VOL. IX APRIL, 1914 No. 3

THE UNIVERSITY OF IDAHO BULLETIN

CATALOG NUMBER, 1913-1914

WITH

ANNOUNCEMENTS FOR 1914-1915

PUBLISHED QUARTERLY BY THE UNIVERSITY OF IDAHO
MOSCOW, IDAHO

VOL. IX APRIL, 1914 No. 3

UNIVERSITY OF IDAHO BULLETIN

Entered as second-class matter at the postoffice at Moscow, Idaho

TWENTY-SECOND ANNUAL

CATALOG

OF THE

UNIVERSITY OF IDAHO

1913-1914

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PUBLISHED QUARTERLY BY THE UNIVERSITY OF IDAHO
MOSCOW, IDAHO

PRESS OF
LEWISTON MORNING TRIBUNE
LEWISTON, IDAHO

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1914 CALENDAR 1914

JANUARY						
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CALENDAR

Academic Year 1913-1914

SECOND SEMESTER

1914

Feb.	2-3	Monday and Tuesday ..... REGISTRATION
Feb.	4	Wednesday ..... All University exercises begin
Feb.	21	Saturday .... Final date for Condition Examinations
Mar.	13	Friday ..... School of Practical Agriculture ends
Apr.	13-18	Monday-Saturday ..... Annual Encampment
May	7-8	Thursday and Friday ....Interscholastic Track Meet
May	30	Saturday ..... Memorial Day (holiday)
June	3	Wednesday .... Second Semester Examinations begin
June	7	Sunday ..... Baccalaureate Sermon
June	9	Tuesday ..... Convocation Address
June	10	Wednesday ..... COMMENCEMENT
June	10	Wednesday ..... Alumni Banquet

June	15	Monday ..... 1914 Summer Session begins
July	25	Saturday ..... 1914 Summer Session ends

Academic Year 1914-1915

FIRST SEMESTER

1914

Sept.	12	Saturday .....Condition Examinations
Sept.	12	Saturday ..... First Faculty Meeting
Sept.	14-15	Monday-Tuesday ..... REGISTRATION
Sept.	15	Wednesday ..... All University Exercises begin
Oct.	12	Monday .... School of Practical Agriculture begins
Nov.	25	Wednesday, 11:52 A.M...Thanksgiving Recess begins

Nov.	30	Monday, 8:00 A.M. .....Thanksgiving Recess ends
Dec.	18	Friday, 6:00 P.M. ..... Christmas Vacation begins

1915

Jan.	4	Monday, 8:00 A.M. ..... Christmas Vacation ends
Jan.	25	Monday ..... First Semester Examinations begin
Jan.	29	Friday ..... First Semester Examinations end

SECOND SEMESTER

Feb.	1-2	Monday and Tuesday ..... REGISTRATION
Feb.	3	Wednesday .....All University Exercises begin
Feb.	20	Saturday....Final Date for Condition Examinations
Mar.	12	Friday .....School of Practical Agriculture ends
Apr.	12-17	..... Annual Encampment
May	6-7	Thursday and Friday .... Interscholastic Track Meet
June	2	Wednesday ....Second Semester Examinations begin
June	6	Sunday ..... Baccalaureate Sermon
June	9	Wednesday ..... COMMENCEMENT

June	14	Monday ..... 1915 Summer Session begins
July	24	Saturday ..... 1915 Summer Session ends

At its April meeting the Board was reorganized as follows:

DAVID L. EVANS ..... *President* .....Malad
Term expires April, 1915
HERMAN J. ROSSI ..... *Vice-President* ..... Wallace
Term expires April, 1916
H. HARLAND ..... *Secretary* ..... Payette
Term expires April, 1917
EVAN EVANS .....Grangeville
Term expires April, 1918
WALTER S. BRUCE .....Boise
Term expires April, 1919
GRACE M. SHEPHERD, Superintendent Public Instruction .... Boise
ex-officio

Executive Committee of the University of Idaho

Mr. ROSSI, Chairman; Mr. EVAN EVANS, Commissioner SISSON, President BRANNON

Requisition Committee of the University of Idaho

Mr. ROSSI, Mr. EVAN EVANS, President BRANNON

STATE BOARD OF EDUCATION
and
Board of Regents of the University of Idaho

WALTER S. BRUCE .....*President* ..... Boise
Term expires April, 1914.
H. HARLAND ..... *Vice-President* ..... Payette
Term expires April, 1917.
HERMAN J. ROSSI ..... *Secretary* ..... Wallace
Term expires April, 1916.
DAVID L. EVANS ..... Malad
Term expires April, 1915.
EVAN EVANS ..... Grangeville
Term expires April, 1918.
GRACE M. SHEPHERD, Superintendent Public Instruction .... Boise
ex-officio

Committee on University of Idaho
Mr. ROSSI, Chairman; Mr. BRUCE, Mr. EVAN EVANS

Committee on Agricultural Extensions and Demonstration Farms
Mr. HARLAND, Chairman; Mr. EVAN EVANS, Mr. BRUCE

Officers of the Board
EDWARD O. SISSON, Commissioner of Education ..... Boise
RALPH T. BICKELL, Auditor and Business Agent ..... Boise

State Educational Institutions

The University of Idaho, at Moscow; including Colleges of Letters and Sciences, Engineering (including Mining), Agriculture, and Law.

The State Normal Schools, at Lewiston and Albion, for the training of teachers.

The Academy of Idaho, at Pocatello; a secondary school giving instruction in scientific, literary, and practical branches.

The State School for the Deaf and Blind, at Gooding; a boarding school for the deaf and blind children of the state.

The Industrial Training School, at St. Anthony; a home and school for boys and girls who in the judgment of the Juvenile Court need special care and discipline.

Information concerning any of the above institutions may be obtained from the institution or from the State Board of Education at Boise.

ADMINISTRATIVE OFFICERS

M. A. BRANNON, PH.D. ..... President

J. G. ELDRIDGE, PH.D. ..... Dean of the University Faculty

W. L. CARLYLE, M.S. .... Dean of the College of Agriculture, and Director of the Idaho Experiment Station

C. N. LITTLE, PH.D. ..... Dean of the College of Engineering

G. D. AYERS, B.A., LL.B. ..... Dean of the College of Law

Miss PERMEAL J. FRENCH ..... Dean of Women

FRANCIS JENKINS ..... Bursar, and Secretary of Faculty

Lieut. H. C. FOOKS ..... Commandant of Cadets

Miss M. BELLE SWEET, B.L.S. ..... Librarian

OFFICERS OF INSTRUCTION AND ADMINISTRATION*

MELVIN AMOS BRANNON, PH.D., *President of the University, and Professor of Botany*

B.A., Wabash College, 1889; M.A., 1890; Ph.D., University of Chicago, 1912; Science teacher, Ft. Wayne, Indiana, High School, 1890-94; Professor of Biology, University of North Dakota, 1894-1914; Director of North Dakota Biological Survey, 1896-1914; Director of Biological Station, University of North Dakota, 1909-14; Dean of School of Medicine, University of North Dakota, 1905-11; Dean of College of Liberal Arts, 1911-14; President of the University, and Professor of Botany, University of Idaho, April, 1914—.

JAY GLOVER ELDRIDGE, PH.D., *Professor of the German Language and Literature, and Dean of the University Faculty*

B.A., Yale University, 1896; M.A., 1899; Ph.D., 1906; Graduate Scholar, Yale University, 1896-1901; Assistant in German, Sheffield Scientific School, Yale University, 1897-98; Instructor in German, Yale College, 1899-1901; Professor of Modern Languages, University of Idaho, 1901-08; Professor of the German Language and Literature, 1908—; Dean of the University Faculty, 1903—.

CHARLES NEWTON LITTLE, PH.D., *Professor of Civil Engineering, and Dean of the College of Engineering*

A.B., University of Nebraska, 1879; A.M., University of Nebraska, 1884; Ph.D., Yale University, 1885; Instructor in Mathematics and Civil Engineering, University of Nebraska, 1880-84; Associate Professor of Civil Engineering, 1885-90; Professor of Civil Engineering, 1890-93; Professor of Mathematics, Leland Stanford, Jr., University, 1893-1901; on leave of absence at Universities of Goettingen and Berlin, 1899-1900; Professor of Civil Engineering, University of Idaho, 1901—; Dean of the College of Engineering, 1911—.

WILLIAM SANDS MORLEY, A.M., SC.D., *Professor of Mathematics and Philosophy*

A.B., The College of Emporia, 1893; A.M., Princeton University, 1896; Sc.D., (honoris causa), The College of Em-

*(a) Professors, associate professors, and assistant professors, together with those of equivalent rank, are arranged in groups according to seniority of appointment; (b) instructors, (c) teaching fellows and assistants, (d) extension staff, and (e) special lecturers follow in alphabetical order.

poria, 1902; Instructor in Mathematics, The College of Emporia, 1896-1900; Graduate Student, University of Berlin, 1900-01; Graduate Student, University of Chicago, 1901-02; Associate Professor of Mathematics, University of Idaho, 1902-05; Professor of Mathematics, 1905-13; Professor of Mathematics and Philosophy, 1913—.

EDWARD MASLIN HULME, A.M., *Professor of History*

A.B., Leland Stanford, Jr., University, 1897; A.M., Cornell University, 1902; Instructor in English and History, High School, Portland, Ore., 1897-1900; University Scholar, Harvard University, 1900-01; Graduate Student, Cornell University, 1901-02; Cornell Traveling Scholar, the Sorbonne, Paris, 1902; Lecturer in History, University of Idaho, 1902-05; Associate Professor of History, 1905-06; Professor of History, 1906—.

HENRIETTA EVANGELINE MOORE, PH.D., *Professor of English Literature*

M.L., University of California, 1896; Ph.D., Columbia University, 1904; Instructor in the English Language and Literature, State Normal School, Los Angeles, Calif., 1896-1901; Professor of English Literature, University of Idaho, 1905—.

*J. SHIRLEY JONES, B.S., *Professor of Agricultural Chemistry, and Chemist, Idaho Experiment Station*

B.S., College of Agriculture, University of California, 1903; Reader in Chemistry, College of Chemistry, 1903; Chemist, and Assistant to the Superintendent, Giant Powder Co., San Francisco, 1904-05; Professor of Agricultural Chemistry, and Station Chemist, University of Idaho, 1906—.

