Powell Butte
Richter, Madeline Aline, SS fr.....Oakridge
Ricketts, George H., A sr.....Portland
Ridders, Jim, A gr.....Albany
Ridders, Maria Veronica, H jr.....Albany
Riechers, Robert Henry, A sr.....Portland
Riemann, Kenneth Albert, A jr.....
..... Artois, Calif.
Riggs, Margaret Cecile, H jr.....Dallas
Rigor, Karl Lester, A so.....Oakland
Rigor, Paul Ivan, LD so.....Corvallis
Riley, James Anthony, Sc jr.....Chiloquin
Riley, Patricia Bernice, SS jr.....La Grande
Rinabarger, Rolland, E fr.....Medford
Rindell, Ormie, H so.....Astoria
Ringe, Truxton, EE sr.....Portland
Ringo, Adele Nevada, H so.....Mulino
Rinker, Geraldine Francis, A so....Freewater
Rinne, Viola, SS fr.....Astoria
Rissberger, Charles Robert, A fr.....Eugene
Rist, Geraldine Houser, Non Maj gr.....
..... Corvallis
Ristig, James Frederick, IA sr.....Portland
Ritchie, K. Jean, H fr.....Wilbur
Rivers, Cole Morgan, A fr.....Milwaukie
Roake, William Earl, Ch jr.....Oregon City
Robb, Mary Carolyn, LD so.....North Bend
Robbins, Albert W., For fr.....
..... San Diego, Calif.

Robbins, Robert Oliver, A fr.....Molalla
Roberts, Alfred Nathan, A gr.....Corvallis
Roberts, Arthur Loren, IA so..Rhododendron
Roberts, Jr., Byran J., LD fr.....Albany
Roberts, Elaine, LD so.....Portland
Roberts, James Franklin, F fr.....Newberg
Roberts, James Goodwin, E fr.....Portland
Roberts, Joyce Helen, LD fr.....Portland
Roberts, Kenneth Marion, CE so.....Sandy
Roberts, Laura Lorene, SS jr.....Toledo
Roberts, Maxine Wilberta, H so..The Dalles
Roberts, Melvin Ray, ME so.....Corvallis
Robertson, Alan B., Ed fr.....Carlton
Robertson, Bettie Jean, SS jr.....Portland
Robertson, Dale Monroe, E fr.....Springfield
Robertson, James Wilfred, IA jr.....Carlton
Robertson, Joseph Randall, A fr.....Nyssa
Robertson, June Lois, H sr.....Pine
Robertson, Lawrence Humphrey, ME so..
..... Eugene
Robertson, Morris, SS jr.....La Grande
Robertson, William Barr, Ed so.....Portland
Robichaux, Roy Paul, A gr.....
..... Lafayette, La.
Robinson, Allen, A so.....Prineville
Robinson, Charles Francis, LD so..Marshfield
Robinson, Chester Lane, A sr.....Tigard
Robinson, Dan D., F sr.....Bend
Robinson, Edith Lucille, H jr.....Grants Pass
Robinson, George Alexander, BAd fr.....
..... Portland
Robinson, Kenneth Leon, A so.....
..... Yakima, Wash.
Robinson, Robert Wheately, F so....Portland
Robison, Orie Wilfred, A gr.....Corvallis
Robison, Rollie O., P so.....Corvallis
Robley, Asa Austin, Ed gr.....Corvallis
Rodriguez, Sumner C., LD so.....Corvallis
Roehlk, Arnold, P so.....Pendleton
Roemhildt, Merton Howard, F sr.....Salem
Roetter, Dorothy Leanona, H so..Milwaukie
Rogers, Alpha Mae, Non Maj gr....Corvallis
Rogers, Eldon John, EE jr.....Portland
Rogers, James Evan, A sr.....Klamath Falls
Rogers, John Alson, SS fr.....Portland
Rogers, Kathryn Anne, LD fr.....Portland
Rohner, Wadean Modell, H fr.....Baker
Rolfe, Robert Vernon, A so.....Grass Valley
Romano, Anthony Thomas, A sr.....
..... Long Beach, Calif.
Romig, Roberta Glee, SS so.....Portland
Romoren, Gurvin John, Ed gr.....
..... Stoughton, Wis.
Ronne, Harvey, A so.....Portland
Rood, Frank B., Ed gr.....Marshfield
Rood, George Witte, A so.....Marshfield
Rooper, Edna Marie, Ed so.....McMinnville
Rooper, Ralph B., E fr.....Antelope
Roork, Arrol George, EE so.....Eugene
Root, Don G., A so.....Medford
Root, Paulyne, H fr.....Freewater
Rose, Bettie Irene, LD so.....Oswego
Rose, Stanley McDonald, Sc sr.....Portland
Rosenfeld, Edward Arthur, SS so....Portland
Rosenstiel, Robert George, Ch gr.....Corvallis
Rosewald, Arnold Samuel, A gr.....Corvallis
Rosholt, Florence Mae, Ed so.....Corvallis
Ross, Charles Donald, ME jr.....Dallas
Ross, Clark Edward, LD fr.....Portland
Ross, Dorothy Mae, LD fr.....Portland
Ross, George Thomas, A gr.....Goldendale
Ross, John Daryl, E fr.....Dallas
Ross, Joseph Clinton, F so.....Portland
Ross, Marshall Minton, Bot gr.....
..... Wichita, Kan.
Ross, Stephen Wilbur, LD so.....Portland
Ross, Wesley Reid, EE so.....Wamic
Rossman, Elmer Chris, A so.....
..... Rawlins, Wyoming
Rossman, Louise Adele, LD fr.....Portland
Roth, Kermit Eugene, E fr.....Monmouth
Roth, Leland, Ed fr.....Corvallis
Rotzien, Frederick William, EE so.....Salem
Rounds, Norman F., SS sr.....Corvallis
Rounds, Robert R., LD fr.....Corvallis
Rowan, Edward DeWitt, ME sr.....Portland
Rowe, Frank Alvord, AA so.....Corvallis
Rowe, Gordon Akin, A so.....Corvallis
Rowe, Margery, Bot so.....Corvallis
Roxbury, Clara Jeannette, LD fr.....Corvallis
Roy, Thomas Adams, LD so.....St. Helens
Rozendal, Hendrine, Non Maj gr....Corvallis
Ruckdeschel, Mary Louise, H fr....Portland
Ruecker, Quentin Clarence, LD fr.....Salem
Ruggles, Judson Gilbert, Ch jr....Hood River
Ruhkala, Roy E., F so.....Rocklin, Calif.
Runckel, William Justus, Ch sr.....
..... McCloud, Calif.
Runey, Arthur William, F fr.....Eugene
Runyan, Elizabeth Georgene, H so..Portland
Runyan, Marvin Willard, CE sr.....Mulino
Ruppe, Kenneth, E fr.....Portland
Russell, Dexter Junior, A so.....Merlin
Russell, Donald Lee, LD fr.....Corvallis
Russell, Eileen Grace, H fr.....Portland
Russell, Elizabeth Ella, SS so.....Roseburg
Russell, Jo Anne, LD fr.....Corvallis
Russell, John Boise, A fr.....Corvallis
Russell, Joseph Phillips, F sr.....Corvallis
Russell, Robert Lloyd, F so.....Grants Pass
Russell, Ruth Leonard, SS jr.....Corvallis
Rutherford, Clarence Earl, F so.....Eugene
Rutherford, Mary Eleanor, H jr.....Corvallis
Rutherglen, Margaret Elaine, SS fr..Portland
Rutschman, Carl Ferdinand, A gr.....Salem
Ryan, Thomas Kaboth, ME so.....Astoria
Ryan, Virginia, SS so.....Portland

Saarheim, Norman Oliver, E fr.....Astoria
Sadler, Alfred Thomas, SS fr.....Portland
Saito, Frank T., P jr.....Honolulu, T. H.
Sakrison, William Andrew, LD so.....Astoria
Salisbury, Elton Eugene, Ed so.....Coquille
Salisbury, Joseph DeNune, F so.....
..... Columbus, Ohio
Salo, Michael Eric, A sr.....Burns
Salser, Carl Walter, LD fr.....Corvallis
Sammet, Winnie Marie, H so.....
..... Nauamata, B. C., Canada
Sams, Nathan Lorraine, LD fr.....Portland
Samsel, James Richard, SS sr.....Hillsboro
Samson, Georgena Pettingell, Non Maj gr
..... Corvallis
Sandberg, James Edwin, ME so.....Portland
Sanders, Elaine Isabella, H fr.....Warrenton
Sanders, Zoe Rae, Ed sr.....Portland
Sandidge, Jeanne Elaine, P fr.....Portland
Sandoz, Ali June, F sr.....Trail
Sandoz, Fred J., F sr.....Trail
Sandoz, Paul Lefebvre, ME jr.....Portland
Sands, Elizabeth Jane, H fr.....Corvallis
Sands, Mary Jane, H jr.....Corvallis
Sandstrom, Robert, SS jr.....Corvallis
Saramel, Katherine Marie, H sr..Milwaukie
Saremal, Hazel Arline, H gr.....Milwaukie
Sargent, Merrill Franklin, SS sr.....Portland
Sasaki, Thomas Toshio, EE sr.....Portland
Sasser, Arthur Harold, F so....Canyon City
Sather, Jack Dillard, A so.....Kent
Sato, Esther Kiyoko, LD fr.....Parkdale
Sato, Mark Kinya, A sr.....Parkdale
Sato, Ray, A sr.....Parkdale
Sato, Yoshio, Ch gr.....Portland
Satter, Vernon Emory, CE so.....Colton

Satterlund, Peter Bertell, A so.....Corvallis
Sauer, Albert W., F jr.....Pasadena, Calif.
Sauerbry, Max E., A gr.....Oelwein, Ia.
Saulsberry, Donald William, A so.....
..... Freewater
Saunders, Alice, H so.....Portland
Saunders, Edward Samuel, E fr.....Portland
Saunders, Ernest Dow, A sr.....Warrenton
Saunders, George Edward, A sr.....Eugene
Saunders, Ivan Lucian, ME sr.....Corvallis
Saunders, Maifair J., SS jr.....Alvadore
Saunders, Robert James, A so..Tudor, Calif.
Savage, Dorothy Alice, H sr.....Portland
Savage, Jean Justine, H fr.....Roseburg
Savage, Margaret Elizabeth, SS sr..Roseburg
Sawtelle, Welles E., LD so.....Portland
Saxton, Edith Elsie, LD so.....Corvallis
Sayer, J. Richard, A so.....Halsey
Sayers, Jr., Raymond, E fr.....Gresham
Sayles, Ola Merle, BAd fr.....Corvallis
Saylor, Clyde Chenoweth, ChE so....Portland
Saylor, Nelma Laura, H gr.....Echo
Sayrs, Frank Carroll, A fr.....Moro
Scarpelli, Lucille Carmella, SS so..Portland
Scarth, Nancy Lee, H fr.....Corvallis
Schaad, Dorothy Elizabeth, H fr.....Newberg
Schaad, Lawrence Werth, A so.....Newberg
Schade, Mary Jane, Ed so.....Portland
Schaeffer, Glen Thomas, A fr.....Boring
Schaffer, Laura Josephine, LD fr..Corvallis
Scheidegger, Fred Orval, A so.....Woodburn
Schell, Charles Otto, A so.....Corvallis
Schenck, Albert James, Sci so.....Sherwood
Schenk, Herman Daniel, F so.....Corvallis
Scherer, Fred Marks, LD fr.....Marshfield
Scherer, Helen Harriet, LD so.....Corvallis
Schessler, June LaRene, SS so.....Corvallis
Schiewe, Eugene Carl, CE jr.....Portland
Schifferdecker, Jack Wesley, F so.....
..... Pittsburg, Kan.
Schilling, Max Arthur, BAd fr.....Bend
Schlegel, Lester Warren, A so.....Banks
Schlender, Alice Ethlynn, SS sr.....Corvallis
Schley, Rosalie Ruth, LD fr.....Portland
Schlottman, Max Berg, A fr.....Mt. Angel
Schmeer, Gordon Ralph, EE sr.....Portland
Schmidt, Calvin Lamm, E fr.....The Dalles
Schmidt, Donald Walter, A fr.....Halfway
Schmiedeke, John Albert, SS so.....Corvallis
Schneider, Francis Leo, A jr.....Corvallis
Schneider, Phillip William, A sr....Corvallis
Schnurbusch, Alfred William, ME jr.....
..... Portland
Schobert, Charles Robert, ChE so....Portland
Schoeler, Marie Louise, H so.....Corvallis
Schoenborn, Arthur Frank, Ch sr.....Mulino
Schoenfeld, Benjamin Franklin, Sc jr....
..... Corvallis
Schoenfeld, Harold Paul, E fr.....Corvallis
Schrader, Ralph Henery, F so.....Eugene
Schram, Frank Davis, Ed gr.....Corvallis
Schram, Robert Allen, CE so.....Portland
Schrenk, Harold Stanley, A fr.....Eugene
Schrepel, Beulah Evelyn, H fr.....Corvallis
Schrepel, Florence Wilma, H sr.....Corvallis
Schroeder, Elwood George, P so.....
..... Redding, Calif.
Schroeder, John Edward, F sr.....Mill City
Schroeder, Rosemary Allen, SS fr.....
..... Sand Lake
Schroeder, William, Ph sr.....Marshfield
Schrump, Eda Fae, H so.....Oregon City
Schubel, William Walter, LD so.....Portland
Schuh, Josephine Thirza Higgs, H so.....
..... Corvallis
Schulein, Joseph, Ch gr.....Portland
Schulmerich, Alvin Leroy, A so.....Hillsboro
Schultz, Eberle Hynson, A so....Oregon City
Schultz, Edward Walters, F jr.....
..... South Gate, Calif.
Schulz, Rosemae Marie, SS sr.....Portland
Schumacker, Louise Gertrude, H fr.....
..... Portland
Schumann, Charles Pershing, ME so....Baker
Schwab, Arland Albert, Ed jr.....Silverton
Schwab, M. Jo., Ed jr.....Astoria
Schwebke, Harold Irwin, A so.....Imbler
Schwim, Yeolande Betty, H gr.....
..... Salt Lake City, Utah
Scidmore, Ardath, BAd so.....Portland
Scofield, John Earle, EE so.....Eugene
Sconiers, Florabelle, Ed gr.....Albany
Scott, Byron Clarendon, Ch sr.....Tangent
Scott, Edward Monroe, F so.....Corvallis
Scott, Gene William, F so.....Tillamook
Scott, Glennie Vinetta, Ed so..Cottage Grove
Scott, Gordon Lowell, CE sr.....Portland
Scott, Harold Huffman, E fr.....Wallowa
Scott, Henry, LD fr.....Milwaukie
Scott, Marjorie Jean, H fr.....Pendleton
Scott, Roger, Ent gr.....Corvallis
Scovell, Audrey Ruth, SS so.....Multnomah
Scovill, Donald Eugene, CE so.....
..... Benicia, Calif.
Scudder, Kathryn Miriam, Ed gr....Corvallis
Scudder, Robert Desborough, A sr.....
..... Corvallis
Seales, Gene Herbert, A fr.....Eugene
Searles, Marvin Jay, A fr.....Enterprise
Sears, Thomas Elton, LD fr.....Portland
Sears, Victor Wilson, Ed so.....Springfield
Sears, Wallace Bernard, A fr.....Springfield
Seavey, Bill Hennis, LD fr.....Mohawk
Seberg, Frank Joseph, IA so.....Portland
Seberg, Kathrine Elfreda, SS so....Portland
See, Gordon Erwin, LD fr.....Newport
Seely, Kathleen Viola, LD fr.....Shevlin
Seguel, Leopoldo Fuentes, Ed gr.....
..... Yungay, Chile, S. A.
Sehon, Howard Lee, Sc so.....Corvallis
Seibert, Paul Warren, A jr.....McMinnville
Selander, Betty Jean, H so.....Salem
Selander, Genevera, H sr.....Salem
Selberg, Burton Clair, SS sr.....Portland
Selby, Lois Ann, LD so.....Portland
Selleck, James Reece, SS jr.....Boyd
Selstad, Ruben Jack, F fr.....
..... Glendale, Calif.
Semmler, William H., F sr.....Portland
Seppanen, Irja, Ed gr.....Portland
Serafin, Ina Hubbard, LD fr.....Powers
Serafin, Peter Barry, F sr.....Glide
Setala, Eino Elmer, A fr.....Dayton
Setala, Verner Arnold, E sr.....Dayton
Sexton, Frances Viola, H sr.....Pendleton
Sexton, Harold W., CE sr.....The Dalles
Sexton, Joseph Francis, E fr..Klamath Falls
Seydel, Bette Jane, SS fr.....Corvallis
Seydel, Rodney A., P sr.....Corvallis
Seymour, Charles Richard, LD fr..Milwaukie
Seymour, Lyle Horatio, F fr....Central Point
Shaffer, Lillian M., AA so.....Philomath
Shaffer, Viola Brainerd, H gr.....Salem
Shaffer, William A., A so.....Corvallis
Shake, Homer Harrison, E fr.....Pendleton
Shanklin, Robert Elstone, G gr.....
..... Ashland, Ky.
Shao, Bing-Kun, A gr..San Francisco, Calif.
Sharon, Howard Allen, E fr.....Portland
Sharp, Ernest Gene, SS so.....Roseburg
Shaver, Catherine Sue, H fr.....Portland
Shaver, John W., CE sr..Los Angeles, Calif.
Shaver, Virginia Lee, SS so.....Portland
Shaw, Clayton Albert, SS so.....
..... Walla Walla, Wash.
Shaw, Darrell B., LD fr.....Portland