HAROLD LUCIUS AXTELL, PH.D., *Professor of Greek and Latin*

A.B., Kalamazoo College, 1897; A.B., University of Chicago, 1898; A.M., 1900; Ph.D., 1906; Instructor in Latin, Des Moines College, 1898-1900; Graduate Student, University of Chicago, 1900-01; Traveling Fellow University of Chicago and Student in the American School of Classical Studies, Rome, Italy, 1901-02; Instructor in Latin and Greek, University of Idaho, 1902-07; Acting Principal of the State Preparatory School, 1906-07; Associate Professor of Greek and Latin, University of Idaho, 1907-09; Professor of Greek and Latin, 1909—.

CARL LEOPOLD VON ENDE, PH.D., *Professor of Chemistry*

B.S., University of Iowa, 1893; M.S., 1894; Ph.D., University of Goettingen, 1899; Demonstrator in Chemistry, University of Iowa, 1894-95; Science Teacher, High School, Burlington, Iowa, 1895-96; Instructor in Chemistry, University of Iowa, 1896-97 and 1899-1905; Assistant Professor of Chemistry, 1905-07; Research Associate, Research Laboratory of Physical Chemistry, Massachusetts Institute of Technology, 1907-08; Professor of Chemistry, University of Idaho, 1908—.

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*On leave of absence at Cornell University, 1913-14.

*RICHARD STANISLAUS MCCAFFERY, E.M., *Professor of Mining and Metallurgy*

E.M., Columbia University, 1896; Chemist and Assayer, El Establecimiento Mineral de Caspalca, Peru, 1897; Assistant in Metallurgy, Columbia University, 1898-99; Superintendent, Copper Corporation of Chile, Ltd., Chanaral, Chile, 1900; Superintendent, 1901-02, and Manager, 1905-07, of the Santa Fe Gold and Copper Mining Co., New Mexico; Consulting work in Cuba, Haiti, Panama, North Carolina. Virginia, Vermont, and Nevada, 1902-05; Manager, Salt Lake Copper Co., Utah, 1905-07; General Superintendent Tintic Smelting Co., Utah, 1908; Chairman Spokane Section, American Institute of Mining Engineers, 1911—; Professor of Mining and Metallurgy, University of Idaho, 1909-Feb. 1, 1914.

CHARLES HOUSTON SHATTUCK, PH.D., *Professor of Forestry*

B.S., Campbell College, 1894; M.S., 1898; Ph.D., University of Chicago, 1908; Instructor in Physics and Chemistry, Campbell College, 1895-98; Professor of Biology and Geology, and Vice President and Registrar, 1898-1903; Professor of Natural History, Washburn College, 1904-08; Senior Fellow on leave of absence at University of Chicago, 1907-08; Instructor in Botany at Marine Biological Laboratory, Woods Hole, Mass., summer, 1908; Professor of Botany and Forestry at Clemson College, 1908-09; Graduate Student, Biltmore School of Forestry, summer, 1909; with U. S. Forest Service, summers, 1910-12; Professor of Forestry, University of Idaho, 1909—.

WILLIAM LEVI CARLYLE, M.S., *Dean of the College of Agriculture, and Director, Idaho Experiment Station*

B.S.A., University of Toronto, 1892; M.S., Colorado Agricultural College, 1905; Instructor in Dairying, Ontario Agricultural College, 1893; Lecturer, Live Stock and Dairy Husbandry Extension Department, University of Minnesota, 1893-97; Professor of Animal Husbandry, University of Wisconsin, 1897-1903; Professor of Agriculture, Colorado Agricultural College, 1903-05; Dean of Agriculture, 1905-09; Expert in Animal Husbandry, U. S. Department of Agriculture, 1905-09; Superintendent in charge Live Stock Division, Alaska-Yukon-Pacific Exposition, 1909; Dean of the College of Agriculture, and Director, Idaho Experiment Station, University of Idaho, 1910—; Acting President, February 1, 1913-April 1, 1914.

JOHN FREDERICK NICHOLSON, M.S., *Professor of Bacteriology, and Bacteriologist, Idaho Experiment Station*

B.S., University of Wisconsin, 1900; M.S., 1902; Assistant Bacteriologist, University of Wisconsin, 1900-02; Assistant Bacteriologist at the New York Experiment Station (Geneva), 1902-03; Assistant Bacteriologist at the Oklahoma Agricultural and Mechanical College and Experiment Station, 1903-05; Professor of Botany and Entomology, 1905-09; Associate Professor of Bacteriology, University of Idaho, 1909-10; Professor of Bacteriology, and Bacteriologist, Idaho Experiment Station, 1910—.

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*Resigned February 1, 1914.

*WILLIAM HALE WICKS, M.S.AGR., *Professor of Horticulture, and Horticulturist, Idaho Experiment Station*

B.S., Oregon Agricultural College, 1904; M.S., 1906; M.S. Agr., Cornell University, 1908; Assistant Professor of Horticulture, Oregon Agricultural College and Experiment Station, 1904-07; Assistant Horticulturist and Professor of Pomology, New Hampshire Agricultural College, 1908-09; Associate Professor of Horticulture, University of Idaho, 1909-11; Professor of Horticulture and Horticulturist, Idaho Experiment Station, 1911-Feb. 1, 1914.

EDWARD JOHN IDDINGS, B.S.(AGR.), *Professor of Animal Husbandry*

B.S.,(Agr.), Colorado Agricultural College, 1907; Special Agent, Bureau of Plant Industry, U. S. Department of Agriculture, 1906; Assistant to the Dean of Agriculture, Colorado Agricultural College, 1907-09; Field Commissioner, Dry Farming Congress, summer of 1909; Assistant in Animal Husbandry, Colorado Agricultural College, 1909-10; Editor Dry Farming Congress Bulletin, summer of 1910; Principal of the School of Practical Agriculture, and Assistant in Animal Husbandry, University of Idaho, 1910-11; Professor of Animal Husbandry, 1911—.

GUSTUS LUDWIG LARSON, B.S.(E.E.), *Professor of Mechanical Engineering*

B.S.(E.E.), University of Idaho, 1907; with General Electric Co., Schenectady, 1907-09; Assistant Professor of Mechanical Engineering, University of Idaho, 1909-11; Associate Professor of Mechanical Engineering, 1911-12; Professor of Mechanical Engineering, 1912—.

CHARLES EDWARD TEMPLE, M.A., *Professor of Botany, and State Botanist*

A.B., University of Nebraska, 1906; M.A., 1909; Principal of Stanberry High School, Missouri, 1904-05; Instructor in Botany and Physics, Beatrice High School, Nebraska, 1906-07; Instructor in Botany and Agriculture, Lincoln High School, Nebraska, 1907-09; Instructor in Botany, University of Michigan, 1909-11; Associate Professor of Botany, University of Idaho, 1911-12; Professor of Botany and State Botanist, 1912—.

EVERETT WALTER HAMILTON, B.S.A., *Professor of Agricultural Engineering and Irrigation*

B.S.A., Iowa State College, 1907; Instructor in Agricultural Engineering, Iowa State College, 1907-09; Assistant Professor, 1909-11; Associate Professor of Agricultural Engineering and Irrigation, University of Idaho, 1911-12; Professor of Agricultural Engineering and Irrigation, 1912—.

LAURENCE JAY CORBETT, B.S.(E.E.), *Professor of Electrical Engineering*

B.S.(E.E.), University of California, 1902; Graduate Student, Union College, Schenectady, N. Y., 1903; with General Electric Co., Schenectady, N. Y., 1902-03; with Union Iron Works, San Francisco, Calif., 1904; with Spokane and Inland Ry., Spokane, Wash., 1905; with Washing-

*Resigned February 1, 1914.

ton Water Power Co., Spokane, Wash., 1905-06; Consulting Electrical, Hydraulic, and Irrigating Engineer, Spokane, Wash., 1906-11; Associate Professor of Electrical Engineering, University of Idaho, 1911-12; Professor of Electrical Engineering, 1912—.

JESSIE MAY HOOVER, B.S., *Professor of Home Economics*

B.S., Kansas State Agricultural College, 1905; Special Work at Lewis Institute, Chicago; Special Work at University of Chicago; Advanced Work at Kansas State Agricultural College; Preceptress of the School of Agriculture, South Dakota State College, 1907-09; Dean of Women, and Professor of Home Economics, North Dakota State Agricultural College, 1909-12; Professor of Home Economics, University of Idaho, 1912—.

PETER POWELL PETERSON, PH.D., *Professor of Soils*

B.S., Brigham Young University, 1905; Ph.D., University of Chicago, 1909; Instructor in Soils, University of Wisconsin, 1909-11; Assistant Professor of Soils, University of Wisconsin, 1911-12; Professor of Soils, University of Idaho, 1912—.

PHILIP HENDRICK SOULEN, M.A., *Professor of Education*

A.B., Hope College, 1892; M.A., 1905; Principal High School, Oregon City, Ore., 1892-94; Instructor in Latin, Northwestern Classical Academy, Orange City, Iowa, 1894-1901; Principal, 1901-06; Instructor in Summer Normal Schools, Iowa, 1900-06; Instructor in Education and in Preparatory Physics and Geometry, University of Idaho, 1906-07; Principal of the State Preparatory School, and Instructor in Education, 1907-11; Conductor State Summer Normal School, Coeur d'Alene, 1908 and 1910; Associate Professor of Education, 1911-13; Professor of Education, 1913—.

LYMAN P. WILSON, J.D., *Professor of Law, and Secretary of the College of Law*

B.S., Knox College, 1904; J.D., University of Chicago, 1907; Admitted to the Bar of Illinois, 1907; City Attorney of Galesburg, Ill., 1908-11; Associate Professor of Law, University of Idaho, 1911-13; Professor of Law, and Secretary of the College of Law, 1913—.