Shaw, James Niven, A so.....Corvallis
Shaw, Maxine Churchman, H so....Corvallis
Shaw, Robert Cyril, LD so.....Portland
Shaw, Robert Kermit, A so.....Portland
Shearer, Gordon David, LD so.....Tangent
Shearer, Marvin Nobel, A so.....Cornelius
Shearer, Maurine Margaret, SS so..Dorena
Shearer, Vance Nies, A so.....Cornelius
Sheely, Milton Conwell, Non Maj gr.....
..... Corvallis
Shelby, Ruth Elizabeth, SS so.....Albany
Sheldon, Russell Hal, A so.....McMinnville
Shelley, Kathryn Lucille, SS sr..North Bend
Shelton, Ruth, Ed so.....Corvallis
Shenker, Alfred Leonard, LD fr....Portland
Shepard, Barbara Cary, H fr.....
.....Palo Alto, Calif.
Shepard, Ruth Lorayne, SS jr.....Salem
Shepherd, Lester William, IA so.....Medford
Sheppard, Bette Ruth, SS fr.....Newport
Sherrard, Margaret Elizabeth, A so.....
..... Lakeview
Sherry, Mary Jane, SS fr.....Corvallis
Sherwood, Aris M., AA jr.....Newberg
Sherwood, Jack E., SS so.....Portland
Sherwood, Lester Lamont, LD fr.....
..... Sweet Home
Shesler, Franklin B., IA so.....
..... Los Angeles, Calif.
Shideler, Fred Merle, Ed gr.....Corvallis
Shields, Jr. Edward Beverly, E fr.....
..... Portland
Shields, Isabella Dorothy, LD so.....Portland
Shields, James Thomas, A sp.....Buhl, Ida.
Shiley, Donald Pearce, E fr.....Portland
Shiley, William Arthur, F sr.....Multnomah
Shinn, Leta Priscilla, H fr.....Joseph
Shirley, Eileene, H so.....Corvallis
Shishido, Hiroshi, A fr.....Salem
Shockey, Charles Floyd .....Corvallis
Shoemaker, Lorna Jean, H fr.....Hood River
Shoen, Leonard Samuel, LD so.....Salem
Shoen, Patricia Lee, LD fr.....Salem
Shook, Elizabeth Florence, H jr.....Halfway
Short, David Sanford, A so.....Independence
Short, Donald Ray, LD fr.....Beaverton
Shriner, Lois Frances, SS sr.....Corvallis
Shuck, Elaine, H fr.....Stayton
Shuck, Elma Marjorie, H so.....Stayton
Shuey, Dale Owen, Sc sr.....Eugene
Shultz, Virginia Melinda, H jr.....Portland
Shuman, Richard Duey, A gr.....Corvallis
Shumard, Arthur Welden, A sr.....Weston
Shumway, Jamie, Ph gr.....Milton
Shy, George Milton, Sc sr.....Corvallis
Sibbald, Mary M., LD so.....Kelso, Wash.
Sidey, Delphine Susan, H sr.....Portland
Sidor, Edward Norman, EE so.....Oswego
Sidor, Theodore Henry, LD fr....Oregon City
Sidwell, Howard Merle, IA so.....Oak Grove
Sieben, Herbert U., F jr.....Clackamas
Sieberts, Ned Allworth, LD so.....Portland
Sieg, Norbert LeRoy, A sr.....Baker
Sieg, Prentiss Rohner, LD fr.....Baker
Sieg, Wanda Warda, H fr.....Baker
Siemens, Beverly Louise, SS so.....
..... Klamath Falls
Sievers, John R., A jr.....
.....Santa Barbara, Calif.
Sikes, Frank A., E fr.....Corvallis
Silen, Roy R., F so.....North Bend
Siler, Virgil Eugene, E fr.....Portland
Sill, Howard N., ME so.....Ontario
Silva, John William, F jr.....
..... Los Angeles, Calif.
Silversten, Karl Robert, F fr.....Marshfield
Silvertooth, Mildred Elizabeth, SS so.....
..... Antelope
Simonds, John Kendall, A so.....Portland
Simmons, William Newell, P so.....Carlton
Simonsen, Ruth Eleanor, SS so.....Portland
Simonson, Charlotte Eleanor, Ed sr.....
..... Grand Junction, Colo.
Simpkin, Elizabeth Anne, H so.....Marshfield
Simpson, Billie Beatrice, LD fr....Troutdale
Sims, Alexander William, A jr.....Milton
Sims, Earl Rodney, A sr.....Metzger
Sims, Marie Jeannette, SS fr.....Milton
Sims, Robert True, A fr.....Portland
Sims, Virginia Eleanor, H so.....Metzger
Singleton, Dovie Helen, SS fr.....Corvallis
Sinnhuber, Russell Otto, Ch gr.....
..... Detroit, Mich.
Sinsel, Harold Vance, A fr.....Carlton
Sitton, Dudley L., A sr.....Carlton
Sitton, Gordon Russell, A sr.....Carlton
Sitton, Helen Caroline, H fr.....Portland
Sitton, Nada Ann, H fr.....McMinnville
Siverson, Norma Patricia, SS so.....Astoria
Sjoblom, Erhard, ME jr.....Hood River
Skene, Emerson Matthew, ME gr....Hillsboro
Skene, Marjorie Forbes, SS so.....Portland
Skewis, Sylvia Ann, H so.....Marshfield
Skibinski, Robert Ulysses, Ed so.....Portland
Skinner, Robert Harold, A jr..Jordan Valley
Skinner, Thomas George, A sr.....
..... Jordan Valley
Skoog, Douglas Arvid, Ch gr.....Portland
Slater, Daniel William, Z gr.....Tigard
Sloan, Earl Dennis, SS sr.....Hines
Sloan, Lucia Marie, Ed jr.....Corvallis
Sloan, Rosemary Alene, LD fr.....
..... Klamath Falls
Slocum, John McDaniel, LD fr.....Oswego
Slocum, Robert Gore, A so.....Oswego
Slonaker, Gene Roselyn, LD fr..Hood River
Sly, Norman Ralph, LD fr.....
..... San Francisco, Calif.
Sly, Robert Eustace, CE sr.....Creswell
Small, Hugh Matthew, A so.....Silverton
Smart, James Scott, A jr.....Salem
Smart, Thomas B., LD so.....Portland
Smedley, Leonard William, A so.....Medford
Smeed, Glenn H., Ph so.....Eugene
Smith, Alan Theodore, ME jr..Klamath Falls
Smith, Anson Henry, Ed sr.....Portland
Smith, Areta Pearl, LD fr.....Junction City
Smith, Arthur H., F fr.....Dillard
Smith, Clara Evelyn, H fr.....McMinnville
Smith, Daniel Claude, SS so.....Oswego
Smith, Dean Richard, LD fr....Independence
Smith, Donald Fay, A so.....Marshfield
Smith, Donald William, LD fr.....Condon
Smith, Donna Jean, SS fr.....Corvallis
Smith, Doris A., SS so.....Corvallis
Smith, Edward Doyle, SS sr.....Corvallis
Smith, Elizabeth Stearns, Ed sr.....Houlton
Smith, Ernest Aubert, SS fr.....Oswego
Smith, Frances Bernice, H jr.....Lodi, Calif.
Smith, Francis Hubbard, EE so.....Baker
Smith, Frank Willard, A so.....Portland
Smith, George Delbert, A sr.....Unity
Smith, Harding Eugene, A sr.....
..... Sacramento, Calif.
Smith, Harry Orange, Ed jr....Cave Junction
Smith, Henry Roy, P so.....Dufur
Smith, Howard Herman, Ed gr.....Portland
Smith, Jack Loyd, A so.....Mayville
Smith, James Robert, A sr.....Monument
Smith, James William, IA so.....Sutherlin
Smith, John Jacob, A fr.....Nyssa
Smith, Josephine Elaine, H jr.....Corvallis
Smith, Katherine Rae, gr.....Newport
Smith, Kenneth W., SS sr.....
..... Los Angeles, Calif.
Smith, Lawrence Franklin, A so.....Portland
Smith, Levine Emmett, ME so.....Portland

Smith, Lewis Carlisle, ME sr.....Newport
Smith, Lois Ruth, H jr.....Estacada
Smith, Marc, LD so.....Ashland
Smith, Margaret Ellen, SS so.....Corvallis
Smith, Merritt Wellington, IA so.....
..... Mill City
Smith, Philip M., E fr.....Lakeview
Smith, Ralph Floyd, F so.....Corvallis
Smith, Ralph Lee, P fr.....Rogue River
Smith, Ray Eston, Ed jr.....Albany
Smith, Raymond Stanley, AA fr....Portland
Smith, Reginald Harold, E fr.....Portland
Smith, Richard Edgar, ME jr.....Milwaukie
Smith, Robert Derwood, SS sr.....Corvallis
Smith, Rodney Errol Disbrow, Ed gr.....
..... Corvallis
Smith, Roland Stanley, E fr.....
..... Los Angeles, Calif.
Smith, Stanford Henry, A fr.....
..... Los Angeles, Calif.
Smith, Thelma Pauline, SS so.....Halsey
Smith, Jr., Thomas, IA so.....Troutdale
Smith, Vearl Robert, A gr.....Malta, Idaho
Smith, Victor Herbert, Ed gr.....Corvallis
Smith, Wallace Albert, F jr.....Redmond
Smith, Walter Hall, CE jr.....Albany
Smith, Walter Lewis, A so.....Stayton
Smith, Wayne Elmer, BAd fr..Klamath Falls
Smith, Wesley Alan, ME jr.....Newberg
Smith, Willard A., F jr.....
..... Altadena, Calif.
Smith, William Jackson, CE jr.....La Grande
Smith, William Malotte, CE so.....Salem
Smith, Zenophon Palmer, gr.....Corvallis
Smyth, James S., Sc sr.....Albany
Smyth, Paull Braden, J so.....Corvallis
Snarr, Mary Olive, H fr.....Corvallis
Snell, John Austin, ME so.....Astoria
Snell, William F., ChE so.....Astoria
Snider, Alva Vance, Ch gr.....Corvallis
Snider, Orvill Edward, A sr.....Salem
Snider, Paul A., IA sr.....Corvallis
Snyder, Allen Darrel, EE jr.....Creswell
Snyder, Herman Ben, ChE sr.....Portland
Snyder, Jack Thomas, SS fr.....Portland
Snyder, John Stanley, A fr.....Dayville
Snyder, Merton Leslie, P fr.....
..... Santa Paula, Calif.
Snyder, Robert Raymond, A so.....
..... Oakland, Calif.
Sohrweid, Lawrence Ernest, A so..Tillamook
Soller, Fred William, A sr.....La Grande
Solterbeck, Claude Bernard, A jr.....
..... Payette, Idaho
Sommer, Noel Frederick, A jr.....Scio
Sommerville, Thomas, CE jr.....
..... Pasadena, Calif.
Sorenson, Helen Margaret, H jr.....Sisters
Sorenson, Marguerite Ruth, LD so.....
..... Los Gatos, Calif.
Sorseth, Alvin Lloyd, BAd fr.....Lebanon
Soule, Barbara Esther, H sr..Klamath Falls
Soule, Vicenta, H sr.....Hoquiam, Wash.
Southwell, Margie Ann, H jr..Klamath Falls
Southworth, John William, A so.....
..... Canyon City
Sowers, Wallace Carl, ME so.....Baker
Spalding, Jr., Donald Parker, EE so.....
..... San Antonio, Texas
Spaniol, Leona Hazel, BAd so.....Portland
Sparks, Fred Buford, ChE fr..Klamath Falls
Spear, Muriel Marie, LD fr.....Portland
Spears, Cleo Calvin, BAd fr.....Portland
Spears, Lois, Ed fr.....Portland
Specht, Lyle Edward, A jr.....Silverton
Speegle, Alvin Madison, Z gr.....
..... Berkeley, Calif.
Spence, Fred Virgin, E fr.....Brownsville
Spence, Robert Edward, LD so.....Albany
Spence, Victory May, LD fr.....Carlton
Spillman, Paul Phillip, A fr.....Powell Butte
Spillman, Walter Edward, EE sr.....Portland
Spitzer, William LeVant, Ed jr.....Portland
Splinter, Hilda, SS fr.....Nampa, Idaho
Spoerli, Esther A., SS so.....Portland
Spulnik, Joseph Bernard, Ch gr.....Portland
Stage, Shirley Eileen, H jr.....Portland
Stahancyk, Joe, IA so.....Prineville
Stahl, Ruth Marie, H so.....Corvallis
Stanley, Clarence B., EE sr.....Tillamook
Stanley, Duncan Bruce, LD fr.....Warrenton
Stanley, Merrill Ralph, A so.....Gresham
Stanley, Ward B., Ed fr.....Portland
Stansberry, Jack E., A so.....Portland
Stanton, Betty Ann, H so.....Oregon City
Stark, John Benjamin, Ch gr.....Corvallis
Stark, John Wesley, LD so....Tacoma, Wash.
Starker, Bruce, F sr.....Corvallis
Starker, Charles Hammond, Sc so.....
..... Jennings Lodge
Starker, Margaret Jean, H so.....Corvallis
Starker, Mary Louise, H so..Jennings Lodge
Starr, Jerald Winton, SS so.....Portland
Starrett, Ruth Jean, SS so.....Salem
Stasny, Frank John, ME jr.....Portland
Stauss, Ira Martin, A so.....Hillsboro
Steagall, Jane, SS jr.....Portland
Stearn, Lucile Hazel, SS fr.....Portland
Stearns, David Emery, F so....Nampa, Idaho
Stearns, Madlyn Loise, Ed so.....Oakland
Stearns, Thomas James, F so.....Bend
Steed, Virginia Leonard, Ed fr.....Salem
Steelhammer, Bernice Irene, H fr..Portland
Steidinger, Dean Kenneth, EE sr..Tillamook
Steigerwald, Maxine Louise, H fr..Portland
Steimle, Jean Virginia, H so.....Portland
Stein, Albert Frank, LD so.....Boring
Stein, Anna Orville, H fr.....Lakeview
Stein, William Albert, P sr.....Portland
Steinberg, Mark Arthur, A fr.....
.....Santa Maria, Calif.
Steinbrugge, Karl, CE jr.....Portland
Steinke, Gretchen Elaine, H fr.....Salem
Steinmetz, Rebecca Mary, Sc jr.....Portland
Stellmacher, Mary Joyce, H sr.....Albany
Stenberg, Marvin, LD fr.....Albany
Stephens, Betty Jane, LD fr....Klamath Falls
Stephens, Ialo DeWitt, LD fr.....Roseburg
Stephens, Willard Glenn, E fr.....Portland
Stephens, William Laton, CE sr.....
..... Klamath Falls
Stephenson, George W., EE sr.....
..... Klamath Falls
Stephenson, Graham Martin, BAd so.....
..... Corvallis
Sterling, Leon, Ed so.....Honolulu, Hawaii
Stevenson, Kenneth Frey, E fr.....
..... Oakland, Calif.
Stevenson, Margaret Arvida, SS sr.....
..... Corvallis
Stevenson, Margaret June, SS so.....Lebanon
Stevenson, Roland Daniel, ChE fr..Hubbard
Stewart, Alan A. H., F sp.....
..... Port Alberni, British Columbia
Stewart, Clinton Frazeur, BAd fr....Albany
Stewart, Donald Herbert, A fr.....Ontario
Stewart, Kathleen D., LD so.....Corvallis
Stewart, Lettie Elizabeth, H fr.....
..... Klamath Falls
Stewart, Rav Lawrence, F sr.....Corvallis
Stewart, Robert Blodget, ChE so.....
.....South Colby, Washington
Stickler, Lee Robinson, A sr.....Enterprise
Stickney, Judson Russell, A so.....Corvallis
Stickney, Nancy Eloise, Ed so.....Corvallis
Stidd, Charles Ketchum, ChE jr.....Portland

Stidham, Bill, Ed so..South Pasadena, Calif.
Stier, Robert Jesse, ME jr.....Portland
Stiles, Loren Wilson, E fr.....Cottage Grove
Still, Janet Anne, H sr.....Milton
Stinson, Lester Merritt, E fr.....Medford
Stipe, Caroline H., H jr.....Portland
Stitt, Donald Virgil, Ed so.....Portland
Stock, Marvel Macine, Ed so.....Salem
Stockard, Clement Nat, P sr.....Hermiston
Stockdale, LaVelle Marjorie, SS so.....
..... Mt. Vernon
Stocker, Clifford Alvin, Ed gr.....Parkdale
Stocker, Eldon Alvin, E fr.....Portland
Stocking, Margaret Remick, H sp..Richmond
Stockman, Robert Louis, CE jr.....Baker
Stockslager, Bryce Francis, BAd so.....
..... Clarkston, Washington
Stoddard, Francis Brigham, ME so.....
..... Corvallis
Stoddard, Kathryn, SS so.....Baker
Stoebig, Robert William, F jr.....
..... Kenosha, Wis.
Stoffer, Ralph Erwin, Ed sr.....Beaverton
Stokes, Elmer William, A fr.....
..... Los Angeles, Calif.
Stokes, Robert Alfred, F so.....Jacksonville
Stone, Evelyn Frances, H fr.....Troutdale
Stone, Harry William, A gr.....Monmouth
Stone, William Matthewson, Mth gr.....
..... Oregon City
Stonebreaker, Dick, IA fr.....Waldport
Storkersen, Solveig Hildegard, SS fr.....
..... Portland
Storm, Robert, Z gr.....DeKalb, Illinois
Stotler, Donald William, A gr.....
..... West Branch, Iowa
Stott, Betty Jane, LD so.....Portland
Stott, Jean Kathleen, LD so.....Portland
Stout, Anne Elizabeth, Sc gr.....Corvallis
Stout, Wendell, A sr.....Portland
Stovell, Myron Wilfred, E fr.....Corvallis
Stow, Virgil Francis, A jr.....Junction City
Stradley, Doris Edna, SS so.....Grass Valley
Strait, Don Frederick, A so.....Newberg
Strait, M. Lee, A jr.....Newberg
Strandberg, Roy Alfred, ChE fr..Monmouth
Strangman, John Lorenzo, A so.....
..... Bloomington, Nebraska
Straus, Irvin Richard, ME jr.....Mosier
Strauss, Patricia Amelia, H fr.....Mosier
Straw, Wayne Alvin, IA fr.....Salem
Strawn, Kenneth Lyle, CE so.....Salem
Strebin, Donald Robert, A so.....Troutdale
Street, Donald John, A gr.....Corvallis
Stringer, Mildred Eleanor, LD fr....Lebanon
Strom, Clark Stephen, ME so.....Portland
Strom, Gordon Rodlum, SS sr.....Portland
Strom, Lillian Amelia, SS so.....Corvallis
Stron, Jack Cotton, A jr.....Gresham
Strong, George A., BAd so.....Portland
Strong, George Trowbridge, ChE so.....
..... Portland
Strosnider, Jim, A so.....Yerington, Nevada
Struble, Shirley Ardita, H so.....Portland
Stuart, Alice Jane, H sr.....The Dalles
Stump, Arthur Darrell, Sc sr.....Monmouth
Stumpenhaus, Esther Marie, H fr..Corvallis
Sturgeon, Edna Elizabeth, SS sr.....Portland
Sturges, Lewis William, F fr..Cottage Grove
Stutz, Robert Eugene, LD fr.....Corvallis
Subotnick, Leonard, Sc sr.....Portland
Sudtell, Henry Dewayne, ME jr.....Portland
Sulinka, Fred, Ed fr.....Clatskanie
Sullivan, Carolyn Gaskins, H gr.....Corvallis
Sullivan, James Arthur, A so.....Corvallis
Sullivan, Mary Margaret, LD fr.....
..... Drumheller, Alberta, Canada
Sullivan, Thomas William, Ed jr.....
..... Oregon City
Sullivan, Wayne LeRoy, F so.....Hilgard
Summersett, Robert, ME so.....Portland
Sundby, Herbert Henry, E fr.....Portland
Surmeyer, Frank Nicholas, A fr..Woodburn
Sussman, Lillian Joyce, H so.....Pendleton
Sutherland, Helen Jean, H fr.....Portland
Sutherland, Robert Neil, A so.....Hillsboro
Suttle, Mary Elizabeth, H sr.....Noti
Sutton, Helen Sara, H jr.....Corvallis
Sutton, Maxine, Ed fr.....Gold Beach
Suty, Jr., Tony M., A fr.....Merrill
Swall, Ross Forrest, Sc sr.....Salem
Swan, Gordon Wallace, E fr.....Portland
Swanson, Harry Ralph, F sr.....Portland
Swanson, Lorene, H so.....Freewater
Swanson, Wendell V., EE so.....Baker
Swanstrum, Philip, A so.....Ashton, Idaho
Swarner, Lawrence Robert, A sr..Hermiston
Swarner, Thelma Frances, Ed so..Hermiston
Swartout, Gordon Ray, F fr.....
..... San Fernando, Calif.
Swartsley, George Herbert, P jr.....Ashland
Swartz, Jack Thomas, E fr.....Portland
Swearingen, Claude E., ME so.....
..... Beaumont, Calif.
Sweeney, Raymond Joseph, SS so.....
..... Seattle, Wash.
Sweetland, Earle Everett, P sr.....Portland
Swift, Helen Louise, H so.....Corvallis
Swisher, Ely Martin, Ent gr.....
..... Sheridan, Montana

Taber, John William, Ed gr.....
.....San Diego, Calif.
Tadekuma, Clifford Akira, ChE jr..Portland
Takalo, David Swain, Sc sr.....Astoria
Takami, Ralph, Ed so.....Portland
Takashima, Tony Toshio, A jr.....Gresham
Takasumi, Mas, A sr.....Hood River
Talbot, Emily Patricia, SS fr.....Grants Pass
Talbot, Gilbert, SS sr.....Grants Pass
Talbot, Marjorie L., SS jr.....Grants Pass
Talbot, Thomas Edward, LD fr.....Portland
Talcott, Watson Claude, A fr.....Glide
Talent, Mahlon Dewey, Ed so.....Tigard
Tapscott, Doris Margaret, H fr..McMinnville
Tarrant, Robert Frank, A sr.....Portland
Tash, Herschel, Ed jr.....Freewater
Tatom, Marion N., SS sr.....Philomath
Tatro, Francys Hazle, SS jr.....Lakeview
Taylor, Jr., Bert Raymond, Sc sr..Portland
Taylor, Bertram Sam, F gr.....Corvallis
Taylor, Bette Louise, LD fr.....Albany
Taylor, Bill Meek, LD so.....Creswell
Taylor, Charles Alfred, SS fr.....Corvallis
Taylor, DeVere Ormond, Ed sr.....Alsea
Taylor, Dorothy Irene, LD so.....Portland
Taylor, Duane Russell, LD so.....Corvallis
Taylor, Harold Douglas, CE so.....Portland
Taylor, Howard Everett, F sr....Oregon City
Taylor, Jay Eugene, Sc sr.....Stayton
Taylor, Norton Oscar, A jr.....Klamath Falls
Taylor, Orson, EE so.....La Grande
Taylor, Ray Wilbert, P so.....Corvallis
Taylor, Richard Marshall, LD fr.....Portland
Taylor, Russell Milton, ME so.....Portland
Tays, Charles Alexander, A fr.....
.....Forest Grove
Teeter, Robert Harold, A gr..Meridian, Idaho
Teeters, David Robert, Sc so.....Portland
Tehle, Lester Albert, IA fr.....Salem
Teir, Lennart T., Sc sr.....Rainier
Teir, William, ME jr.....Rainier
Teir, Zella Davidson, Ed sr.....St. Paul
Telford, James Andrew, ME so.....
..... Klamath Falls
Tell, Roger Clark, LD fr.....Toledo
Templeton, Jean Marie, H so.....Portland
Terhune, Robert Anderson, LD fr..Jefferson

Terrell, Bill, SS fr.....Gilchrist
Thatcher, John Shepherd, A sr.....Corvallis
Thaw, Richard Franklin, LD fr....St.Helens
Thaw, Wallace Malcolm, LD fr.....St. Helens
Thayer, David, A fr.....Corvallis
Thomas, Frank Warren, Ch gr.....The Dalles
Thomas, Ida Swift, Ed gr.....Corvallis
Thomas, Maurice E., P so.....Eugene
Thompson, Bonnie Jane, SS so.....Portland
Thompson, Clarence Garrison, Sc sr.....
..... Corvallis
Thompson, Edna Jean, SS fr..Klamath Falls
Thompson, Gilbert Mayton, A so.....Portland
Thompson, Kenneth M., Ed so.....Portland
Thompson, Lyle C., E fr.....Portland
Thompson, Melvin Gibbs, BAd so....Portland
Thompson, Robert Kasper, F so.....
..... Klamath Falls
Thompson, Robert Neil, F sr.....Corvallis
Thompson, Walter Thomas, F so....Corvallis
Thompson, Wilbur Harold, A fr.....Seaside
Thompson, William Herschel, CE so.....
..... Portland
Thompson, William Walter, LD so.....
..... Vernonia
Thomsen, Ernest, CE so.....Philomath
Thomson, Albert, EE sr.....Portland
Thomson, Isobel Stewart, H sp.....Marshfield
Thomson, Margaret Jane, SS so....Pendleton
Thomson, Mary G., H jr.....Burbank, Calif.
Thoreson, Wanda, H so.....Medford
Thorfinnson, Margaret Elizabeth, SS fr..
..... Corvallis
Thorne, Wayne Lowell, ChE fr.....Pendleton
Thornton, Charles Robert, A fr.....Yamhill
Thornton, Glenn George, F so.....Allegany
Thorsen, James G., A jr.....Portland
Thorson, Roy Hiram, A gr.....Corvallis
Throckmorton, Eleanor Jane, H gr.....
..... Eagle Point
Throckmorton, Lester Dale, A so.....
..... Eagle Point
Thronson, Roger Allen .....Molalla
Thurlow, Gladys Adela, H so.....Portland
Thurtell, Margaret, H fr.....Newport
Tibbutt, Ted Van, A so.....Portland
Tibbutt, Torrence Ness, A so.....Portland
Tice, James George, IA sr.....Portland
Tiedeman, Albert William, LD fr.....Baker
Tiffany, Jesse Orrin, A so.....Portland
Tiller, Wanda M., Ed so.....Hermiston
Tippner, Edwin, F sr.....Silverton
Tipton, T. Gerene, SS jr.....Klamath Falls
Tison, William Andrew, E fr.....Roseburg
Tissot, Marian Elaine, H fr.....Wolf Creek
Tobey, Fred R., E fr.....Eugene
Todd, Barbara Ruth, H fr.....Portland
Toler, Chester Philip, E fr.....Grants Pass
Toler, Lester James, E fr.....Grants Pass
Tollack, Howard Varnum, F jr.....
..... Black River Falls, Wis.
Tolleshaug, John S., A so.....Rainier
Tollisen, Herbert Logan, E fr.....Portland
Tomassene, John Bingner, BAd so..Portland
Tomich, Joe John, LD so.....Butte, Mont.
Tomison, Jean Heddle, H so.....Silverton
Tompkins, Merle Lloyd, P so.....Corvallis
Toney, Marciel Aldine, SS jr.....Corvallis
Toomey, Francis James, A fr.....
..... Brush Prairie, Wash.
Torbet, Clifford Alvin, E fr.....Albany
Torgerson, Mary Margaret, SS fr..Corvallis
Torrey, Frances Anne, LD fr.....Wauna
Torvend, Agnes Bernice, Ed gr.....Silverton
Totten, Byron Miller, Ch so.....McMinnville
Tourtellotte, Franklin Korell, Ed jr..Portland
Tourtlotte, Frances E., H gr....Regan, N. D.
Towery, Patricia Ann, H so.....
..... Bakersfield, Calif.
Townes, Elizabeth Jane, LD fr.....Portland
Townes, Maxine Carrie, SS fr.....Seaside
Townsend, Herbert Wesley, SS jr.....Salem
Townsend, Lillian Lucille, LD fr.....Brooks
Towson, Travis Jackson, Sc jr.....Portland
Toy, Mary Ellen, H fr.....Portland
Traaen, Leonard, E fr.....Portland
Tracewell, Mahlon Wilson, A fr....Corvallis
Tracy, Patricia Louise, SS fr.....Dallas
Traver, Jean Campbell, SS so.....Portland
Traver, Verfield Oliver, IA so.....Portland
Trayle, Howard Charles, E fr.....Portland
Treharne, Edwin Evan, A fr.....Seaside
Trenary, Sara Irene, Ed sr.....Corvallis
Trenkel, Harold Frederick, A fr.....Ontario
Trigg, Donald Robert, A fr.....Norway
Trindle, Helen, H sr.....Salem
Triplett, Frances Elizabeth, BAd fr..Corvallis
Tripp, Barbara Claudine, Ed jr.....Albany
Tripp, Rodney, SS sr.....Albany
Trommershausen, Al, ChE sr.....Newberg
Trondsen, Barbara Deane, H so.....
..... Nahcotta, Wash.
Trout, Reeves, Ed gr.....Yuba City, Calif.
Trowbridge, Shirley Mae, H sr....John Day
Troxel, Betty Jane, H fr.....Adams
Truax, Jesse, BAd fr.....Albany
Trunnell, Ilene Annette, H so..Cottage Grove
Tsoutsouvas, John Sam, Ed jr.....
..... Santa Barbara, Calif.
Tsu, Sih-tsi, A gr.....Canton, China
Tucker, Helen Kerstine, LD so.....Rainier
Tuffs, Wiliam Sherwin, E fr.....Portland
Tullis, Garry Hurst, A fr.....Pendleton
Tully, Geoffrey Robert, ChE jr.....Portland
Tuomy, Jack Eugene, CE sr.....Portland
Turbyne, Jr., John W., IA fr....Sweet Home
Turley, Gladys Lucil, Non Maj gr.....
..... Corvallis
Turner, Frank Marvin, A so.....Corvallis
Turner, Ione P., H jr.....Portland
Turner, James Floyd, CE so.....Corvallis
Turner, Wanda Lucile, SS fr.....Gladstone
Turner, Warren Eugene, A so.....Corvallis
Turnham, Donald Warren, LD so.....
..... Garden Home
Tuttle, Corrinne, H sr.....Portland
Tyler, Charles Edward, F sr.....Woodburn
Tyler, Harold William, A jr.....Portland
Tysko, Clifford Ingolf, LD fr.....Astoria
Tysko, Sig, CE so.....Astoria