SHIRLEY GALE PATTERSON, PH.D., *Professor of Romance Languages*

A.B., Amherst College, 1906; A.M., Cornell University, 1909; Ph.D., 1911; College Tutor in Modern Languages and Psychology, Amherst College, 1904-06; summers spent in Italy, France and Germany; Instructor in French, German, and Spanish, High School, New York City, 1906-08; Graduate Student in Romance Languages and Philosophy, Columbia University, 1906-08; Resident Fellow in Romance Languages, Cornell University, 1908-09; Foreign Fellow, *ibid.*, at Sorbonne, Ecole des Hautes Etudes, and Universidad de Madrid, 1909-10; Instructor in French and Italian, University of Chicago, 1910-11; Associate Professor of Romance Languages, University of Idaho, 1911-13; Professor of Romance Language, 1913—.

DOUGLAS CLERMONT LIVINGSTON, B.S.(M.E.), *Professor of Mining Engineering*

Special Student, Stanford University, 1905; B.S.(M.E.), McGill University, 1906; Associate Member, Canadian So-

ciety of Civil Engineers; U. S. Mineral Surveyor for Arizona; Practical Mining Work, B. C., 1897-1901; Instructor in Field Surveying, Summer School, McGill University, 1905 and 1906; Examination Work, Cobalt, Ontario, 1906; Engineer and Assayer, Tigre Mining Co., S. A., Sonora, Mexico, 1906-08; Superintendent Fortuna and North Tigre Mining Co. Sonora, Mexico, 1908-10; Private Engineering and Examination Work in Arizona and Mexico, 1910-11; Engineer, Montezuma Copper Co., 1911; Associate Professor of Mining Engineering, University of Idaho, 1911-13; Professor of Mining Engineering, 1913—.

CHARLES ARTHUR STEWART, PH.D., *Professor of Geology and Mineralogy*

A.B., Columbia University, 1906; A.M., 1907; Ph.D., 1912; Assistant in Mineralogy, Columbia University, 1907-08; Instructor in Geology, Cornell University, 1908-11; Associate Professor of Geology and Mineralogy, University of Idaho, 1911-13; Professor of Geology and Mineralogy, 1913—.

DAVID BERNARD STEINMAN, C.E., PH.D., *Professor of Civil Engineering*

B.S., College of the City of New York, 1906; A.M., Columbia University, 1909; C.E., 1909; Ph.D., 1911; Fellow in Applied Mathematics, College of the City of New York, 1906-09; James Scholar in Applied Science, Columbia University, 1907-09; University Scholar in Civil Engineering, 1909-10; Instructor in Manual Training, New York Public Schools, 1905-06; Instructor in Surveying and Mathematics, College of the City of New York, 1907-10; Instructor in Applied Physics, Stuyvesant Trade School, New York, 1909-10; Surveyor, 1907-10; Structural Draftsman and Designer, New York Public Service Commission, 1909; Inspector in Concrete Masonry and Tunnel Work, New York Board of Water Supply, 1910; Instructor in Civil Engineering, University of Idaho, 1910-11; Engineering Inspector, New York Board of Water Supply, 1911; Assistant Professor of Civil Engineering, University of Idaho, 1911-12; Associate Professor of Civil Engineering, 1912-13; Professor of Civil Engineering 1913—.

CLARENCE CORNELIUS VINCENT, M.S.(AGR.), *Professor of Horticulture, and Horticulturist, Idaho Experiment Station*

B.S.A., Oregon Agricultural College, 1907; M.S., 1909; M.S.,(Agr.), Cornell University, 1910; Assistant in Horticulture, Oregon Agricultural College, 1907-09; Graduate Assistant in Horticulture, Cornell University, 1909-10; Assistant Horticulturist, University of Idaho, 1910-11; Associate Professor of Horticulture, Clemson Agricultural and Mechanical College, 1911-12; Associate Professor of Horticulture, University of Idaho, 1912-13; Professor of Horticulture and Horticulturist, Idaho Experiment Station, 1913—.

FRANK LESLIE KENNARD, B.S., *Professor of Agronomy, and Agronomist, Idaho Experiment Station*

B.S., South Dakota State College, 1906; Special Agent, Dry Land Agricultural Investigations, U. S. Department of Agriculture, 1906-07; Assistant Agriculturist, Same Department, 1907-08; Superintendent, U. S. Experiment Station, Dalhart, Texas, 1908-11; Assistant Professor of Agronomy, University of Idaho, 1911-12; Agronomist, Idaho

Experiment Station, 1911—; Associate Professor of Agronomy, 1912-13; Professor of Agronomy, 1913—.

MARTIN FULLER ANGELL, PH.D., *Professor of Physics*

B.S., University of Wisconsin, 1902; M.A., 1905; Ph.D., 1911; Graduate Student and Assistant in Physics, 1902-03 and 1904-05; Graduate Scholar, University of Chicago, summers 1907 and 1908; Fellow, University of Wisconsin, 1910-11; Professor of Physics and Mathematics, University of New Mexico, 1903-04 and 1905-06; Professor of Physics and Electrical Engineering, 1906-13; Dean of the College of Science and Engineering, 1908-13; Professor of Physics, University of Idaho, 1913—.

JERRY EDWARD WODSEDALEK, PH.D., *Professor of Zoology and Entomology*

Ph.B., University of Wisconsin, 1910; M.Ph., 1911; Ph.D., 1913; Assistant in Zoology, University of Wisconsin, 1910-11; Instructor in Zoology and Entomology, Summer Sessions of 1911 and 1912; Fellow in Zoology, 1911-13; Professor of Zoology and Entomology, University of Idaho, 1913—.

GEORGE DAVID AYERS, A.B., LL.B., *Professor of Law, and Dean of the College of Law*

A.B., Harvard University, 1879; LL.B., 1882; Admitted to Massachusetts Bar, 1883; Professor of Law, University of Nebraska, 1905-08; Superintending litigation in Omaha, Chicago, and Mexico, 1908; Receiver of San Luis Land & Cattle Co., 1909—; Receiver of Hacienda de Minas Viejas, S. A., 1910—; Professor of Law, and Dean of the College of Law, University of Idaho, 1913—.

JAMES JOHN GILL, LL.B., *Professor of Law*

LL.B., Kent College of Law, Chicago, 1897; Admitted to Illinois Bar, 1897; Admitted to Wisconsin Bar, 1897; District Attorney, Oconta County, Wisconsin, 1899-1907; Active practice at the Bar of Wisconsin, 1897-1913; Professor of Law, University of Idaho, 1913—.

EUGENE HAMILTON STORER, *Professor of Vocal Culture, Choral Work, and Public School Music*

Under Private Instruction of George J. Parker, 1895-99, and of Charles A. White, 1901-05, Boston, Mass.; Graduate of New England Conservatory, 1905; Director Vocal Department, Salem College, North Carolina, 1905-08; Director Oratorio Society, Winston-Salem, North Carolina, 1905-08; European trips for Musical Instruction, summers of 1899, 1906, and 1908; Private Teaching, Spokane, Wash., 1908-09; Director Coeur d'Alene Choral Club, 1908-09; Concert and Oratorio Work, 1909-11; Instructor in Vocal Culture, Choral Work, and Public School Music, University of Idaho, 1911-13; Professor of Vocal Culture, Choral Work, and Public School Music, 1913—.

FAY HOSTETTER, *Professor of Pianoforte-Playing and the Theory of Music*

Graduate New England Conservatory of Music, Boston, Mass., 1909; Instructor in Special Normal Department. New England Conservatory of Music, 1908-09; Private

tory School, and Coach in Athletics, University of Idaho, 1902-06; Assistant in Zoology, and Coach in Football and Basketball, University of Iowa, 1906-10; Coach in Athletics, and Instructor in Zoology, University of Idaho, 1910—.

GEORGE HALL, *Instructor in Machine Shop Practice and Wood Working*

Student, Technical College, Sunderland, England; Instructor in Wood Work and Pattern Making, Washington State College, 1909-10; Instructor in Machine Shop Practice and Wood Working, University of Idaho, 1910—.

HORACE ASA HOLADAY, B.A., *Instructor in Chemistry*

B.A., University of Colorado, 1911; Graduate Work, Columbia University, Summer 1911; University of Colorado, Summer 1912; Instructor in Chemistry, University of Colorado, Summer, 1910; Assistant in Chemistry, University of Idaho, 1910-12; Instructor in Chemistry, 1912—.

MARGUERITE VON FRITSCH HUGHES, *Instructor in Violin-Playing, and Director of the University Orchestra and the String Quartet*

Pupil of Eugene Ysaye and Caesar Thompson, Royal Conservatory of Music, Brussels, Belgium; Soloist with Sousa and his Band, Season 1902, and Calve Concert Company, 1905-06; Concert Playing in Europe, 1905; Private Teaching, 1906-13; Instructor in Violin-Playing, and Director of the University Orchestra and the String Quartet, University of Idaho, 1913—.

HALLIE HYDE, B.A., *Instructor in Home Economics*

B.S., South Dakota State College, 1908; B.A., University of Illinois, 1910; Graduate Work, Columbia University, Summer, 1911; Instructor in Home Economics, South Dakota State College, 1910-12; Professor of Home Economics, Des Moines College, 1912-13; Instructor in Home Economics, University of Idaho, 1913—.

ROBERT AUSTIN LAMSON, B.S.(AGR.), *Instructor in Dairy Manufactures*

B.S.(Agr.), University of Wisconsin, 1913; Field Dairyman, February-June, 1911; Student Assistant in Dairying, 1911-12; Instructor in Dairy Manufactures, University of Idaho, 1913—.

CLARENCE LEO LARSON, E.M., *Instructor in Metallurgy*

E.M., University of Minnesota, 1910; Study of mining methods in Minnesota, Wisconsin, Michigan, Utah, Nevada, and Mexico, 1910-11; Professor of Mining and Metallurgy, Imperial Polytechnic College, Nanking, China, 1911-12; with Chiksan Mining Company, Chiksan, Korea, 1912-Dec., 1913; Instructor in Metallurgy, University of Idaho, Feb., 1914—.

CORA IRENE LEIBY, B.S.,(D.E.), *Instructor in Home Economics*

B.S.(D.E.), James Millikin University, 1909; Supervisor Domestic Art, East St. Louis Public Schools, 1910-11; Head of Domestic Economy Department, College of Montana, 1911-13; Instructor in Home Economics, University of Idaho, 1913—.

GEORGIA LUCAS, *Assistant in Pianoforte-Playing*

Private study of Piano under three pupils of Leschetizki: S. Hamilton Nussbaum, Chicago, Percival W. Owen, Indianapolis, Carre Louise Dunning, Buffalo, 1903-08 and 1911-13; Study of Harmony, etc., 1908-09 and 1911-13; Study of Organ, 1906-07; Private teaching, Indiana, 1907-08 and 1911-13; Assistant in Pianoforte-Playing, University of Idaho, 1913—.

FRANK LATHAM MOORE, LL.B., *Instructor in Law*

LL.B., University of Michigan, 1888; Admitted to the Bar of Michigan, 1888; of Idaho, 1896; Instructor in Law, University of Idaho, 1909—.

PREN MOORE, *Instructor in Poultry Husbandry.*

Instructor in Poultry Husbandry, University of Idaho, 1913—.

HERMAN MARTIN ROOT, B.S.(AGR.), *Assistant in Agricultural Chemistry*

B.S.(Agr.), University of Wisconsin, 1913; Assistant in Agricultural Chemistry, University of Idaho, 1913—.

FRANK STANTON, *Accountant*

LL.B., Drake University, 1899; Admitted to Bar of Iowa, 1899; Accountant, University of Idaho, 1911—.

IDA WOLF, *Cataloger*

Ohio State University, 1907-09; Drexel Institute Library School, 1909-10; Assistant in the Library, Ohio State University, 1910-11; Cataloger Library of Academy of the New Church, Bryn Athyn, Pa., 1911-12; Cataloger, Iowa State Teachers' College, 1912-13; Cataloger, University of Idaho, 1913—.

TEACHING FELLOWS

CLINTON FISKE BESSEE, B.S.(C.E.), *Teaching Fellow in Civil Engineering*

B.S.(C.E.), University of Idaho, 1912; with Maintenance of Way Department, Canadian Pacific Railway, 1912-13; Teaching Fellow in Civil Engineering, University of Idaho, 1913—.

GEORGE WADSWORTH GRAVES, B.S., *Teaching Fellow in Soils*

B.S., Colorado Agricultural College, 1911; Teacher of Agriculture, Ft. Lewis School of Agriculture, Hesperus, Colo., 1911-13; Teaching Fellow in Soils, University of Idaho, 1913—.

JOHN SAMUEL KNOX, B.S.(AGR.), *Teaching Fellow in Horticulture*

B.S.(Agr.), South Carolina Agricultural College, 1911; Graduate Student Assistant in Horticulture, South Carolina Experiment Station, 1911-12; Graduate Student, Ohio State University, 1912-13; Teaching Fellow in Horticulture, University of Idaho, 1913—.

AGRICULTURAL EXTENSION STAFF

*WALTER HERBERT OLIN, M.S., *Director of Agricultural Extension*
State House, Boise, Idaho

B.S., Kansas Agricultural College, 1889; M.S., 1893; Principal and Superintendent of City Schools, Ottawa, Kan., 1889-1902; Corn Breeder, Funk Bros., Seed Farm, Ill., 1902; Professor of Farm Crops, Iowa State College, 1902-04; Professor of Agronomy, Colorado Agricultural College, 1904-07; Vice-Dean of Agriculture, 1907-08; Industrial Commissioner, Denver, Laramie, and Northwestern R. R. Co., 1908-11; Director of Agricultural Extension, University of Idaho, 1911-April 1, 1914.

ESTES PARK TAYLOR, B.S., *Assistant Director of Horticulture*
State House, Boise, Idaho

B.S., Colorado Agricultural College, 1902; Assistant in Botany and Entomology, University of Kentucky, 1903-04; Assistant to State Entomologist, University of Illinois, 1904-06; Field Entomologist, Western Slope Fruit Station, Colorado Agricultural College, Grand Junction, Colo., 1906-08; Entomologist, Missouri State Fruit Station, Mountain Grove, Mo., 1908-10; Deputy State Entomologist and Consulting Horticulturist, Grand Junction, Colo., 1910-13; Field Horticulturist, Agricultural Extension Department, University of Idaho, 1913—.

ROGER BRANDT COGLON, B.S.A., *Assistant Director of County Agriculturists.* State House, Boise, Idaho

B.S.A., Toronto University, 1911; Agricultural Lecturer, University of Saskatchewan, 1911; County Agriculturist, North Dakota Better Farming Association, 1912; State Seed Commissioner, Idaho Experiment Station, 1912-13; Assistant Director of County Agriculturists for Idaho, 1913—.

EDWARD FRANK RINEHART, B.S.(AGR.), *Field Animal Husbandman*
State House, Boise, Idaho

B.S.(Agr.), Ohio State University, 1910; Extension Worker and Instructor in Dairying, Ohio State University, 1910-12; Field Dairyman, University of Idaho, in cooperation with the U. S. Department of Agriculture, 1912-13; Field Animal Husbandman, Agricultural Extension Department, University of Idaho, 1913—.

THADDEUS HEDGES PARKS, B.S.A., *Field Entomologist*
State House, Boise, Idaho

B.S.A., Ohio State University, 1909; Scientific Assistant, Bureau of Entomology, U. S. Department of Agriculture, 1909-13; Field Entomologist, Agricultural Extension Department, University of Idaho, 1913—.

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*Resigned April 1, 1914.

AMY KELLY, B.S., *Home Economics Extension Lecturer*
State House, Boise, Idaho

B.S., South Dakota State College, 1908; Graduate Work, University of Illinois, 1908-09; Special Work, Columbia University, Dietition, Passavant Hospital, Jacksonville, Ill., 1909; Assistant Principal of School of Agriculture, South Dakota State College, 1909-13; Home Economics Extension Lecturer, University of Idaho, 1913—.

LOUIS CORNELIUS AICHER, B.S.A., *Superintendent of Aberdeen Demonstration Farm* Aberdeen, Idaho

B.S.A., Kansas State Agricultural College, 1910; Assistant in Agronomy, Colorado Experiment Station, 1907-08; Instructor in Agricultural Engineering, and Superintendent of Caldwell Sub-Station, University of Idaho, 1910-11; Superintendent of Aberdeen Demonstration Farm, 1911—.

JOHN SHAW WELCH, B.S.(AGR.), *Superintendent Gooding Demonstration Farm, and in charge of Irrigation Investigations*
Gooding, Idaho

B.S.(Agr.), Utah Agricultural College, 1911; Superintendent Gooding Demonstration Farm, and in charge of Irrigation Investigations, University of Idaho, 1911—.

CARL EDWARD JOHNSON, B.S.(AGR.), *Field Dairyman*
Twin Falls, Idaho

B.S.(Agr.), University of Idaho, 1913; Field Dairyman, Agricultural Extension Department, University of Idaho, in cooperation with U. S. Department of Agriculture, 1913—.

GEORGE FRANCIS THOMETZ, *State Seed Inspector*
State House, Boise, Idaho

State Seed Inspector, Agricultural Extension Department, University of Idaho, 1913—.

HARRY ARTHUR IRELAND, B.S., *County Agriculturist, Canyon County*
Caldwell, Idaho

B.S., Kansas State Agricultural College, 1907; Agricultural Inspector, Philippine Islands, 1907-10; Farming in Ohio, 1910-12; Teacher of Agriculture, Meridian, Idaho, Rural High School, 1912-13; County Agriculturist, Canyon County, 1913—.

THOMAS FRANKLIN MCCONNELL, *County Agriculturist, Lewis County*
Nezperce, Idaho

Ripon College, 1877-81; University of Wisconsin, 1894-96 and 1900; Instructor in Animal Husbandry, University of Wisconsin, 1897-98; Instructor in Agricultural Physics, 1899-1900; Assistant in Animal Husbandry, 1900-03; Professor of Animal Husbandry, University of Arizona, 1903-04; Farming in Wisconsin, 1905-07; Professor of Animal Husbandry, University of Wyoming, 1907-08; Orchardist, Santa Clara Valley, Calif., 1908-14; Assistant Professor of Animal Husbandry (ad interim), University of Idaho, Jan.-Mar., 1914; County Agriculturist, Lewis County, Mar., 1914—.

C. B. HAMPTON, *Foreman, Caldwell Demonstration Farm*
Caldwell, Idaho

W. H. HEIDEMAN, *Foreman, Clagstone Demonstration Farm*
Clagstone, Idaho

SPECIAL LECTURERS

JAMES FRANKLIN AILSHIE, LL.D., *Special Lecturer in Legal Ethics and the Conflict of Laws* Boise, Idaho

Ph.B., Willamette University; LL.B., *ibid.*, LL.D., *ibid.*, 1909; Admitted to Bar of Oregon, 1891; of Idaho, 1892; Justice of the Supreme Court of Idaho, 1902—; Chief Justice, 1907-08; Special Lecturer in Legal Ethics and the Conflict of Laws, University of Idaho, 1910—.

JAMES ELISHA BABB, B.S., LL.B., *Special Lecturer in the Law of Eminent Domain* Lewiston, Idaho

B.S., Illinois College, 1882; LL.B., Northwestern University, Chicago, 1884; Admitted to Bar of Illinois, 1885; of Idaho, 1892; Member of the law firm of Fry & Babb, Chicago, 1885-1892; Instructor in Law of Sales of Personal Property, Northwestern University, 1892; Special Lecturer in the Law of Eminent Domain, University of Idaho, 1910—.

FRANK SIGEL DIETRICH, A.M., *Special Lecturer in Bankruptcy and Federal Practice* Boise, Idaho

A.B., Brown University, 1887; A.M., 1890; Admitted to the Bar of Idaho in 1892; United States District Judge for the District of Idaho, 1907—; Special Lecturer in Bankruptcy and Federal Practice, University of Idaho, 1910—.

MARION GILBERT DONK, A.B., E.M., *Special Lecturer on By-Products from Wood Waste*

A.B., Harvard University, 1901; M.E., George Washington University, 1910; E.M., Michigan College of Mines, 1912; Assistant State Chemist of Florida, 1901-06; Assistant Chemist, Bureau of Chemistry, U. S. Department of Agriculture, 1906—; Detailed as Chemical Engineer to Department of Forestry, University of Idaho, Dec. 1913—.