Udell, Bert Wesley, F sr.....Portland
Ullman, Eileen Lucille, H fr.....Salem
Ulman, Arthur William, SS so.....Portland
Umbras, Alda Ann, SS so.....Oregon City
Umbras, Alfonso, IA so.....Oregon City
Unruh, Alice Elizabeth, SS so.....Salem
Unruh, Robert Earl, ChE fr.....Salem
Urban, Ruth Elsie, SS so.....Corvallis
Usher, James M., F sr.....Corvallis
Uthaug, Jane Jordis, SS fr.....Portland
Utzinger, Robert W., LD fr.....Astoria

Vagt, Douglas A., LD fr.....Garibaldi
Vaillancourt, Donald Raymond, ME jr.....
..... Portland
Valenti, Paul B., Ed so.....Larkspur, Calif.
Van Blaricom, Elmer N., Ed so.....Corvallis
Van Blaricom, Lester Oscar, A gr..Corvallis
Vancil, Betty Jean, H so.....Corvallis
Vancil, Donald Otis, ChE so.....Corvallis
Vancil, Kenneth Theodore, LD so..Corvallis
Vandervort, Ralph Emerson, A jr.....
..... Hollywood, Calif.
Vandiver, Ray, Ed sr.....The Dalles

Van Dyke, William Farley, LD so.....
..... Sacramento, Calif.
Vane, Arthur Bayard, Ch gr.....
..... Coupeville, Wash.
Van Galder, Irma Pauline, SS sr.....Portland
Van Galder, James Wilbur, ChE so.....
..... Portland
Van Gorder, John Ralph, A so.....Portland
Van Groos, Evelyn Swinhow, Bot gr.....
..... Corvallis
Van Keulen, Doris Dean, SS so.....Lakeview
Van Kirk, Fred, A fr.....Portland
Van Leeuwen, George, A fr.....Halsey
Van Patten, Ruth Gaily, H so.....
..... Emmett, Idaho
Van Pelt, Richard, Ch gr.....Salem
Van Santen, George Elvin, E fr.....Rickreall
Van Winkle, Alfred Eugene, A fr.....
..... Lexington
Vaughan, Tom, EE jr.....Pendleton
Vaughn, Maxine M., H so.....Corvallis
Vehrs, Betty May, H so.....
..... Oakland, Calif.
Velarde, Anas E., LD so.....Medford
Velde, Theodore M., Ed jr.....North Bend
Venator, John Douglas, F jr.....Lakeview
Vennewitz, Lloyd William, ME so..Portland
Verling, George Edward, P jr.....Lakeview
Vermeul, Jack Edward, A so.....Portland
Verrelman, Gale Lawrence, E fr.....
..... Westfir
Vertrees, Junius Daniel, A sr.....Corvallis
Vessey, William Thomas, LD fr.....
..... Oregon City
Vezzani, Eleanor Mary, H fr.....Portland
Vice, Jack Hoy, A sr.....Powell Butte
Vick, Harriet Marie, H fr.....Salem
Vielhauer, Jack Henry, IA so.....Portland
Vincent, Robert Elton, ChE so.....Corvallis
Vincent, Robert Marion, F so.....Gaston
Vincent, Wilton Leslie, F jr.....Jewell
Vincent, Zolita Janet, H so.....Portland
Vinson, Charley, A sr.....Astoria
Virden, Eugenia, H so.....Corvallis
Virden, Louise, SS so.....Roseburg
Vivion, Owen Homer, A jr..Live Oak, Calif.
Voelz, James G., A sr.....La Grande
Voget, Edith Faye, H gr.....Portland
Vogland, John O., SS so.....Portland
Voit, Robert Owen, SS so.....Multnomah
Vollmer, Shirley Isabel, H so.....
..... San Francisco, Calif.
VonLehe, Esther White, Ed so.....Corvallis
Vorheis, Martin Luther, LD so.....Medford

Wade, Harry Reed, A fr.....Lostine
Wagner, Ernest Lot, F sr.....Dorena
Wagoner, Lucile Aladene, SS so.....
..... Pendleton
Wagy, Violet Marie, P fr.....Tillamook
Wahl, Stanley Julian, ME so.....Astoria
Wahoske, James Beale, A sr.....Portland
Waid, Lloyd Alvin, F sr.....Ukiah
Wakefield, Rex, F so.....Eddyville
Waker, Fred Anton, EE sr.....Portland
Wales, Jr., William Lovell, E fr.....
..... Klamath Falls
Walker, Clyde Marvin, F sr.....Portland
Walker, Gordon Edward, BAd so..Roseburg
Walker, Harlow Earl, LD fr.....Portland
Walker, John Vanie, CE sr.....Klamath Falls
Walker, Kenneth Merriam, A fr....Tillamook
Walker, Muriel, SS fr.....Ontario
Walker, R. Emerson, EE sr.....Beaverton
Walker, R. Tenison, EE sr.....Beaverton
Walker, Robert Dale, LD fr.....Medford
Walker, Sybil Hodges, LD fr.....Corvallis
Wall, Jeanne Marie, H so.....Corvallis
Wall, M. Caroline, LD fr.....Corvallis
Wallace, Jr., Albert Louis, ME jr..Portland
Wallace, Arden Hamilton, Ed gr.....Portland
Wallace, Bonnie Gertrude, SS sr.....Portland
Wallace, Henry Newman, CE so.....
..... Santa Rosa, Calif.
Wallace, Homer Wendell, F fr.....Molalla
Wallace, Hugh Newell, Ed so.....Corvallis
Wallace, Ruth Caroline, H fr.....Ontario
Wallberg, Robert Carl, CE sr.....Portland
Wallin, Mildred, H fr.....Astoria
Walling, Walter Charles, ME so.....Eugene
Wallis, Charles Parker, E fr.....
..... Oakland, Calif.
Walrod, Murray Gray, Sc sr..Kelawna, B.C.
Walsh, Jack, SS so.....Forest Grove
Walter, Mary Alice, H so.....Corvallis
Walters, Jayne Albertien, SS sr.....Portland
Walters, John Stanley, F so.....Parkdale
Walton, Carl Gordon, A so..Alhambra, Calif.
Walton, Jr., Ray Daniel, ChE fr....Portland
Walton, Richard Bruce, ChE fr.....Portland
Walwyn, Harry Newton, A sr.....Oswego
Wang, Chuang, Bot gr.....
..... Kwailin, Kwangsi, China
Wanke, Geraldine May, SS sr.....Portland
Wanke, Walter John, F so.....
..... Sparks, Nevada
Wann, Willene Claire, H jr.....Charleston
Wanstrom, Ione E., SS so.....Birkenfeld
Ward, Marjorie Lorene, J fr.....Philomath
Ward, Thomas Freeman, F so.....
..... Washington, D.C.
Ward, William Wyatt, LD fr.....Gilchrist
Wardell, George David, F fr.....
..... Galesburg, Illinois
Warden, Lillian Margaret, H gr.....Lebanon
Wardrip, Gertrude Evelyn, J so.....Corvallis
Ware, Margaret Christian, H jr.....Corvallis
Warfield, Carl Jesse, E fr.....Alsea
Warner, John Raymond, Sc sr.....Portland
Warner, Leroy Eldon, A so.....Albany
Warner, Nathan Blair, A so.....Albany
Warner, Peter Charles, BAd fr.....
..... Juneau, Alaska
Warnock, Jr., James Elmer, ME so.....
..... Imnaka
Warren, Charles Earl, F sr.....Salem
Warren, Charles Fay, IA so.....Salem
Warren, Lyle Duane, CE so.....Corvallis
Warren, Ruth Eleanor, SS so.....Corvallis
Warren, Stuart Allen, ME jr.....Corvallis
Warren, Vernon James, CE sr.....Corvallis
Washburn, John Paul, Ed so.....
..... Vancouver, Wash.
Washburn, Mary Ellen, LD so.....Milwaukie
Watenpaugh, Frances May, Ed fr....Corvallis
Waterhouse, David, F so.....Gearhart
Waterman, Robert Lincoln, CE jr..Corvallis
Waterman, William Bradford, LD fr.....
..... Corvallis
Waters, Betty Jo, LD so.....Corvallis
Watkins, Wilma Beatrice, P so.....Portland
Watson, Charles William, EE jr.....Fossil
Watson, Dorothy Helen, SS so.....Marshfield
Watson, Edward Gunn, LD so.....Portland
Watson, Irene Gladys, H fr.....Forest Grove
Watt, Charles John, A fr.....Tillamook
Watt, Sara Ellen, SS fr.....Tillamook
Watts, Betty Jean, SS so.....Portland
Watts, Thomas Wynne, E fr.....Portland
Way, Edmund Allen, BAd fr.....Albany
Wear, Donna Louise, H so.....
..... Palo Alto, Calif.
Weatherly, Floyd Van Norden, A jr.....
..... Multnomah
Weaver, Alexander Cameron, ME so.....
..... Portland

Weaver, Barbara Jane, H fr.....Portland
Weaver, Isaac Salsman, A fr.....
..... Myrtle Creek
Webb, Deane Harold, CE so.....Portland
Webb, Deril Thomas, EE so....Klamath Falls
Webb, Leslie Elmer, E fr.....Corvallis
Webb, Teddy L., BAd fr.....Corvallis
Weber, James Gordon, E fr.....Portland
Weckert, Ronald Royal, F so.....Salem
Weeks, Harold Lloyd, E fr.....Portland
Weeks, Owen, Bac gr.....Coone, Iowa
Weese, Paul William, A so.....Ontario
Weibel, Robert Andrew, Ed so.....Pendleton
Weiland, Arthur Walter, E fr.....Medford
Weir, William Carl, A sr.....Lakeview
Weisberg, Charles Philip, P fr.....
..... Sacramento, Calif.
Welborn, Gale Stuart, A jr.....Toledo
Welch, William Edward, F so.....Portland
Welcome, Janis Shirley, LD so.....Burns
Wells, Bruce Arrington, EE gr.....Salem
Wells, Donald Orville, A fr.....Independence
Wells, Evelyn Harriet, SS fr.....Corvallis
Wells, Frank Lilburn, ChE jr.....Roseburg
Wells, Harry Lynn, A so.....Corvallis
Wells, Jack Harland, E fr.....Corvallis
Wells, Jr., Lee Arrington, EE sr....Roseburg
Welter, Arland Bruce, ChE so.....Baker
Wendt, Harlan Henry, A jr.....Baker
Weniger, George Edward, IA so.....Corvallis
Werner, Ben John, EE so.....Toledo
Wernstedt, Fred Lage, F fr.....Portland
Werry, Katherine Ann, H so.....
..... Palo Alto, Calif.
Werth, Elmer Melton, A so.....Willamina
West, Alice Virginia, J so.....Portland
West, Charles B., E fr.....Portland
West, William Arthur, gr ..... Corvallis
Wester, Howard, F sr.....
..... Las Vegas, New Mexico
Westlund, Delmar Howard, LD fr.....
..... Milwaukie
Weston, Raymond E., SS fr.....Portland
Wetherbee, Charles Field, Ed sr.....Corvallis
Wethey, Katherine Jean, SS jr.....Portland
Wexler, Myrtle Marsha, P fr.....Portland
Wheeler, Bob Gene, ME so.....Corvallis
Wheeler, Oscar Charles, Sc jr.....Freewater
Wheeler, Robert Eugene, A so.....Pendleton
Wheeler, William Francis, E fr.....Portland
Wheelon, Fred Claire, CE jr.....Portland
Wherland, Bill, A so.....Klamath Falls
Whipple, Helen Lucy, LD so.....Portland
Whitaker, Wilbur Norman, LD fr.....
..... Enterprise
Whitaker, William Carey, EE so.....Corvallis
Whitby, Herbert LeRoy, P so.....Corvallis
White, Audrey Selma, H fr.....Corvallis
White, Clinton Gregory, E fr.....Portland
White, Jr., Coe Cromwell, EE jr....Portland
White, Douglas Conyne, CE so.....Eugene
White, Eugene Edmond, Sc jr.....Corvallis
White, George Gasner, IA fr.....Mt. Angel
White, Georgia Alice, H so.....Corvallis
White, Herbert William, SS jr.....Portland
White, Kent Burton, ChE fr.....Grants Pass
White, Lois Eileen, SS fr.....Hermiston
White, Margaret LeDona, SS fr.....Corvallis
White, Paul J., F sr.....Indianapolis, Indiana
White, Jr., Taylor Charles, EE so..Portland
White, Valdes Bud, Ed gr.....Corvallis
White, Jr., William Francis, ME so.....
..... Portland
Whiteaker, Ellison M., SS fr.....Turner
Whitehead, LaVerne Frances, H so..Turner
Whitehead, William Witcher, A gr.....
..... Tacoma, Wash.
Whiteside, Esther Henriette, LD fr.....
..... Portland
Whitman, Ann Merritt, H so.....
..... Menlo Park, Calif.
Whitmore, Cecil, A so.....Klamath Falls
Whitmore, Thomas Rodney, A fr....Corvallis
Whitney, Donald Leo, A so.....Springfield
Whitney, Gayle Myrtle, H fr.....Portland
Whitney, Sam M., A jr.....Dayton
Whitrock, Floyd Melvin, E fr.....Estacada
Whitsett, Jack William, E fr.....Ashland
Whitten, Maryon, H gr.....Portland
Whittle, Joseph William, ME so.....Astoria
Whitwell, Walter Monteith, A sr.....Portland
Wick, Don, SS fr.....Hillsboro
Wickert, Mary Lorene, LD so.....Lime
Wickett, Lloyd M., LD fr..Aberdeen, Wash.
Wicklander, Alice Maxine, SS fr.....
..... La Grande
Wickman, Frank Warren, A fr.....Albany
Wicks, Wayne Ethan, F so.....
..... Palm Springs, Calif.
Wiedemann, Doris Ann, SS fr.....Portland
Wiedemann, Mildred, H sr.....Wilsonville
Wiedemann, Paul Leo, CE jr.....Portland
Wiegand, Robert Ernest, E fr.....Corvallis
Wiener, Alfred A, F so.....Corvallis
Wienert, John Conn, A so.....Airlie
Wienert, William Lewis, F so.....Toledo
Wieprecht, Wilbur Earl, A fr.....Portland
Wiesner, Wayne, ME sr.....Silverton
Wilbur, Walter Woodrow, E fr.....Eugene
Wilcox, Janet Marie, H gr.....Grass Valley
Wilcox, Robert Randall, LD fr.....Medford
Wilcox, Roy C., EE so.....Salem
Wilkes, Madge Leota, H fr.....
..... Ketchikan, Alaska
Wilkinson, Richard Thomas, A fr....Heppner
Willbanks, Ralph Neil, F fr....Fresno, Calif.
Willey, Wayne, LD fr.....Sutton, Nebraska
Williams, Barbara Warwick, SS so.....Salem
Williams, Blanche Marguerite, H so....Gaston
Williams, Clarence E., A fr.....Portland
Williams, David Henry, A so.....Goshen
Williams, Elsie Marie, H fr....Junction City
Williams, Fay Emma, H fr.....Terrebonne
Williams, Frances Elaine, Sc so.....Portland
Williams, Gene Merritt, CE so.....Portland
Williams, Geraldine Dorsay, H so.....
..... Multnomah
Williams, J. Leon, F so.....Tucson, Ariz.
Williams, James Castle, F fr.....Portland
Williams, James Melvin, A jr.....Freewater
Williams, Jane Eleanor, LD fr.....Portland
Williams, Kenneth Bassett, CE so.....
..... Portland
Williams, Larry, A fr.....Canyon City
Williams, Ora Jane, H fr.....Junction City
Williams, Orville Nelson, LD fr.....Salem
Williams, Patricia Ruth, SS fr.....Portland
Williams, Paul J., LD so.....Portland
Williams, Philip Sanford, E fr.....Portland
Williams, Richard Francis, IA sr.....Portland
Williams, Warren LaVern, BAd fr..Yamhill
Williams, Wayne Elwood, LD fr.....Portland
Williamson, Ralph Emmett, BAd fr...Albany
Williamson, Sarah, H so.....La Grande
Wilmot, Richard Byron, LD so.....Oswego
Wilson, Arthur Curtis, SS so.....Salem
Wilson, Arthur Warren, LD fr.....Corvallis
Wilson, Berney Houston, E fr.....Nyssa
Wilson, Curtis Mervin, Ed gr.....
..... Kearney, Nebraska
Wilson, Donald Malcolm, SS fr.....Lakeview
Wilson, Donava Virginia, LD fr..Marshfield
Wilson, Dorothy Eloise, LD fr.....Taft
Wilson, Eugenia Pearle, Ed so.....Corvallis

Wilson, Frederick Knapp, Sc jr.....Portland
Wilson, Helen Louise, H jr.....Salem
Wilson, Howard Edward, A sr.....Beaverton
Wilson, Isabel Jeannette, SS so.....
..... Bayside, Calif.
Wilson, James Philip, LD so.....
..... San Diego, Calif.
Wilson, John B., LD fr.....
..... San Diego, Calif.
Wilson, Lois Belle, H so.....Salem
Wilson, Lou, SS fr.....Portland
Wilson, Lynn Richard, SS fr.....Hood River
Wilson, Margaret Ann, P so.....Warrenton
Wilson, Marjorie Ann, H fr.....Albany
Wilson, Marvin William, ChE sr.....
..... Cottage Grove
Wilson, Mary Ann, Ed fr.....Portland
Wilson, Melba Gladys, H fr.....Riddle
Wilson, Richard Allan, E fr.....Portland
Wilson, Wauneta Leon, SS sr.....Medford
Wilson, Wilbur Kenneth, CE so.....Malin
Wilson, Jr., Willard Ernest, F sr.....
..... Grants Pass
Wilt, Charles Neal, IA fr.....Corvallis
Wimberly, Frances Louise, H jr....Roseburg
Wimmer, Elbert Clyde, A fr.....Goshen
Winkler, Frank, CE so.....Portland
Winn, Merle Herman, F sr.....Milton
Winniford, Robert Stanley, LD fr.....
..... Enterprise
Winniford, Violet Elizabeth, SS jr..Portland
Winslow, William Edwin, SS jr.....Portland
Winston, Beverly Edith, SS so.....Roseburg
Winston, Helen Roberts, Ed so.....Corvallis
Winterbottom, Jeanne Marie, H so.....
..... Alhambra, Calif.
Winters, Dorothy Ann, H so.....Corvallis
Winterstein, Carl John, F fr.....Albany
Wisbeck, William Theodore, A so....Astoria
Wise, Julianne, H jr.....Corvallis
Wishard, Charles R., A gr.....Prairie City
Witham, Mildred Belle, H gr.....Minot, N.D.
Witherspoon, Delbert, A so.....Elgin
Witherspoon, William Lewis, A so.....
..... Nampa, Idaho
Withycombe, Isabel, H jr.....Union
Withycombe, James William, ChE fr..Union
Witting, Neil Porter, A so.....Hood River
Wittkopf, John Joseph, E fr.....Hood River
Wittrock, Mabel, SS so.....Kerby
Witzig, Robert, EE sr.....Corvallis
Wodaege, Bertha Maye, SS so.....Salem
Wodaege, Clyde Herman, E fr.....Salem
Wohllaib, Doris Etta, H so.....
..... Twin Falls, Idaho
Wojahn, Chester Julius, A sr.....Hillsboro
Wojahn, Harold Allen, A so.....Hillsboro
Wojahn, Harry Earl, A so.....Hillsboro
Wolcott, Carolyn Marie, H jr.....Marshfield
Wolcott, Margaret DeVoe, H sr.....Corvallis
Wolf, Patricia Louise, LD fr.....Albany
Wolfe, Harold Deloy, LD so.....Corvallis
Wolfe, Naomi E., LD fr.....Waldport
Wolfe, Jr., Peter Thomas, LD so.....
..... Fort Lewis, Wash.
Wolff, Ray Keith, SS fr.....Medford
Wollum, Nancy Harriet, LD fr.....Portland
Wond, Donald, E fr.....Portland
Wong, Edgar Lum, LD so.....Portland
Wong, Robert, Sc sr.....Portland
Wood, Berwick Lewis, IA so.....Portland
Wood, Carmen Elizabeth, SS so.....Portland
Wood, Charles Llewellyn, F so.....Salem
Wood, Elizabeth E., H sr.....
.....Los Angeles, Calif.....
Wood, Fred Carl, ChE sr.....Portland
Wood, G. Burton, A gr.....Corvallis
Wood, Newell Cyrus, A so.....Days Creek
Wood, Raymond Charles, A fr.....Salem
Wood, Walter Meyer, F fr.....Portland
Woodcock, Milton Edwin, SS sr.....Corvallis
Woodcock, William Carter, LD fr....Corvallis
Wooden, Donald Kent, A so.....Salem
Wooden, Norma Jean, Sc jr.....Jewell
Woods, Charles David, E fr....Cottage Grove
Woods, David Henry, EE so.....Albany
Woods, Eugene Frederick, SS fr.....
..... Kings Valley
Woodward, Kenneth David, P jr.....Hillsboro
Woodward, Kenneth Leroy, A fr.....
..... Grants Pass
Woodward, Malcolm Vernon, P so..Corvallis
Woodward, Mary Margaret, H gr..Corvallis
Woodworth, William Wells, F so.....
..... Willamette
Woolfe, Lloyd Cary, LD fr.....Tillamook
Woolley, Carwin, F so.....Leona
Woolley, Jack Wilson, ChE fr.....Portland
Woolsey, Josephine Ruth, SS sr..The Dalles
Wooten, Clyde William, A so....Modoc Point
Wootton, Tom Montgomery, E fr.....Astoria
Wootton, Jr., William Barker, ChE jr....
..... Astoria
Workman, Philip Warwick, F sr.....Westfir
Workman, Robert, CE so.....Westfir
Workman, Rona, H fr.....Westfir
Workman, Walter Morris, IA fr.....Westfir
Worstell, Ralph Laurence, F so.....
..... Klamath Falls
Worstell, Robert Vern, A fr..Klamath Falls
Wray, Robert R., LD fr.....
..... Pasadena, Calif.
Wren, Edith Fay, SS fr.....Philomath
Wright, Dean, E fr.....Salem
Wright, Evelyn I., LD fr.....Detroit
Wright, Gerrit Lee, EE sr.....Jefferson
Wright, Joan, H fr.....Portland
Wright, Katharine, SS sr.....Creswell
Wright, Margaret Dorothy, SS sr.....
..... McMinnville
Wright, Maurice Lee, IA sr.....Albany
Wright, Oran Joseph, IA jr....Colton, Calif.
Wright, Robert William, BAd fr.....Astoria
Wright, Thelma Blanche, H fr.....Stayton
Wright, Virginia Anne, SS fr..Grants Pass
Wright, Willard Delbert, F sr.....Redmond
Wu, Suen-i, H gr.....Nanking, China
Wunderlich, William Charles, F so.....
..... Cornelius
Wyllie, Raymond Gordon, LD so.....Dayville
Wynn, Clinton Walter, F sr.....Junction City
Wynn, John Sam, A so.....Junction City
Wyss, George Walter, ME sr.....Hillsdale
Wyss, Stanley George, A fr.....Portland

Yackey, Joseph Reams, Ed fr.....Newberg
Yadon, John Melvin, EE sr.....Klamath Falls
Yager, Jean, LD so.....Gresham
Yahn, David William, F jr.....
..... Janesville, Wisconsin
Yang, Ho-ya, A gr....Kulangsu, Amoy, China
Yates, Bette Ann, H so.....Portland
Yates, Fred Richard, LD fr.....Corvallis
Yates, Robert Earle, EE so.....Portland
Yeater, Ralph Franklyn, F jr.....Salem
Yoakum, Franklin Loughlin, E fr.....
..... Oakland, Calif.
Yoakum, Katherine Anne, H jr.....
..... Oakland, Calif.
Yocum, Robert Blanco, SS fr.....Corvallis
Yoder, Philip Reed, LD fr.....Salem
Yoder, Ray Arnold, F jr.....Portland
Yonge, Roy Chandler, ME so.....Multnomah
Younce, Leonard A., A so.....Portland
Young, Benjamin Otte, F fr.....Seaside
Young, Byron Ulysses, EE jr.....Portland

Young, Clair Frazier, E fr.....Portland
Young, Dan William, A sr.....Tangent
Young, Dorothy May, LD fr.....Timber
Young, Fred Robert, ME jr.....Timber
Young, Hardy S., gr.....Sherwood
Young, Harry Allen, CE sr.....Madras
Young, Parke Howard, A so....Albany, Calif.
Young, Robert Corgin, E fr.....Detroit
Young, Ruth Dale, H fr.....Wilsonville
Young, Shirley Lucille, H gr..Parma, Idaho
Youngberg, Evelyn, H so.....Carlton
Youngstrom Cecil Julius, gr.....Prineville
Yumibe, Kiyoshi, A sr.....Dee
Yungen, Evelyn Catherine, SS so.....Dallas

Zach, Lawrence William, F sr.....Mt. Angel
Zecha, Jr., Henry William, E fr.....Portland
Zedwick, Andrew, A so.....Corvallis
Zeller, Elizabeth May, H fr.....Corvallis
Zellick, George David, Ed fr.....
..... Lewistown, Montana
Zertanna, Robert Edward, IA jr.....Portland
Zielaskowski, Orville, IA fr.....St. Helens
Zielinski, Quentin Bliss, A jr.....Salem
Zilka, Thomas Jones, ME sr.....Portland
Zimbrick, Jack Merrill, SS fr.....Lebanon
Zimmerli, Bette, H fr.....Portland
Zimmerman, Ethel Faye, SS sr.....Chiloquin
Zimmerman, Nona Orpha, SS fr.....Yamhill
Zimmerman, Ward William, F so.....Vida
Zinser, Ada, Ed so.....Albany

Students in Summer Sessions 1939

(First Session, Second Session)

GRADUATES AND UNDERGRADUATES

Aamoth, O. A.....Great Falls, Montana
Ables, Dorothe Shepherd.....Salem
Abrahamson, Elma Marie.....Portland
Abrams, Vida Swann.....Tillamook
Acheson, Eleanor Ethel.....Chehalis, Wash.
Adams, Clara L.....Corvallis
Adams, Dwight .....Albany
Alexander, Clyde Murrell.....Forest Grove
Allen, Frances Rose.....Bend
Allen, James Leonard....Artesia, New Mexico
Allgood, J. Robert.....Dallas
Alnutt, Evelyn Anna.....Corvallis
Alnutt, Helen Lorene.....Corvallis
Anderson, Alfhild Vivian.....Corvallis
Anderson, Doris I.....Monmouth
Anderson, Hubert Waterbury.....Corvallis
Anderson, Jr., Logan Ellsworth.....Cove
Anderson, Maude Bitting.....Ames, Iowa
Anderson, Ruth S.....Portland
Andrews, Alfred W.....Portland
Andrews, Mary Ellen.....Burley, Idaho
Applegate, Bernard Lindsay.....Ashland
Archibald, Hazel A.....Eugene
Arney, Helen Hulac.....Tillamook
Arnold, William H...Huntington Park, Calif.
Asbahr, Nina E.....Corvallis
Austin, Helen Lillian.....Pocatello, Idaho
Ayers, Florence Marie.....Corvallis
Aylesworth, Howard Clarence.....Corvallis