Major FRANK ALFRED FENN, *Special Lecturer in Forest Management*
Kooskia, Idaho

Forest Supervisor of the Clearwater National Forest, 1901-11; of Selway National Forest, 1912—; Special Lecturer in Forest Management, University of Idaho, 1910—.

CHARLES AUGUSTUS FISHER, *Special Lecturer in Forest Improvement*
Orofino, Idaho

Forest Supervisor of the Clearwater National Forest, 1912—; Special Lecturer in Forest Improvement, University of Idaho, 1913—.

JOHN FISHER MACLANE, B.A.,LL.B., *Lecturer in Law* Boise, Idaho

B.A., Yale University, 1900; LL.B., University of Minnesota, 1902; Member Minnesota Bar, and Editor National Reporter System, 1902-06; Member Idaho Bar, 1906—; Code Commissioner, State of Idaho, 1907-08; Assistant Attorney-General, 1909; District Judge, Boise, 1911; Professor of Law, University of Idaho, 1909-11; Special Lecturer in Law, 1911—.

STANDING COMMITTEES OF THE FACULTY

Admissions, Secondary Schools, and Employment: Professors Soulen, Hulme, Nicholson, Axtell, Peterson, Ayers, Isaacson, Wodsedalek, and McCaffery.

Courses and Scholarship: Deans Eldridge and Ayers, Professors Angell, von Ende, Stewart, and Robinson.

College of Agriculture: Dean Carlyle, Professors Jones, Shattuck, Vincent, Nicholson, Iddings, Temple, Hamilton, Peterson, Ellington, and Frevert.

College of Engineering: Dean Little, Professors Livingston, Corbett, Larson, Steinman, and von Ende.

College of Law: Dean Ayers, Professors Wilson, and Gill.

Graduate Instruction and Degrees: Deans Little, Eldridge, Carlyle, and Ayers.

Discipline and Attendance: Professors Morley, Wilson, Gill, von Ende, and Dean French.

Library: Miss Sweet, Professors Peterson, Stewart, Moore, and Soulen.

Athletics: Professors Larson, Angell, McCaffery, Wilson, and Director Van der Veer.

Public Events: Professors Morley, Iddings, Moore, and Storer.

Student Events, Organizations, and Calendar: Deans Eldridge, French, Carlyle, and Ayers.

Publications: Professors Axtell, Lehman, Temple, Wilson, and von Ende.

Relations of the University to the State: Deans Carlyle and French, Professors Hulme, Soulen, and Hoover.

Exhibits and Museums: Professors Iddings, Stewart, Livingston, and Shattuck.

Student Advisers: Professors Stewart, Peterson, and Robinson.

GENERAL INFORMATION

ESTABLISHMENT The University of Idaho, as a part of the educational system of the State of Idaho, completes the work begun in the public schools, by furnishing ample facilities for liberal higher education in the arts, the sciences, and law, and for thorough technical training. Through aid received from the United States and from the State of Idaho the advantages of the University are offered, without charge for tuition, to all residents of Idaho, of either sex, who are qualified for admission to its courses.

In 1889, by an act of the Territorial Legislature, the University was established. Its government was vested in a board of nine Regents, appointed biennially by the Governor for terms of two years. In 1890, the term of office of the Regents was lengthened to six years, and the appointments were so arranged that one-third of the Board should be renewed biennially. In 1901 the number of Regents was reduced from nine to five.

By constitutional amendment, passed in 1912, and act of the legislature, 1913, the government of all the state educational institutions and the general supervision of the public schools were placed in the hands of one board, entitled the State Board of Education and Board of Regents of the University of Idaho. This Board consists of five members appointed by the Governor, and the State Superintendent of Public Instruction *ex officio.*

The institution was opened for the reception of students on October 3, 1892; since that time its growth has been steady and substantial.

ORGANIZATION The Act of 1889 for the establishment of the University provided:

"The College or Department of Arts shall embrace courses of instruction in mathematical, physical, and natural sciences, with their application to the industrial arts, such as agriculture, mechanics, engineering, mining and metallurgy, manufactures, architecture, and commerce; and such branches included in the College

of Letters as shall be necessary to proper fitness of the pupils in the scientific and practical courses for their chosen pursuits; and as soon as the income of the University will allow, in such order as the wants of the public shall seem to require, the said courses in the sciences and their application to the practical arts shall be expanded into distinct colleges of the University, each with its own faculty and appropriate title. The College of Letters shall be co-existent with the College of Arts, and shall embrace a liberal course of instruction in language, literature, and philosophy, together with such courses or parts of courses in the College of Arts as the Regents of the University shall prescribe."

The Act further provided:

"Professional or other colleges or departments * * may from time to time be added thereto or connected therewith."

COURSES LEADING TO DEGREES The following courses are offered, leading to the respective degrees:

IN THE COLLEGE OF LETTERS AND SCIENCES

The classical course leads to the degree of Bachelor of Arts, B.A.

The scientific course leads to the degree of Bachelor of Science, B.S.

The course in home economics and allied subjects leads to the degree of Bachelor of Science in Home Economics, B.S.(H.Ec.)

The course in forestry and allied subjects leads to the degree of Bachelor of Science in Forestry, B.S.(For.)

IN THE COLLEGE OF AGRICULTURE

The courses in agriculture lead to the degree of Bachelor of Science in Agriculture, B. S.(Agr.)

IN THE COLLEGE OF ENGINEERING

The course in civil engineering leads to the degree of Bachelor of Science in Civil Engineering, B.S.(C.E.)

The course in mining engineering leads to the degree of Bachelor of Science in Mining Engineering, B.S.(Mng.E.)

The course in electrical engineering leads to the degree of Bachelor of Science in Electrical Engineering, B.S.(E.E.)

The course in mechanical engineering leads to the degree of Bachelor of Science in Mechanical Engineering, B.S.(Mech.E.)

The course in chemical engineering leads to the degree of Bachelor of Science in Chemical Engineering, B.S.(Chem.E.)

IN THE COLLEGE OF LAW

The course in law leads to the degree of Bachelor of Laws, LL.B.

REQUIREMENTS FOR MASTER'S DEGREES The following rules concerning advanced degrees are now in force:

1. Conditions of Candidacy: A graduate of one of the colleges of this University, or of another institution in which the requirements for the first degree are equivalent, may become a candidate for the corresponding master's degree by making application on a blank form provided for the purpose. The application must be submitted for approval to the Committee on Graduate Instruction and Degrees not later than October 15th.

2. Nature and Amount of Work: The minimum requirement shall be twenty-four credits in addition to the thesis, at least one-half to be graduate in character. Not less than twelve credits shall be in the major department.

3. Residence: One year's resident work is required of every candidate who has not received a first degree at this University. Graduates of the University of Idaho may be permitted in special cases to spend one semester at some other approved institution.

4. Examinations: Final examinations are required upon the completion of each subject.

5. Thesis: A thesis upon some subject connected with the major study is required, unless waived by the Committee upon the recommendation of the major professor. This subject must be submitted for approval to the chairman of the Committee on Graduate Instruction and Degrees before November 15th. Two typewritten copies of the thesis in specified form shall be deposited in the University Library.

6. Degrees: The degrees offered are: Master of Arts, M.A., Master of Science, M.S., Master of Science in Agriculture, M.S. (Agr.), and Master of Science in the respective branches of engineering, e.g. M.S.(C.E.), etc.

7. Fees: Before receiving his degree the candidate shall pay a diploma fee of ten dollars and any unpaid laboratory fees.

STATE TEACHING CERTIFICATES An Idaho State Teaching Certificate, valid for eight years, will be issued to students in Education who satisfactorily fulfil the requirements described under the Department of Educa-

tion. (See also under the Department of Education for State Specialists' Certificates.)

LOCATION The University is located at Moscow, in the northern part of Idaho, on the Palouse and Lewiston branch of the Northern Pacific Railway, at the terminus of the Moscow branch of the Oregon-Washington Railroad and Navigation system, and at the terminus of the Spokane and Inland Empire Railway (electric). The city has a population of five thousand, is supplied with exceptionally pure artesian water, and has well sustained churches and excellent public schools. *There are no saloons.* The moderate altitude of 2,600 feet makes the climate of Moscow a desirable change both for students coming from the more humid climate of the coast, and for those from the high, arid regions. The air is pure and invigorating. The locality enjoys the cool summers of the semi-mountain elevation and the mild winters of the region west of the Rocky Mountains. The University is situated on an eminence to the southwest of the city of Moscow and overlooks one of the most attractive prospects of mountain and valley in the Palouse country. The campus, a wide sweep of lawn dotted here and there by tennis courts, a monument, and a grove of trees, is crossed from the city by a winding driveway.

BUILDINGS The ADMINISTRATION BUILDING, which replaces the building destroyed by fire, March 30, 1906, is now complete in the center portion and north wing. The south wing is yet to be erected. It is an absolutely fireproof, three-story structure in Collegiate Gothic style and contains the library, offices, many class and lecture rooms, as well as an auditorium with a seating capacity of 1000.

The ENGINEERING BUILDING (1902) is of brick, three stories high, with a ground floor of 60x108 feet. At present the laboratories and class-rooms of Mechanical and Electrical Engineering and Chemistry are located in it.

LISZT HALL (1897), a two-story wooden structure, formerly the Horticultural Building, was refitted in 1907 for instruction in piano and theory in the Department of Music.

RIDENBAUGH HALL (1902), the women's dormitory, is a three-story brick building finished and furnished according to the most approved plans. It contains two reception halls, thirty-five dormers, study halls, a dining hall for 100 boarders, and apartments for the Dean of Women. The building is steam-heated.

The ARMORY AND GYMNASIUM (1904) is a large rectangular structure of red brick, with a ground floor of 129x64 feet. It was constructed at an approximate cost of $25,000, and is one of the most attractive of the University buildings.