Bailey, Dorothy L.....Pittsburg, Calif.
Baker, Percy Henry Mervin.....
..... Moose Jaw, Saskatchewan, Canada
Baldwin, Willis Ambrose.....Coalinga, Calif.
Bales, Joan E.,.....Wallowa
Balsiger, Bette Jane.....Portland
Bandy, Orville..... Corvallis
Barber, Freda R.....Portland
Barclay, Eva Lenore.....Waldport
Barker, Catharine Florence.....Salem
Barkhurst, Myrl Ross.....Milwaukie
Barkman, Lucille Hattie.....Corvallis
Barnes, Betty.....Scottsbluff, Nebraska
Barnett, Elson Thomas.....Astoria
Baron, Loyd Carl.....Newberg
Barss, Richard Hawks.....Salem
Bartholomew, Frank.....Gresham
Bartlett, Lewis Stannard.....
..... Wessington Springs, South Dakota
Bauman, J. Gordon.....Council Bluffs, Iowa

Beard, Howard Lynden.....Corvallis
Beck, Pauline ..... Corvallis
Becker, Charles Ellis..Olympia, Washington
Behnke, Jewel Welch.....Weed, California
Behnke, Warren Kyle.....Weed, California
Behrens, Amy Hermoine.....
..... San Francisco, Calif.
Beight, Paul Duff.....Albany
Beisner, Glenn Robert.....Philomath
Belknap, Jr., Wilford Hall.....Prineville
Bennett, G. Ethel.....Portland
Benson, Mrs. Orpah.....Cottage Grove
Bentz, G. Gale.....Corvallis
Berg, Dellsie.....Parlier, Calif.
Berger, Richard C.....Corvallis
Bergstrom, Margaret Louise.....Tillamook
Bernard, Francis M.....Corvallis
Berreman, Delpha Ruth.....Philomath
Berry, Zora Elnora.....Monmouth
Beswick, Mary Belle.....McMinnville
Bidgood, James E.....Oregon City
Bierly, Lois Evelyn.....Gervais
Bishop, Clarence Edmond.....
..... Santa Barbara, California
Bjorlie, Clarence Freeman.....
..... Santa Clara, California
Black, Mavis Esther.....Ontario
Black, Naoma Ruth.....Corvallis
Blake, Edgar William.....Albany
Blakely, Carl Frederik.....Corvallis
Blakely, Leslie Mae.....Newberg
Blatch, Dorothy B.....Corvallis
Bloom, Hilda Elmira.....Stockton, California
Bodner, Esther W.....Corvallis
Bofto, Eino A..... Great Falls, Montana
Boggess, Jack C.....Arcata, California
Bolander, Louise O.....Corvallis
Bolton, Anna Jean.....The Dalles
Bolton, Betty Jane.....The Dalles
Booth, Betty Emma.....Meacham
Borchers, Harvey G.....Plains, Montana
Boring, Milton D.....Union
Borthwick, Margaret Ethel.....
.....Juniata, Saskatchewan, Canada
Boswell, Clifford Edwin.....Taft, California
Botts, Ralph August.....Medford
Bowling, Eileen.....Bakersfield, California
Bowman, Flora Jean.....Prineville
Boyer, Alexander Raymond.....
..... Petersburg, Alaska
Boyes, Phyllis Elayne....Scottsbluff, Nebraska

Bradley, Lea Mae..... Carlton
Brady, Earl Jaye.....Roseville, California
Brandon, Dorothy Irene.....Corvallis
Brandon, Margaret Eileen.....Corvallis
Brandt, Leita L.....Spokane, Washington
Bratton, Truman Arthur..Madera, California
Brennan, Cecilia Elizabeth.....Portland
Brenneman, Clarence E.....Tillamook
Brenner, Laura T.....Portland
Brier, Dorris Jacqueline..Turlock, California
Britton, William L.....Forest Grove
Brooking, Beatrice R.....Gettysburg, S. D.
Brown, Bertha Lucille.....Shedd
Brown, Bette Ann.....Corvallis
Brown, Elizabeth Anne.....Salem
Brown, Everett Moore.....
..... Boulder Creek, California
Brown, Harriett L.....Prineville
Brown, John Paul.....West Linn
Brown, Virginia Helen.....Hood River
Buckalew, Norah Elizabeth.....
..... Santa Barbara, California
Buckingham, Loree Eugenia.....Monroe
Bugar, Mary Julia.....Eugene
Bullard, Maurice Leslie.....Salem
Bunker, Anna Burnette.....Corvallis
Burch, Maybelle Mary.....Salem
Burchard, Lois I.....Corvallis
Burdick, Elizabeth Harriet.....Corvallis
Burnell, Joel Ernest.....Corvallis
Burtenshaw, Alice Augustine....Boise, Idaho
Busch, Walter Paul.....San Diego, California
Bush, James Helmick.....Siletz
Buss, Hazel Jean.....Monmouth
Butler, Juanita Ellen..San Luis Obispo, Calif.
Byington, Glenn.....Philomath

Caldwell, Doris Conger.....Corvallis
Callaway, Lucille Rae.....Corvallis
Cammann, Winnie Burl.....Huntington
Campbell, Keith Cameron.....Corvallis
Campbell, Paul Haydn.....Riddle
Cannon, Gerald O.....Sweet Home
Carey, John A.....Glendale, Arizona
Carl, Raymond August.....Tigard
Carlile, Harold P.....Corvallis
Carlyon, Ralph T.....Watsonville, California
Carnes, Carol..... Roseburg
Carothers, Bette..... Corvallis
Carothers, Raleigh F.....Woodburn
Carr, Stanley Asabel.....Compton, Calif.
Carson, Dorothy McGauhey.....Corvallis
Carson, Zelma Vernita.....Corvallis
Carter, Harlan Field.....Redding, California
Carter, M. Joseph.....Pendleton
Carter, Myrtle Mae.....Corvallis
Carter, William Lee.....
..... Oklahoma City, Oklahoma
Chamberlin, M. Hope.....Corvallis
Chambers, Dorothy Bridget.....Oregon City
Chaney, Dick..... Corvallis
Chapman, Thomas Edward.....Milwaukie
Chellis, Lawrence True.....Corvallis
Cherrington, William Charles..Weiser, Idaho
Chippendale, Thomas.....
.....Vancouver, British Columbia, Canada
Christensen, Frances M...Mt. Pleasant, Utah
Clampitt, Lorraine Barbara.....Milwaukie
Clark, Bernard Dale.....Corvallis
Clark, Bernard Oliver.....Willamette
Clark, Georgene Hutchins.....Portland
Clark, H. Bruce.....Fullerton, California
Clark, Janie Ellen.....Tempe, Arizona
Clark, June Joan.....Portland
Clarke, Clem C.....Butte Falls
Clarke, Wiot LeRoy.....Ashland
Cleghorn, Elisabeth.....Klamath Falls
Clevenger, Scott Philip.....Terrebonne

Coates, Alvin B.....Longview, Washington
Cobb, Berniece M.....Littleton, Colorado
Cobb, Earl Kendall.....Portland
Cochran, Rosemary .....Corvallis
Cochran, Marion A.....Bend
Cockerline, Genevieve Ann.....Corvallis
Coe, Milton Evans.....Lebanon
Coffey, Frances LaVerne.....Eugene
Colburn, A. Bert.....Spokane, Washington
Coleman, Frances B.....Turner
Coleman, Stephen D.....Salem
Collins, Emma Carol.....Portland
Colson, Charlotte May.....Willamette
Compton, Dorris Jane.....Coquille
Cone, L. Eldon..... Woodburn
Congleton, Ila Rae.....Paulina
Conner, Karl..... Roseburg
Conyne, Warren R.....Hubbard
Cook, Claude T..... Salem
Coon, Vernita Mae.....Shedd
Cooper, Doris D.....Corvallis
Cooper, Jean D.....Corvallis
Cornelius, Ethel Marie..Belflower, California
Corruccini, Robert Joseph.....Milwaukie
Cottel, Charles Edward.....Portland
Cox, Ernest Lee.....Haines
Cox, Roseann .....Corvallis
Cram, Mark William..Sacramento, California
Crane, Carl F.....Libby, Montana
Crary, William Burton ..... Salem
Crawford, Edgar D.....Forest Grove
Crews, Jack F.....Los Angeles, California
Crofoot, Georgia Beatrice.....Corvallis
Cross, Rena Schott.....Tracy, California
Crowley, Bertha A.....Rickreall
Crowley, Fred S.....Rickreall
Cuddy, Katherine Louise.....Boise, Idaho
Culp, Evelyn ..... Ontario
Curtis, Lyman Briggs..Inglewood, California

Dalton, Bertha .....Corvallis
Daniels, Thaxter Norman.....San Jose, Calif.
Dardis, James Edmund.....Spencer, Iowa
Dart, C. K.....Eugene
Davidson, Louise A.....Monroe
Davis, Anne Marjorie.....Corvallis
Davis, G. Harland.....Ganado, Arizona
Davis, Marion Raymond.....Corvallis
Dawson, Donald James.....Joseph
Day, Robert Edward.....Beaverton
DeLateur, Elizabeth Anna..Hoquiam, Wash.
Deller, Paul M..... Corvallis
Denney, M. Ruth..... Beaverton
Denniston, Kathryn Ruth....Riverside, Calif.
DeSelle, Carroll Windsor.....
.....Lower Lake, Calif.
Desonia, Ernest N.....Antelope, Montana
Deuell, C. Francis.....Corvallis
Dickson, Virginia Lee .....Shedd
Diedesch, Marie.....Wilbur, Washington
Dillow, Joseph Clinton.....Portland
Dotson, Ruth.....Flagstaff, Arizona
Dowd, Morris Edwin.....Albany
Drake, Wilber V.....Corvallis
Drlica, Karl F.....Portland
DuBois, Zola S.....Imperial, California
Duncan, Hazel L.....Ontario
Dunham, S. Vene.....Sacramento, California
Durfee, Harold R.....Calexico, California
Duruz, Margaret Ann.....Corvallis
Duruz, Paul B.....Corvallis
Dutton, Noble ..... Vernonia
Dyson, Dorothy .....Flagstaff, Arizona

Eaton, Laura Bates.....Salem
Eby, George Samuel.....Stockton, Calif.
Egelston, H. Clay.....Monmouth
Ehlers, Arnold Rollen.....Ellendale, N. D.
Elle, Bruce Lloyd.....Portland

Elle, Helen ..... Dallas
Elm, Faith Elizabeth.....Sumner, Washington
Ely, Glenn Harold..... The Dalles
Emily, Barbara Helen.....Portland
Essman, Aug. John.....Olympia, Washington
Estey, Doris Rae.....Vernonia
Evans, Ivan.....Corvallis
Evenson, Oberlin Jerome.....Clatskanie

Facer, John Fred.....Portland
Fairley, Carlyle B.....Portland
Fandry, Esther Ann.....Harrison, Idaho
Farley, Melvin L.....Gridley, California
Farrell, Alys Belle.....Corvallis
Farrell, Marian Jane.....Portland
Feichtmeir, Theodore J...Madera, California
Felker, Betty ..... Portland
Fifer, Helen Bess.....Portland
Filker, Alexander George.....Portland
Finegan, Blanche Elizabeth.....Cornelius
Fisher, Donald Moore.....Portland
Fitch, Albert H.....Medford
Fitzgerald, Wilfred H.....Astoria
Flanders, Frank A.....Winnemucca, Nevada
Fleming, Robert E.....Corvallis
Flint, Marjorie Louise.....Grants Pass
Flynn, John III.....Portland
Foote, Herbert Davis..Sacramento, California
Forbes, Betty..... Portland
Forsea, Harold ..... Weiser, Idaho
Foss, Regis Henry..... La Porte City, Iowa
Foster, Roy I.....Salem
Fowells, Joseph E.....Portland
Fox, Betty Ann .....Corvallis
Fox, Nelson Henry.....Portland
Fox, Vivian Orcutt.....Corvallis
Francis, Eleanor Virginia.....Corvallis
Frederick, Harold W...Chehalis, Washington
Fredrickson, F. Aileen.....Corvallis
Freeman, Walter F.....Corvallis
Frost, Robert Elliott.....Westwood, California
Fry, Susie Marie.....The Dalles
Full, Evelyn ..... Portland
Fullenwider, Harriet Eleanor.....Carlton
Fuller, George A.....Corvallis
Fulton, Leroy .....Longview, Washington

Gable, Marjorie Hazel.....Dundee
Gaeden, Sister Annella.....Mt. Angel
Gahler, Arnold Robert.....Portland
Garrard, James Lathrop.....Tacoma, Wash.
Garrison, Jerry W.....Lompoc, Calif.
Gearhart, Blanche Margaret.....Albany
George, Ruth May.....Corvallis
Gerbig, Helen Dorothy.....Oakland, Calif.
Gibbs, Richard H.....Fresno, California
Gilbert, Eldon J.....Tillamook
Gilkey, Beulah Gustavia.....Portland
Gilmore, Geraldine Faith.....Corvallis
Gittings, Grace .....Prineville
Giustina, Natale Bernard.....Goshen
Glenn, Elmer Ford.....Corvallis
Gnaedinger, William Griffin..Lewiston, Idaho
Gonzales, Mary Anne....Placentia, California
Goode, Delmer Morrison.....Corvallis
Goodwin, Dorothy Julia.....Tempe, Arizona
Goodwin, John B.....Jerome, Arizona
Goodyear, Elvin Earl.....Pendleton
Goold, Rolla S.....Tacoma, Washington
Goude, Henry Wallace....Vancouver, Wash.
Gould, Curtis E.....Hood River
Gould, Lona .....Corvallis
Gowan, Enid L.....Corvallis
Grannis, Betty Jane.....Clatskanie
Graves, Edna M.....Newberg
Gray, Eldon Theodore.....Vale
Green, Charles Elias..San Diego, California
Griffiths, Dorothy Paulina....Clovis, California
Gross, Louie Henry.....Philomath
Gustafson, Fred Darold.....Portland

Haan, Clarence Melle.....Ashland
Hageman, Doris E.....Marion
Haley, Kent Lambert....Beaver Falls, Penn.
Halladay, Mrs. Pauline.....Monmouth
Haller, Gilbert A.....Forest Grove
Hamacher, Helen Ann.....Maupin
Hamilton, William Thomas..Woodlake, Calif.
Hanna, J. Lavelle..... La Grande
Hansen, Lawrence J.....Eugene
Hanson, Lee Roy E. S.....Moro
Hardebeck, Clarence William..Reedley, Calif.
Hardmar, Margaret Roberta.....
..... West Vancouver, British Columbia
Hardy, Dea Jean .....Corvallis
Hardy, Thomas Austin.....Corvallis
Harmer, Rita Adele.....Portland
Harrison, Dorothy Margaret.....
..... Drumheller, Alberta
Hart, Gertrude A.....Inspiration, Arizona
Hartt, Charlotte Beatrice.....Alhambra, Calif.
Hatch, Jennie June .....Falls City
Hathhorn, Reece N.....Hillsboro
Hay, Victor Willis.....Eagle Point
Haycox, Marion Grace.....Olympia, Wash.
Heidenreich, Heinrich.....Phoenix, Arizona
Henderson, George Miles.....Meridian, Idaho
Henry, Donna Belle.....Great Falls, Montana
Henry, Gilbert Edward.....Garden Home
Herbison, Jessie Joyce.....Grafton, N. D.
Herman, Mary Virginia.....Portland
Herring, Doris Opal.....Dundee
Hess, Frances Virginia.....Corvallis
Hessig, Ruth Harris.....Monmouth
Hessler, Lenora .....Dayton
Hickcox, Howard E.....Lebanon
Higbee, Sr., Vere Byron.....Halsey
Higgins, Donald Blaine.....Corvallis
Higgins, Florence Emily.....Winona, Idaho
Hinton, John William.....Chico, California
Hocken, John A.....Corvallis
Holaday, Oro Rozella.....Corvallis
Hollenberg, Leo D.....Nyssa
Holmes, Mildred Margharite.....Corvallis
Holt, Betty Jane.....Pendleton
Homer, Vera Delle.....Corvallis
Hopkins, Albert Benjamin.....Nyssa
Hopkins, Marial Irene.....Yuma, Arizona
Horning, Pearl .....Corvallis
Hotchkiss, Beatrice M.....Lakeview
Houdek, Otto.....Corvallis
Houguez, Marie Ebeth.....Portland
Howard, Mabel Frances .....Albany
Huber, Maxyne Faye.....Lyons
Hudiburg, Leo Everett....Manhattan, Kansas
Hudson, Doris Adelle....Fargo, North Dakota
Hudspeth, Alyce E.....Tuscon, Arizona
Huffine, Nellie Gertrude.....Corvallis
Hufford, Ardelia Gail.....Springfield
Hummel, Wyeth Wesley.....Woodland, Calif.
Humphrey, Irma Ruth.....Pilot Rock
Hutchinson, Murl W.....Days Creek
Huxol, Artilla.....McCracken, Kansas

Ingham, Barbara Rowell..Pacific Grove, Calif.
Ingham, Elizabeth Hale..Pacific Grove,Calif.
Ingle, Dolena Val.....Corvallis
Ingle, Robert Carlton.....Corvallis
Inskeep, John Jerry.....Oregon City
Ireland, Margaret Jane.....Corvallis
Isaac, Winona E.....Corning, California
Isted, Maurice Raymond.....Bend

Jackson, Grace Catherine.....Berkeley, Calif.
Jackson, Virginia A.....Albany
Jacobs, Evelyn (Mrs.).....Corvallis
James, Clayton Leslie.....Eugene

James, Frieda Ann.....Myrtle Point
Jarmon, Opal .....Albany
Jarmon, Shirley A.....Albany
Jeffries, Etha Margaret.....Corvallis
Jelinek, Betty Ann.....Dallas
Jelinek, Marian Ynette.....Cottage Grove
Jendrzejewski, Helen ..... Hermiston
Jenner, Keith Hadley.....Indianola, Iowa
Jewell, Maxine Evelyn.....Corvallis
Johnson, Joe Bonner.....Wallowa
Johnson, Leonard R.....Phoenix, Arizona
Johnson, Lyle Herbert.....Portland
Johnson, Merle L. .....Carlton
Johnson, Violette.....Del Rey, California
Jones, Casey S.....Everett, Wash.
Jones, Darrell Grant.....Manning
Jones, Eugene M.....Woodland, Calif.
Jones, Marjorie Webster.....Aurora
Jones, Renaldo V.....Twin Falls, Idaho
Jones, Wilbur William.....Klamath Falls
Joseph, Anita R.....Nampa, Idaho

Kahle, Jr., Karl A.....Sherwood
Kaluza, Albina M.....Harlem, Mont.
Kantola, Aila Doris.....Arling, Idaho
Kantola, Mildred Mathilda.....Arling, Idaho
Karvonen, Lila Doris.....Portland
Keester, Inez, B.....Albany
Kelley, James W.....Corvallis
Kellogg, Billie Virginia.....Depoe Bay
Kelly, Joyce Adair.....Corvallis
Kelty, William W.....Corvallis
Kem, Louise Atkinson.....
..... San Luis Obispo, Calif.
Kennell, Ella .....Portland
Keyes, Dickse Ann .....Fossil
Kienzle, Kenneth I.....Eugene
King, E. Lenora.....Klamath Falls
Kline, Sid Lewis.....Corvallis
Knowles, Phyllis Lorrain.....Newberg
Knowles, Roberta Bertie.....Chiloquin
Koeker, Wilma Boss.....
.....San Juan Capistrano, Calif.
Kraus, Clara Joan .....Oregon City
Kudana, Marion ..... Dayton

Laing, John Edward .....Corvallis
Landergen, Rolland D.....Fort Bragg, Calif.
Lane, Elura M.....Cheney, Wash.
Lane, James Sidney.....Cheney, Wash.
Larkin, Amy S.....Ontario
Lawrence, Robert Windle.....Corvallis
Leach, M. Irene.....Oregon City
Leaf, Elmer M.....Mount Vernon, Wash.
Le Fors, Almos E.....Dallas
Lehman, Helen Phelps.....Portland
Lemmon, Burton C.....Eatonville, Wash.
Lemon, Berlan .....Corvallis
Leonard, Jesse Edward.....Ontario
Leonard, Lucile .....Corvallis
Leonard, Margaret Eunice.....Corvallis
Lewis, Arthur M.....Eugene
Lewis, Esther Arietta .....Corvallis
Lewis, Mary Elizabeth.....Corvallis
Linstedt, Daniel Henry.....Newman, Calif.
Lintecum, Allen B.....Sterling, Kansas
Little, Ruth Ramaboi....National City, Calif.
Loe, Edna Mae.....Corvallis
Lofland, Adrian Mason.....Eugene
Long, W. Dixon .....Corvallis
Longueville, Bob A.....Sisters
Lowry, Wallace Dean.....Medford
Loy, Gilbert Frank.....Independence
Loyd, Jack D.....Pendleton
Ludvigson, John William.....Salem
Lukes, Joseph Currie.....Brownsville
Lumley, James Theodore.....Corvallis
Lyle, Nellie C.....Glendale, Arizona

Lyons, Robert William.....Tacoma, Wash.

McBride, Thomas L.....Rainier
McBroom, Frances Mariel.....Portland
McCann, Mary Mae.....Astoria
McCluskey, Elizabeth .....Toledo
McConnell, Anna Frances.....Corvallis
McCrea, Kathleen Jean.....Monmouth
McCready, Betty-Sue .....Corvallis
McCusker, Clarence J.....Portland
McDonald, Lois Mae.....Bakersfield, Calif.
McEwen, Hazel.....Riverside
McGowan, Vern B.....Independence
McInnes, John.....Montesano, Wash.
McKalip, William W.....Corvallis
McKay, Myrtle Margot.....Vancouver, B. C.
McLain, Alvin Glen.....Holley
McLean, Corwin Duncan.....Corvallis
McManus, Leonard Murray.....Corvallis
McMillan, Donald D.....Corvallis
McNamara, Everett Vernon..Gustine, Calif.
McNeal, Beulah Brown..Glacier Park, Mont.
McNeil, Mary M.....Halsey
McQuesten, Isabella Franklin....Tucson, Ariz.
McWhorter, Doris Mae.....Corvallis
McWhorter, Lois Anne.....Corvallis
MacCorkindale, R. Douglas.....Rainier
Mack, Mabel Townes.....Medford
Mallery, Glen .....Yamhill
Marion, Glenn E.....St. Joseph, Mo.
Marsh, Helen Louise.....Corvallis
Marsh, Ida Belle.....Boise, Idaho
Martin, Alice Gail.....Sweet Home
Martin, Glenn L.....Springfield
Martin, Marguerite Millhollen....Springfield
Martin, Ruth C.....Dallas
Mattson, Lillian .....Leonard, N. D.
Maxwell, Kenneth S.....Chico, Calif.
Maxwell, Lloyd Franklin .....Eugene
Mayne, Anna M.....Albany
Mead, Dorothy Ellen.....Corvallis
Mead, Henry Douglas.....Juneau, Alaska
Meadowcroft, Clifford Owen..Modesto, Calif.
Meadowcroft, Helen L.....Modesto, Calif.
Melville, Gertrude.....San Jose, Calif.
Merrill, Margaret Jean.....Albany
Merryman, Carl Dittmar.....Corvallis
Merryman, Frank Jesse.....Corvallis
Meyer, William George.....Dundee
Micka, Georgia .....Corvallis
Mickelson, Odine Norman.....Eugene
Miller, Harry Alexander.....St. Dillon, Mont.
Miller, Harvey Edwin.....Tracy, Calif.
Miller, Margrette Evans.....Portland
Milliei, Susan Esther.....Norman, Okla.
Mills, Jacqueline B.....Corvallis
Minden, Mary Beth.....Nampa, Idaho
Mitzner, Amanda ..... Albany
Mitzner, Ida Marie.....Albany
Mock, Florence Marie.....Corvallis
Moe, Harold William .....Corvallis
Mollby, Bellroie Ann.....Salem
Montgomery, Elsie Evalyn.....Prineville
Moore, Delbert Warren.....Corvallis
Moore, Gail Everett.....Chico, Calif.
Moore, Ruth Elizabeth.....Indianola, Iowa
Morgan, Velma Eloise.....Rupert, Idaho
Morris, Mary Virginia.....Corvallis
Morrison, Rheta Hope.....Mulino
Morse, Lee Robert .....Corvallis
Mosby, David Clayborn..San Francisco, Calif.
Myers, Helen .....Scio

Nedom, Leroy Edward.....Chico, Calif.
Needham, Edith May....Saskatoon, Sask, Can.
Nelson, Albert W.....Bend
Nelson, Ava Clarice.....St. Helens
Nelson, Dantzelle Marie.....Corvallis

Nelson, Dorothy Louise.....Portland
Nelson, Gertrude Karen.....Portland
Neugart, Ray ..... Corvallis
Newberg, Annie Mary.....Tillamook
Newth, C. R. .....Clatskanie
Newton, Chester Willard.....Corvallis
Nichol, Robert R. .....Corvallis
Nichols, Addreen.....Lebanon
Nihil, Frank .....San Francisco, Calif.
Nixon, Sam H.....West Linn
Noel, Jean Alice.....Corvallis
Norris, Rita ..... Eugene
Noth, Vivian E..... Salem
Notuedt, Marian Olymphia.....Forest Grove

O'Connell, Forest Lester.....Ashland
O'Keefe, Miriam Mehetabel.....
..... San Mateo, Calif.
O'Reilly, Justine Beyers .....Chemawa
Oakley, Jr., Alvan.....Tempe, Ariz.
Oakley, Lora E.....Tempe, Ariz.
Oliver, Harold Eldon .....Boring
Olson, Olaf Clifford .....Weiser, Idaho
Orner, Louise Jackman .....Corvallis
Orr, Mildred Catherine.....Vancouver, B. C.
Othus, Jeannette Park.....Corvallis

Palmer, Gladys .....Bountiful, Utah
Palmer, Juen Erla..... ...Klamath Falls
Pangburn, Garrett Wesley.....Suisun, Calif.
Parker, Ralph W.....Sacramento, Calif.
Parr, Sarah May.....Grants Pass
Parrish, Fairfax H.....Dallas
Parry, Doris A.....San Jose, Calif.
Patton, Ocean Beach.....Portland
Paulsen, Beth Margaret.....Gold Hill
Peavy, G. Darwin.....Salinas, Calif.
Peele, Edythe Mae.....Tacoma, Wash.
Penland, Nell Mary.....Pendleton
Petersen, Dorothea M.....Salinas, Calif.
Peterson, Estella C. .....Seattle, Wash.
Peterson, Frederick Bernard....Delano, Calif.
Peterson, Merle ..... John Day
Peterson, Thelma Emily.....Yoncalla
Piennett, Sister Gemma .....Mt. Angel
Pierce, Alnora .....Portland
Piper, Margaret .....Clackamas
Platz, Carl Monroe.....Lemoore, Calif.
Porterfield, Lois Evelyn.....Bend
Poucher, Kathryn Lucille.....Eugene
Powell, Lee A.....Philomath
Power, Jack Smith.....Dallas
Pratt, Bula .....Salt Lake City, Utah
Pratt, Harlan Leo.....Corvallis
Price, Catherine ..... Weston
Prouty, Donald Cummins.....Warrenton
Pukens, Virginia Helen.....Longview, Wash.
Purchase, Elnor Levina.....Pendleton
Putnam, Catherine L.....Pasadena, Calif.
Putnam, Katharine A.....El Monte, Calif.

Ralston, Russell Paul.....Redlands, Calif.
Rannells, Calvin Jackson....St. Helena, Calif.
Ranney, Ethel M.....Corvallis
Ravenscroft, Florence Edith.....
..... Los Angeles, Calif.
Read, Irene Janette.....Klamath Falls
Redelings, Margaret Abbott..San Diego, Calif.
Redetzke, Emmaline Clara.....Forest Grove
Reekman, Evelyn .....Corvallis
Rehse, Melvin ..... Hillsboro
Reid, John Warren .....Mill City
Rhodes, Omer E.....Aberdeen, Wash.
Rhynearson, Robert Charles.....Corvallis
Rice, John Morley....Governor's Island, N.Y.
Richards, Guy Everett.....Albany
Richards, Howard J.....West Salem
Richards, Iva Lucile....Salt Lake City, Utah
Richardson, Leonard .....Corvallis

Richie, Donald D.....San Diego, Calif.
Ringham, Maynard Lesley.....Milwaukie
Risse, Delmar W.....Grinnell, Iowa
Ristig, James F.....Portland
Roberts, J. Waldo .....Centralia, Wash.
Roberts, Ray Loyd.....Gridley, Calif.
Roberts, Verhn Clare.....Corvallis
Robertson, June Lois.....Pine
Roeniche, Gertrude Alice.....Salem
Ropp, Evangalyn Virginia.....Milwaukie
Rossman, Ruth Rae.....Corvallis
Roubinek, Myrtle Alta.....Bend
Rouse, Emory H.....Anaconda, Mont.
Rudd, Norman Newton.....Pendleton
Rudesul, Ethel Madeline..Sacramento, Calif.
Runckel, William Justus.....McCloud, Calif.
Russell, Jo Anne..... Corvallis
Ruzic, Helen M.....Eureka, Calif.
Ryan, Doris Faye.....Vancouver, Wash.