LEWIS COURT (1911), an annex to the Gymnasium built by private subscription, is a one-story wooden structure 60x180 feet in dimensions. It stands immediately north of the Gymnasium. The floor is of cinders and contains eight hand-ball courts, three basket-ball courts, tennis, volley-ball, and hockey courts, a fifty-yard dash stretch for sprinters, and a running track one-twelfth mile long. It is also used for military drill during the winter months.

The ASSAY BUILDING (1906) is of one story, 110x52 feet, of selected brick with rubble fountains, and is fully equipped for assaying and small scale metallurgical experiments. It contains a furnace room, 70x50 feet, a chemical laboratory, an office, a parting-room, a balance room, and a laboratory.

The METALLURGICAL LABORATORY (1906) occupies a red pressed-brick building with ground-floor plan of 84x96 feet and is the best in the Northwest, representing with its present equipment an expenditure of about $40,000. It is built upon sloping ground and has the different floors or levels common to all mills constructed on a hillside.

MORRILL HALL (1906), constructed of brick and stone at a cost of about $50,000, is designed to meet the needs of the College of Agriculture and the Agricultural Experiment Station.

The FLOUR MILL (1907) is equipped for experimental work in the improvement of wheat. One end of it is used for the investigation of fruit by-products.

The FORGE SHOP (1907) is a temporary wooden building, 30x34 feet, used by the Department of Mechanical Engineering. Eight Buffalo down-draft forges with power blower and exhauster have been installed, together with an emery-wheel grinder and the necessary small tools, vises, mandrel, etc.

The GREENHOUSES (1908) are situated west of the Flour Mill.

The CENTRAL HEATING PLANT (1909) is of brick structure and furnishes steam heat to most of the University buildings.

LIBRARY

The University Library occupies a large room on the second floor of the Administration Building. The room is well lighted and as now arranged provides chairs and

table space for one hundred readers and shelving for 33,000 volumes. In addition to this, a storage room in the basement contains about 5,000 volumes.

The Library consists of about 32,000 volumes and several hundred pamphlets. Books of general interest and usefulness are kept in the main library, where readers have direct access to them. The books are arranged by subject according to the decimal classification. A dictionary card catalog listing all material by author, title, and subject, is being made. For convenience certain collections are deposited in the departments to which they are of especial use. The law library is kept in the general library, where it is easily accessible.

As a designated depository the library receives all publications of the United States Government. The library receives regularly about 160 of the leading periodicals, both general and technical, American and foreign. These are on file in the reading room or in the department libraries, and completed volumes are bound. This material is all available for quick reference through excellent periodical indexes. About one hundred Idaho newspapers donated by the publishers for the use of the students are filed in the newspaper room.

Any one, whether directly connected with the University or not, is welcome to the use of the library for both reference and reading.

ASSEMBLY The Assembly occupies one period every Wednesday morning. Occasionally the hour is given to discussion of student affairs, athletics, debates, etc. In general, Assemblies are addressed by visitors of prominence or by members of the University Faculty. All students are expected to be in attendance.

DISCIPLINE The discipline of the University is administered upon the theory that the greatest favor the State can bestow upon its youth is to give them free tuition in its University, and that the greatest penalty for the abuse of the favor thus bestowed is to withdraw it from unappreciative and unworthy students. Whenever the faculty is convinced that a student is not fulfilling or likely to fulfil the purpose of his attendance at the University, or if for any cause an unfit member thereof, the student will be dismissed for an indefinite or a stated time.

The young women of the University are surrounded by the most healthful influences. The Dean of Women gives counsel freely; and every care is taken to develop the most desirable traits of character in the young women. At the Dormitory and sorority houses the wholesome and homelike environment facilities the exercise of influence and authority.

MILITARY SCIENCE Pursuant to the act of Congress creating the land grant on which the University is founded and the act of the Legislature of the State of Idaho assigning the land grant, instruction is provided for in Military Science and Tactics and is required of all male students except college Juniors and Seniors, third-year students in the School of Practical Agriculture, and those physically disqualified.

Juniors and Seniors may be required to take the course of instruction, for cause.

EXPENSES

NO TUITION According to Section IV. of the law by which the University was created, "No student who shall have been a resident of the state for one year next preceding his admission shall be required to pay any fees for his tuition in the University, except in a professional department or for extra studies." At present no tuition is charged at the University of Idaho to students from other states (except the regular tuition fees in the College of Law and in the Department of Music).

ANNUAL EXPENSES The necessary expenses of residence include the A. S. U. I. fee ($10), room ($27 to $72), and board ($144 to $198). In addition to these, a student's expenses will include charges which vary with the means and habits of the individual—as, for example, laundry ($18 to $30), books and stationery ($10 to $30), laboratory fees, clothing, membership in societies, and subscriptions.

EMPLOYMENT There are the usual opportunities for making money to be found in a small town, and many students earn a portion of their expenses during their college courses. The Y. M. C. A. has a committee organized to assist students in finding remunerative employment. It is, however, strongly advised that before entering on his course the student have means to meet his first year's expenses.

ROOMS The cost for rooms, occupied by two students, in private house is from $4 per person per month up, the average, with fuel and light included, being $5. Many men live in the Greek-letter fraternity houses, the price per month for board and room averaging $24. Board and room in private families can be occasionally arranged for, the minimum cost being, perhaps, $20 per month. The Y. M. C. A. prepares a list of available rooms at the opening of the college year, and aids students in finding a satisfactory home. These lists may be obtained from the Bursar about September 10.

WOMEN'S DORMITORY Ridenbaugh Hall, the dormitory for young women, accommodates forty students. The rooms are arranged, partly in suites of two, comprising a study and bedroom intended for two occupants, and partly in single rooms for one student. Rooms are lighted with electricity and heated with steam and supplied with the following articles: Three-quarter bed and mattress, bureau, table, and chairs. Students are expected to provide themselves with other necessary furnishings and with table napkins.

Application may be made at any time to the Dean of Women and rooms will be assigned in the order thereof. The regulations of the Hall are few and simple and appeal to the student's self-respect and personal responsibility. The Hall is under the immediate supervision of the Dean of Women.

RATES.—Room and board is furnished for $25 a month. The *dining room* is open to all members of the University. The rate for board only is five dollars per week.

LABORATORY FEES To cover a portion of the actual cost of materials used in laboratory courses, fees are required, the amount of which will be noted in connection with the various courses.

A. S. U. I. FEES A fee of five dollars per semester is collected from each student for the support of the various enterprises of the student body, known as the Associated Students of the University of Idaho. This entitles the student to a fee copy of the weekly student paper, "The Argonaut," and to admission to athletic contests.

DIPLOMA FEE At the end of the Senior year, a fee of five dollars must be paid by the student to the Bursar to cover the cost of the diploma. For a Master's degree the fee is ten dollars.

LECTURE TICKETS Each year the student has opportunities of hearing noted speakers and musicians at very slight expense. In order to avail himself of these opportunities he should set aside from three dollars to five dollars.

SCHOLARSHIPS AND PRIZES

RHODES SCHOLARSHIP No bequest for education made in modern times has attracted such world-wide attention as have the provisions of the will of the late Cecil Rhodes relating to the establishment of scholarships in Oxford University. Under this bequest two scholarships are appropriated to each of the present states of the United States. Each scholarship has a yearly value of $1,500, and is tenable in Oxford University for three successive academic years.

"In the election of a student to a scholarship regard will be had to (1) his literary and scholastic attainments, (2) his fondness for and success in manly outdoor sports, such as cricket, football, and the like, (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness and fellowship, and (4) his exhibition during school days of moral force of character and of instincts to lead and to take an interest in his schoolmates."

Examinations are held in each state to which scholarships are assigned, at centers to be fixed by the local Committee of Selection. In this state examinations are held at the University. This committee appoints a suitable person to supervise the examination, and arrange for its impartial conduct. It should be clearly understood that this examination is not competitive, but simply qualifying, and is merely intended to give assurance that every elected scholar is able to pass the first examination which Oxford University demands of all candidates for the B.A. degree.

The Rhodes scholars are selected from candidates who have successfully passed this examination. One scholar is chosen for each state to which scholarships are assigned.

Candidates must be unmarried, must be citizens of the United States, and must be not younger than nineteen nor older than twenty-five years of age on October first of the year in which they are elected.

It has been decided that all scholars shall have reached before going into residence, at least the end of their Sophomore or second-year work at some recognized degree-granting university or college of the United States.

Candidates may elect whether they will apply for the scholarship of the state in which they have acquired any large part of their educational qualification, or for that of the state in which they have their ordinary private domicile, home, or residence. They may pass the qualifying examination at any center, but they must be prepared to present themselves before election to the committe in the state they select. No candidate may compete in more than one state.

To meet the requirements of the responsions examinations, candidates are examined in the following subjects: Translation from Latin into English, Latin Prose Composition, Arithmetic, Translation from Greek into English, Latin Grammar, Greek Grammar, and Algebra or Geometry. By a recent provision it is possible to postpone the examinations in Greek until reaching Oxford, but this is not recommended.

Oxford University has agreed to accept in lieu of responsions the certificates of its examiners that students have passed this examination, so that all scholars elected will be excused from that test when they come into residence at Oxford. As a certificate of exemption from responsions holds good permanently, persons who have passed in previous years, if otherwise eligible, need not take the examinations a second time in order to become qualified as candidates.

The examinations occur but twice in every three years. They are held at the University in October, and the papers are forwarded to Oxford. From the list of those who pass, the faculty Committee of Selection, under the authority of the Trustees of the Rhodes' will, nominates the scholar. The next qualifying examination occurs in October, 1915.

The Rhodes scholars for Idaho thus far have been:

1904—Lawrence Henry Gipson, '03 ..... Caldwell
Lincoln College—*Modern History.*

1905—Carol Howe Foster, '06 ..... Weiser
Brasenose College—*English Literature.*

1907—McKeen Fitch Morrow, '08 ..... Boise
Worcester College—*Jurisprudence.*

1908—George Henry Curtis, '09 ..... Boise
Worcester College—*Literae Humaniores.*

1910—Toney Taylor Crooks, '09 ..... Fredonia, Kan.
Herford College—*Medicine.*

1911—Ludwig Sherman Gerlough, '09 ..... Boise
Jesus College—*Modern Languages.*

1912—Ralph Baxter Foster, '13 ..... Valley Falls, Kan.
Lincoln College—*Modern Languages.*

1913—Baxter Merrill Mow, '13 ..... Weiser
Physiology.