Sanders, Dorothy Louis.....Albany
Sanders, Zoe Rae.....Corvallis
Sandoz, Emile H.....Corvallis
Saunders, Bess M.....Corvallis
Saunders, Stephen Wells.....San Jose, Calif.
Saylor, Nelma Laura .....Echo
Schaad, Roland W.....Myrtle Point
Schenck, Albert ..... Sherwood
Schneider, Leo Francis.....Corvallis
Schneider, Phillip Wm.....Corvallis
Schoenborn, Richard Henry.....Mulino
Schrepel, Marie Fredereka.....Corvallis
Scott, Ray .....Corvallis
Scovell, Ora Frances.....Corvallis
Seely, Claire Randolph.....San Diego, Calif.
Shambrook, George D.....Bonanza
Shaner, Bernard Reed.....Prescott, Ariz.
Shanks, Claire Eleanor.....Lebanon
Shao, Bing-kun.....San Francisco, Calif.
Shattuck, Virginia.....Juneau, Alaska
Shaug, James J.....Lompoc, Calif.
Shepard, Ruth Lorayne.....Salem
Shideler, Fred M.....Corvallis
Shuey, Dale O.....Eugene
Sidey, Delphine Susan.....Portland
Simmonds, Catherine Doris.....Corvallis
Simonsen, Ruth Eleanor .....Corvallis
Simonson, Alta Bixier.....Corvallis
Simonson, Charlotte Eleanor.....
..... Grand Junction, Colorado
Simpson, Charles H.....Pilot Rock
Singleton, Lotus Snipes.....Willows, Calif.
Skelly, Harry James.....Chico, Calif.
Skinner, C. Floyd.....Princeton, Calif.
Sliger, Floyd H.....Albany
Sloan, Lucia Marie.....Corvallis
Slocum, Clarence Charles.....Portland
Small, Lowell A.....Sterling, Kan.
Sminia, Carrie A.....Canoga Park, Calif.
Smith, Harry L. .....Durham, Calif.
Smith, Howard Herman.....Portland
Smith, J. Rennell.....Tulare, Calif.
Smith, Lois Ruth.....Estacada
Smith, Myrtle M.....Dallas
Smith, Jr., Neil Tristam.....Burns
Smith, Nelson Frank.....Silver Lake
Smith, Rodney Errol.....Corvallis
Smith, Walter Wellman.....California, Mo.
Smith, Walter Z.....Glendale, Calif.
Smith, Xenophon Palmer.....Corvallis
Snider, Paul A.....Corvallis
Snowberger, Dorothy DeNice.....Corvallis
Speer, John M.....Seattle, Wash.
Spitze, Melvin Lloyd.....Ontario
Sprague, Edythe E.....Eugene
Spriggs, James Llewellyn.....Mariposa, Calif.
Stadden, Emma Bell.....Marshfield
Stalley, Francis Charles.....Corvallis
Staney, E. Ruth.....Oceanside

Stanley, Clarence B.....Tillamook
Starker, M. Jean.....Corvallis
Steinberg, William.....Gilbert, Ariz.
Stephenson, Ruth H.....Everett, Wash.
Stevens, Helen Esther.....Buhl, Idaho
Steward, Agnes Ruth.....Brooks
Stocker, Clifford Alvin.....Parkdale
Stoddard, Harry D.....Dixon, Calif.
Stollan, Mable Alice.....Woodburn
Stout, Frances Ellen.....McMinnville
Strahl, Newton F.....Portland
Strake, Terry Barta.....Independence
Street, Andrew Ervin.....Malin
Streichert, Gretchen C.....Astoria
Sullivan, Carolyn G.....Corvallis
Summers, Herbert E.....Corvallis
Sutcliff, Juanita Leora.....Twin Falls, Idaho
Suter, Doris Evelyn.....Corvallis
Sutherland, Richard .....Hillsboro
Swanson, J. Bernard.....Seattle, Wash.
Swarts, Freda Irene.....Santa Rosa, Calif.
Swartz, Nancy Jane.....Winfield, Kan.
Swenson, Martin Arnold.....Richmond, Calif.
Swenson, Spencer O.....Blaine, Wash.

Taylor, Jeannette Gladys.....
..... Santa Barbara, Calif.
Taylor, Lois Delphine.....Forest Grove
Teir, Lennart T.....St. Paul
Tessmer, Arthur William..Ketchkan, Alaska
Tharp, Elma Virginia.....Boise, Idaho
Thiessen, Henry D.....Dallas
Thomas, Maurice E.....Eugene
Thompson, Cyril Hugh.....Spokane, Wash.
Thompson, Harriet English.....Tucson, Ariz.
Thorsen, Erling Henry.....Corning, Calif.
Thorson, Roy H.....Corvallis
Thum, Helen Elizabeth....Underwood, Wash.
Tilton, Dora .....St. David, Ariz.
Toner, Kenneth ..... Yoncalla
Towler, Emmett D.....Astoria
Townsend, Verna E.....Corvallis
Trenary, Irene.....Cottonwood, Idaho
Tresler, Harold Carl.....Greeley, Colo.
Trindle, Helen ..... Salem
Trowbridge, Shirley M.....John Day
Tucker, J. Clifton..... Philomath
Turn, Sylvia..... La Grande
Tuttle, Cecil A.....Vancouver, Wash.
Tuttle, Hubbard Alonzo.....Hoquiam, Wash.

Van Blaricom, Elmer N.....Corvallis
Van de Pal, Ina Angeline.....Corvallis
Vanderburgh, Margaret Helen.....
..... Neudorf, Saskatchewan, Can.
Vander Griend, Maurine A...Lynden, Wash.
Vannice, Ora Lea.....Klamath Falls
Van Nice, Wm. S.....Haines
Vicars, Norah de Burgh.....Kamloops, B. C.
Vogot, Edith Faye.....Portland
Voit, Robert Owen..... Portland
Votaw, Margorie Brown.....Newberg
Voye, Joe James.....Klamath Falls

Wahoske, James Beale.....Portland
Wake, Selmer O.....Corvallis
Walfron, Dale V.....Hayward, Calif.
Walker, Clyde ..... Corvallis
Walker, Dorothy Elizabeth.....Portland
Wall, Jeanne Marie.....Corvallis
Walrad, Ruth .....Newport
Walsh, Maurice J.....Forest Grove
Wang, Chuang.....Hong Kong, China
Ward, Marion F.....Pilot Rock
Warden, Lillian Margaret .....Lebanon
Ware, Margaret Christian.....Corvallis
Warren, Ray Nathan .....Harrisburg
Warren, Roy C.....Stayton
Washke, Paul R.....Eugene
Wasley, Russell Walter....Plattsmouth, Neb.
Waterman, Edna Blanche.....Caldwell, Idaho
Waters, William Henry.....Phoenix, Ariz.
Watkins, Margaret Morcam.....Corvallis
Watkins, Opal Grace.....Dawn, Missouri.
Watson, Idella Gunn.....Portland
Watson, Jesse Robert.....Forest Grove
Watson, Phyllis Virginia.....Dixon, Calif.
Webber, Rosa Geneva.....Vancouver, Wash.
Webster, Emma L.....Wenatchee, Wash.
Wedin, Vernon E.....Newberg
Weidman, Joseph.....Honolulu, Hawaii
Weidman, Myrtle Inches....Honolulu, Hawaii
Welch, Herbert Earl.....Stockton, Calif.
Wellman, Ralph Roland.....Guernsey, Wyo.
Wells, Edith Ella..... The Dalles
Wells, John Andre.....The Dalles
Wells, Laura Philbrick.....Corvallis
Wells, Thomas A.....Corvallis
Werth, Marvin Edward.....Willamina
Whalen, Mary M.....Portland
Whitby, Herbert LeRoy.....Corvallis
Whittaker, Patricia Coan.....Wolf Creek
Whitten, Maryon.....Portland
Whittlesey, David Walter.....Portland
Whittlesey, James Wright.....Portland
Widmer, Vivian..... Portland
Wiese, Frederick Cyrus.....Corvallis
Wiese, Margaret Ann.....Portland
Wilcox, Janet Marie.....Grass Valley
Willard, Jay H.....Eureka, Calif.
Willhite, Bennett Orr..... St. Joseph, Mo.
Williams, Frances S.....Eugene
Williams, Zoe M.....Missoula, Mont.
Williamson, Alene Morris.....Klamath Falls
Williamson, Russell Willard.....Albany
Williamson, Sarah..... La Grande
Wilson, Ardythe Margaret.....Hood River
Wilson, Marie Della.....Salem
Wilson, Melvin Clayton.....Independence
Wilson, Olive Isabelle.....Yoncalla
Wilson, Wauneta Leon.....Medford
Wind, Agnes Josephine.....McMinnville
Winters, Stanley.....Lompoc, Calif.
Witham, Mildred Belle.....Minot, N. D.
Wixom, Lloyd A.....Santa Barbara, Calif.
Woerner, John Daniel.....Sacramento, Calif.
Wohllaib, Doris E.....Twin Falls, Idaho
Wolcott, Carolynn Marie.....Marshfield
Wolcott, Margaret De Voe.....Corvallis
Wolf, Fred D.....Salem
Wood, Maurice Calvin.....Lotah, Wash.
Woodford, William H.....Corvallis
Woodruff, Gerta Louise..San Francisco, Calif.
Woodruff, Paul Wayne.....Portland
Woods, Harry Jay.....Estacada
Woods, Virginia Purcell.....Estacada
Woodson, Josephine.....St. Joseph, Mo.
Woodson, Millard Lee.....Medford
Woodward, Mary Margaret.....Corvallis
Wright, Elizabeth Hughson.....Portland
Wyatt, Verial Mae.....Fullerton, Calif.
Wyatt, Vista Fae.....Placentia, Calif.

Yeater, Helen Margaret.....Monmouth
Yocum, Carol Lee.....Corvallis
Yocum, Evelyn Lucille.....Estacada
Young, Dorothy Jean.....Sherwood
Young, Shirley Lucille.....Parma, Idaho

Zimmerman, Lois Ione.....Silverton
Zorn, Marie ..... Aurora
Zugor, Erma Jo.....Waitsburg, Wash.
Zumwalt, Edwin Bruce.....Beaverton

Summary of Enrollment and Degrees Granted 1939-40

ENROLLMENT BY CURRICULUM AND CLASS, REGULAR SESSION 1939-40

Curriculum	Freshman year	Sophomore year	Junior year	Senior year	Graduate	Special	Subtotal	Total
Liberal Arts and Sciences								
Lower Division								
Arts and Letters	82	37	.....	.....	.....	1		
Science	187	181	.....	.....	.....	4		
Social Science	79	57	.....	.....	.....	.....		
Total, Lower Division	348	275	.....	.....	.....	5	628	
School of Science								
General Science	.....	.....	19	21	.....	.....		
Bacteriology	.....	.....	3	4	3	.....		
Botany	.....	.....	1	3	17	.....		
Chemistry	.....	.....	11	19	34	.....		
Entomology	.....	.....	.....	5	9	.....		
Geology	.....	.....	5	8	5	.....		
Mathematics	.....	.....	1	1	2	.....		
Physics	.....	.....	.....	3	7	.....		
Zoology	.....	.....	2	13	5	.....		
Total, School of Science	187	181	42	77	82	.....	569	
Total, Liberal Arts and Sciences, excluding duplicates	348	275	42	77	82	5	.....	829
Professional Curricula								
School of Agriculture	221	302	86	175	84	2	.....	870
School of Education	40	87	49	48	73	.....	.....	297
School of Engineering	327	327	175	163	15	5	.....	1,012
School of Forestry	90	168	74	92	16	1	.....	441
School of Home Economics	213	214	105	111	50	4	.....	697
School of Pharmacy	27	52	15	18	1	.....	.....	113
Secretarial Science	215	227	77	110	.....	3	.....	632
Lower Division Architecture and Allied Arts	8	6	3	.....	.....	.....	.....	17
Lower Division Business Administration	41	49	.....	.....	.....	2	.....	92
Lower Division Journalism	5	6	.....	.....	.....	1	.....	12
Lower Division Music	2	.....	.....	.....	.....	.....	.....	2
Lower Division Physical Education	3	.....	.....	.....	.....	.....	.....	3
Unclassified	.....	.....	.....	.....	20	.....	.....	20
Totals (excluding duplicates)	1,540	1,713	626	794	341	23	.....	5,037
Auditors	.....	.....	.....	.....	.....	.....	.....	46
Total Students, Regular Session								5,083

DISTRIBUTION OF ENROLLMENT AS TO SEX AND RANK 1939-40

	Men	Women	Total
Total Graduate Students	248	93	341
Total Undergraduate Students	3,167	1,529	4,696
Total Auditors	13	33	46
Totals	3,428	1,655	5,083

ENROLLMENT IN SUMMER SESSION, 1939

	Men	Women	Total
Regular Students	374	412	786
Second Session	86	79	165
Auditors	3	30	33
4-H Club Short Course	759	1,217	1,976
Totals	1,222	1,738	2,960
Net Total, excluding duplicates	1,158	1,684	2,842

SUMMARY OF DEGREES GRANTED 1939-40

Advanced Degrees		
Honorary Degrees	4	
Doctors of Philosophy	4	
Masters of Arts	10	
Masters of Science	51	
Masters of Education	3	
Masters of Forestry	4	
Professional Degrees	3	
Total Advanced Degrees	....	79
Bachelor's Degrees		
Bachelors of Arts		
Science	18	
Education	5	
Home Economics	9	
Nursing Education	2	
Bachelors of Science		
Science	46	
Agriculture	144	
Education	51	
Chemical Engineering	21	
Civil Engineering	30	
Electrical Engineering	36	
Mechanical Engineering	32	
Industrial Arts	17	
Forestry	90	
Home Economics	97	
Nursing Education	7	
Pharmacy	17	
Secretarial Science	89	
Total Bachelors' Degrees	....	711
Total Degrees Granted 1939-40	....	790

ENROLLMENT IN GENERAL EXTENSION DIVISION*

July 1, 1939—June 30, 1940
(Excluding duplicates)

	Undergraduates			Graduates			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Extension Classes:									
Portland Center	1,189	1,762	2,951	66	75	141	1,255	1,837	3,092
Ashland	3	6	9	5	3	8	8	9	17
Coquille	1	11	12	.....	.....	.....	1	11	12
Eugene	85	137	222	12	11	23	97	148	245
Grants Pass	5	18	23	.....	.....	.....	5	18	23
Klamath Falls	11	50	61	.....	.....	.....	11	50	61
La Grande	6	18	24	.....	.....	.....	6	18	24
Marshfield	19	6	25	.....	.....	.....	19	6	25
Medford	21	37	58	.....	.....	.....	21	37	58
Rainier	8	17	25	.....	.....	.....	8	17	25
Salem	21	60	81	3	13	16	24	73	97
Toledo	9	20	29	.....	.....	.....	9	20	29
Woodburn	6	13	19	.....	.....	.....	6	13	19
Total, Classes	1,384	2,155	3,539	86	102	188	1,470	2,257	3,727
Correspondence Study:									
New Registrants	473	448	921	.....	.....	.....	473	448	921
Students registered before July 1, 1939, who are still enrolled	393	415	808	.....	.....	.....	393	415	808
Total, Correspondence Study	866	863	1,729	.....	.....	.....	866	863	1,729
GRAND TOTAL (Extension Classes and Correspondence Study	2,250	3,018	5,268	86	102	188	2,336	3,120	5,456

* The enrollments given in the table do not include enrollments in radio classes and for other noncredit work of the General Extension Division.

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