ENGINEERING SCHOLARSHIPS

An anonymous friend of the University of Idaho has given the money for two scholarships of $75 each for one year, to be given each year to students of the Engineering College of the University. The following rules govern the award of these scholarships: They are awarded at the end of the Junior year, and are paid at the beginning of the Senior year, but only in case the recipient returns for the work of that year. They are rewards for high scholastic standing and in appreciation of the high personal honor of the recipient, and are awarded on the basis of the record in the Dean's office of all college work up to the end of the Junior year, confirmed by the action of the Committee on the College of Engineering.

The scholarships thus far have been awarded as follows:

1910—Loren Lewis Brown ..... Spokane, Washington
Leo Walston Maguire ..... Moscow, Idaho

Extra awards of $75 were made in September, 1910, to:
Harry Hirsh Daus ..... Weiser, Idaho
George Alexander Rember ..... Hailey, Idaho

1911—Clinton Fiske Bessee ..... Moscow, Idaho
Jesse Pierce ..... Boise, Idaho

1912—Ray Donald Bistline ..... Pocatello, Idaho
Hallard Washington Foester ..... Nampa, Idaho
1913—Chester Fowler Smith ..... Caldwell, Idaho
Edward Elmer Smith ..... Valley, Idaho

LOAN SCHOLARSHIP FUND

At the first biennial meeting of the State Federation of Women's Clubs, held in Boise, October, 1906, it was decided to establish a scholarship fund for the State University, to be loaned to deserving students in amounts varying to suit individual needs. About $200 was raised at once, which sum has been added to from time to time by the clubs. An applicant must be recommended by a club belonging to the State Federation and by his high school principal or city superintendent. The money thus loaned is to be returned to the fund at the borrower's convenience without interest. Students desiring to take advantage of this offer will apply with the above recommendations to Miss Permeal J. French, Dean of Women.

DEWEY MEMORIAL PRIZE

The prize of $25 was established in 1904 by Mr. Edward Dewey, of Nampa, Idaho, in memory of his father, Col. W. H. Dewey. It is awarded to the student who secures the first place in the trial debate held for the purpose of selecting a term to represent the University in an intercollegiate debate. The following students have thus far gained the prize:

1904—James William Galloway ..... '06
1905—Thomas R. Jones ..... '05
1906—Victor Emmanuel Price ..... '06
1907—McKeen Fitch Morrow ..... '07
1908—Guy Holman ..... '08
1909—Robert Oscar Jones ..... '09
1910—Paul McTeer Clemens ..... '11
1911—Charles Edwin Horning ..... '14
1912—Parker Vincent Lucas ..... '13
1913—Harry McAdams ..... '14
1914—Joseph Martin Pond ..... '15

THE VICTOR PRICE DEBATE FUND

In 1910 Mrs. Mabel E. Price, '03, established an annual fund of thirty dollars in memory of her husband, Victor Emmanuel Price, '06. It is to be devoted to the purchase of books that will be helpful to the debate work of the University. Each book pur-

chased with the fund contains a label that denotes its source and the date of his acquisition. Because of the fact that they deal with vital problems, the books obtained by means of the fund will, in a few years, become one of the most valuable parts of the library.

BORAH DEBATE PRIZE

In 1907 Senator William E. Borah established an annual debate prize of $50. A debate is held at the University each year, all of the contestants having been chosen in a preliminary debate that is open to all the students of the University. The prize is used in building up a special debate library which is known as the Borah Debate Library. The names of the contestants who secure the three highest places, together with that of Senator Borah, are placed in the books. The subjects debated thus far, and the names of the winners, are as follows:

1907—*Employers' Liability for Industrial Accidents.*
Ira Tweedy, John A. Rock, and Guy Holman.

1908—*A Graduated Federal Income Tax.*
Ira Tweedy, Jewett D. Matthews, and Robert O. Jones.

1909—*Federal Incorporation for Interstate Commerce Corporations.*
Ransom Mackie, Paul M. Clemens, and John A. Rock.

1910—*Old Age Pensions in England.*
Ira Tweedy, Paul Durrie, and Ralph Foster.

1911—*The Settlement of Industrial Disputes.*
Ralph Foster, Parker V. Lucas, and John McEvers.

1912—*Incorporation of Labor Unions.*
Parker V. Lucas, Harry McAdams, and Homer Barton.

1913—*The Control of Industrial Combinations.*
Joseph M. Pond, Clarence F. Johnson, Frank Dotson.

WATKINS MEDAL

A gold medal offered in memory of the late W. W. Watkins, M.D., of Moscow, is awarded annually to the student winning the first place in the oratorical contest held in March.

This medal has been awarded as follows:

1894—Florence May Corbett ..... '96
1895—Arthur Prentiss Adair ..... '96
1896—Peter La Dow Orcutt ..... ex-'00
1897—Marcus Whitman Barnett ..... '98

1898—Jennie Eva Hughes ..... '99
1899—Glen Peter McKinley ..... ex-'01
1900—John Reavley McConnel ..... ex-'03
1901—Aubrey Irl Eagle ..... '01
1902—William Erwin Lee ..... '03
1903—Charles Dennis Saxton ..... '04
1904—James Loyal Adkison ..... '04
1905—Thomas R. Jones ..... '05
1906—James William Galloway ..... '06
1907—James Henry Frazier ..... '07
1908—Willard Kanada Gwin ..... '09
1909—Robert Oscar Jones ..... '09
1910—Ransom A. Mackie ..... Special
1911—(No award).
1912—Ralph Baxter Foster ..... '13
1913—Parker Vincent Lucas ..... '13

RIDENBAUGH PRIZE

In 1903 Mrs. W. H. Ridenbaugh, at that time Vice-President of the Board of Regents, established an annual prize of $25. This is awarded to the student who receives first place in the trial debate held for the purpose of selecting an intercollegiate debate team. The following students have thus far won the prize:

1903—Reuben W. Overman ..... '04
1904—Victor Emmanuel Price ..... '06
1905—Charles Armand Montandon ..... '06
1906—Guy Holman ..... '08
1907—Robert Oscar Jones ..... '09
1908—Ralph Williams ..... ex-'13
1909—Paul McTeeer Clemens ..... '11
1910—Ralph Baxter Foster ..... '13
1911—Parker Vincent Lucas ..... '13
1912—Harry McAdams ..... '14
1913—Joseph Martin Pond ..... '15

STUDENT ORGANIZATIONS

A. S. U. I.

The Associated Students of the University of Idaho is an organigation of the whole collegiate body, formed for the purpose of controlling and directing student activi-

ties. The organization recognizes three principal departments: athletics, debate and oratory, and the college paper, each of which is under the direct control of a particular board, subject to the general supervision of the executive committee of the Associated Students.

The department of athletics is managed by the Athletic Board. Contests in football, basketball, and on track and field are arranged annually with the University of Oregon, the University of Washington, Whitman College, Washington State College, and Oregon Agricultural College.

The intercollegiate contests in debate are under the control of the Debate Council, which is composed of six members elected by the student body and two faculty advisory members elected by the Council. Annual dual debates, making a total of four intercollegiate contests each year, are held with the Oregon Agricultural College, Washington State College, and Gonzaga University.

MUSICAL SOCIETIES

The musical organizations maintained under the supervision of the Department of Music are as follows:

The Treble Clef Club.
The University Glee Club.
The Cecilian Choral Society of mixed voices.
The University Orchestra.
The String Quartet.
The Cadet Military Band.

CHRISTIAN ASSOCIATIONS

The Young Men's Christian Association and the Young Women's Christian Association stand for the highest type of manhood and womanhood and have for their purpose the development of Christian character among the students of the University. Regular weekly meetings are held for prayer, conference, and study, and occasional social meetings are held.

The Bible Study department is emphasized and earnest efforts are made to induce the students to take up the systematic, personal study of the Bible.

Representatives are sent annually to the Pacific Coast Student Conferences at Columbia Beach, Oregon, and Gearhart Park, Oregon.

DE SMET CLUB The DeSmet Club is an organization of the Roman Catholic students of the University, which meets biweekly for study and social purposes.

ASSOCIATED MINERS The Associated Miners is an organization of the students in mining engineering before which papers are read by members of the Faculty, students, visiting mining men, and alumni. It is affiliated with the American Institute of Mining Engineers.

AGRICULTURAL CLUB The students and instructors of the College of Agriculture are organized into a club holding regular biweekly meetings with a program of special reports, essays, and debates. Whenever possible, specialists and experts in agriculture are secured to address the club.

ENGLISH CLUB The English Club is composed of students whose interests are centered chiefly in the department of the English Language and Literature. The purpose of the club is two-fold: The stimulation of effort toward original verse and prose compositions, and the development and direction of interest in the acted drama. Toward the fulfillment of the former purpose, a literary magazine was founded in the spring of 1912, entitled *"The Quill."*

The second purpose has been well carried out by the presentation of *As You Like It, The Merchant of Venice,* and *Twelfth Night,* as well as by modern plays, such as Ibsen's *A Doll's House* and Shaw's *Arms and the Man.* Evenings devoted to Shakespearian music, the Elizabethan theater, reading of original farces, and college verse add to the pleasures of membership.

PRE-MEDICAL CLUB This is an organization of pre-medical students, and those majoring in the zoological sciences. The purpose of the club is to keep in touch with current medical and biological literature.

ZOOLOGY CLUB This is a voluntary organization of students interested in zoological subjects. Its purpose is partly social and partly scientific. In the latter department it promotes biological field work by organizing trips to Moscow Mountain and other places of scientific interest in the vicinity.

ASSOCIATED FORESTERS This is an organization of the students in forestry in which the current literature on forestry and lumbering is reviewed each week. Lectures by Forest Service officials and others are sometimes given.

LAW ASSOCIATIONS (See College of Law.)

UNIVERSITY PUBLICATIONS

The UNIVERSITY OF IDAHO BULLETIN—This is published at least quarterly and consists of the following separate issues:

(1) The University Catalog.

(2) The Commencement Number.

(3) The Announcement of the College of Law.

(4) The Announcement of the Department of Forestry, and similar occasional announcements by the Departments of Dairying, Mining, etc.

THE ANNUAL REPORT OF THE PRESIDENT OF THE BOARD OF REGENTS TO THE GOVERNOR—The report includes an account of the general affairs and interests of the University for the year.

THE ANNUAL REPORT OF THE EXPERIMENT STATION—The annual report of the Director is made to the National Director of Experiment Stations, setting forth in detail the results, progress, and plans of the station.

THE BULLETINS OF THE EXPERIMENT STATIONS—These are popular accounts of the results of the station work which relate directly to farm practice.

THE IDAHO AGRICULTURAL NEWS-LETTER—There is issued by the Agricultural Department of the University a semi-monthly publication treating upon various timely topics pertaining to the interests of farmers and horticulturists. This publication is issued to the press of the state and the agricultural publications of the nation that request it. All the divisions of the Station and College are represented in each issue. The press of the state makes very general use of these articles and is very appreciative of the *News-Letter*.

Student Publications

THE UNIVERSITY ARGONAUT—A weekly paper published during the school year by an association of students.

THE QUILL—A literary magazine published occasionally.

THE GEM OF THE MOUNTAINS—An illustrated book published annually by the Junior class.

ADMISSION TO THE UNIVERSITY

CREDENTIALS Applicants for admission to the Freshmen Class must be at least sixteen (College of Law, eighteen), years of age, and must present satisfactory evidence of good moral character. *They must submit to the Committee on Admissions credentials from their last principal, or from the institution last attended.* The University will furnish blank certificates upon application to the "Committee on Admissions, University of Idaho, Moscow, Idaho." If these are returned to the Committee *before September tenth,* it will facilitate the admission of candidates on the registration days. Diplomas are not necessary, if these certificates are presented.

Applicants from accredited schools, having the principal's certificate covering the University requirements for a certain course, will be admitted to such course without examination.

Students coming from schools not accredited, or from other states, are advised to bring full, authenticated statements of work done, which will be considered on their merits, and will facilitate the classification of the student.

UNIT DEFINED "A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. A four years' secondary school curriculum should be regarded as representing not more than sixteen units of work."—Definition adopted in 1909 by the National Conference Committee on Standards of Colleges and Secondary Schools, and amended in 1913. It takes the four-year high school course as a basis, and assumes that the length of the school year is from thirty-six to forty weeks, that a period is from forty to sixty minutes in length and that the study is pursued for four or five periods a week; but, under ordinary circumstances, a satisfactory year's work in any subject cannot be accomplished in less than one hundred and twenty sixty-minute hours or their equivalent.

REVISED ENTRANCE REQUIREMENTS In conformity with the present movement toward a more flexible course in high schools and desiring a more effective cooperation with the secondary schools of the State, the University Faculty in 1912 revised the entrance requirements. As before, the standard of admission is based upon a four-year high-school

course, but the specified requirements are in some respects less rigid. This closer articulation should bring about the result that practically no students will be admitted with entrance "conditions," which always constitute a troublesome handicap.

The new requirements permit a student to decide upon a college course somewhat later in his high-school course than has been possible heretofore. It is recognized that a great majority of students in high school will not attend college. The discrepancy between what is considered preparation for life and preparation for college has been reduced to a minimum. It is believed that the nine units required of all matriculants may properly constitute a part of the work of any high-school graduate; two additional academic units will be governed by the course to be pursued; and the four remaining units are entirely without restriction, and may consist of any academic or vocational subjects properly taught.

Outline of New Admission Requirements for All Courses*

Subjects	Units
1. English	3 (note 1)
2. Social Science including History	1
3. Natural Science	1 (note 2)
4. Mathematics	2 (note 3)
a. Elementary Algebra, 1 unit.	
b. Plane Geometery, 1 unit.	
5. Foreign Language (Latin, German, French or Spanish)	2 (note 4)
6. Additional academic units	2 (note 5)
7. Elective	4
Total	15

It is further required that not less than *three* units be offered in some one group besides English.

NOTES

Note 1. For admission to the B.A. and Law courses *four* units of English are required.

Note 2. Under this requirement will be accepted Physics, Chemistry, Botany, Zoology, or Agriculture. For admission to Engineering courses Physics is required.

*For admission to the College of Law beginning September, 1915, see detailed statement under "College of Law."

Note 3. For admission to Engineering courses the further requirement is made of Solid Geometery, one-half unit, and Advanced Algebra, one-half unit.

Note 4. Less than two years in some *one* foreign language will not be accepted. For admission to the B.A. course *three* units of Latin are required.

Note 5. (a). For the B.A. course these must be additional English and Latin, as indicated in Notes 1 and 4.

(b) For the Engineering courses these consist of one additional unit in Mathematics (see note 3) and one additional unit in either English, Foreign Language, Social Science, Botany, Zoology, or Chemistry.

(c) For the Law course these consist of one additional unit of English (note 1) and one additional unit in Foreign Language or Social Science. For additional requirements for admission beginning with the academic year 1915-16, see "College of Law."

(d) In the remaining courses nothing is specified regarding these additional academic units except that, as above stated, when added to Groups, 1-5, they must afford at least one subject besides English which totals *three* units. This is to insure advanced work along at least two lines of study.

ENTRANCE DEFICIENCY

A student who presents fourteen units may be conditionally admitted by the Committee on Admissions, but the deficiency must be made up as soon as possible, and in any case before the beginning of the Junior year. Upon application, classes in preparatory Mathematics and Latin may be formed.

ACCREDITED AND OTHER SCHOOLS

In the past eleven years members of the Committee on Secondary Schools have visited the various high schools of the State together with the other institutions that offer secondary work. Upon the recommendation of the Committee some of the schools have been accredited with various totals of entrance "units." The definition of a unit is to be found on page 45. Because of the fact that the visits of the members of the Committee to the schools are made late in the college year, the catalog contains only the results of the visits and recommendations of the previous college year. Only those schools that give four years of secondary work are accredited schools; and only those schools that prepare for

entrance to all the courses of the University are fully accredited schools. The schools have been divided into three groups: (1) state schools; (2) four-year high schools; (3) private schools and colleges.

State Schools

Name	Town	President
Academy of Idaho	Pocatello	Miles F. Reed
Normal School	Albion	G. A. Axline
Normal School	Lewiston	G. H. Black

Four-Year High Schools

Town	County
American Falls	Oneida
Blackfoot	Bingham
Boise	Ada
Bonner's Ferry	Bonner
Buhl	Twin Falls
Burke	Shoshone
Coeur dAlene	Kootenai
Caldwell	Canyon
Culdesac	Nez Perce
Emmett	Canyon
Fruitland	Canyon
Genesee	Latah
Gooding	Lincoln
Grangeville	Idaho
Hailey	Blaine
Idaho Falls	Bonneville
Jerome	Twin Falls
Lapwai	Nez Perce
Lewiston	Nez Perce
Malad	Oneida
Meridian	Ada
Midvale	Washington
Montpelier	Bear Lake
Moscow	Latah
Mountain Home	Elmore
Mullan	Shoshone

Nampa	Canyon
New Plymouth	Canyon
Nez Perce	Lewis
Orofino	Lewis
Parma	Canyon
Plummer	Kootenai
Pocatello	Bannock
Post Falls	Kootenai
Payette	Canyon
Potlatch	Latah
Rathdrum	Kootenai
Rigby	Fremont
Rupert	Lincoln
St. Anthony	Fremont
St. Maries	Kootenai
Salmon	Lemhi
Sandpoint	Bonner
Shoshone	Lincoln
Spirit Lake	Kootenai
Star	Ada
Twin Falls	Twin Falls
Wallace	Shoshone
Weiser	Washington
Winchester	Lewis

Private Schools and Colleges Giving Four Years of Secondary School Work

Name	Town	Principal (or President).
Coeur d'Alene College	Coeur d'Alene	Rev. J. J. Jesperson
College of Idaho	Caldwell	Rev. W. J. Boone
Fielding Academy	Paris	W. E. Morgan
Idaho Industrial Institute	Weiser	Rev. E. A. Paddock
Oneida Stake Academy	Preston	John Johnson
Ricks Academy	Rexburg	Ezra C. Dalby
St. Margaret's Academy	Boise	Rev. — Curtis
St. Teresa's Academy.	Boise	Sister Mary Amatus
Ursuline Convent	Moscow	Mother Mary Rose

ADMISSION FROM IDAHO STATE SCHOOLS

By arrangement with the State Normal Schools at Lewiston and Albion and the Academy of Idaho at Pocatello, students from these institutions will be admitted into the University without examination and receive credit for all work which is the equivalent of courses offered by the University either for admission or for a degree.

ADMISSION TO ADVANCED STANDING

Students who have completed work of college grade in other institutions of recognized standing may receive credit for the same on entering this University, by submitting (a) a statement of honorable dismissal; (b) a certificate of high school subjects, and (c) full, authenticated statements concerning the college studies pursued, including the ground covered and the time occupied by each. Students seeking advanced standing without certificates (b) and (c) will be required to take examinations.

ADULT UNCLASSED STUDENTS

Persons twenty-one years of age, who are unable to meet the admission requirements and who desire to take special studies, may be admitted as unclassed students upon presentation of satisfactory evidence that they are fully qualified to enter upon the work. Their study lists must receive the approval of the Committee on Courses and the instructors in charge of the desired work. Their registration in any subsequent semester is dependent upon the record made at the University.

UNIVERSITY REGULATIONS

MATRICULATION AND REGISTRATION

A student entering the University for the first time in any regular college course presents his high-school credentials to the Committee on Admission. Having matriculated in the course chosen, he arranges his study-list after consultation with his adviser and the Committee on Courses. When this has been countersigned by the Dean of his respective college, he receives a card of admission from the President.

A student entering a special or short course registers with the head of the respective department.

PENALTY FOR LATE REGISTRATION Registration is required on the appointed days at the beginning of each semester. A penalty of two dollars is imposed for later registration, except in the case of a student entering for the first time.

CHANGE IN STUDY LIST When a student's study-list has been filed, he may not change his course, or add or drop any subject except by permission of the Dean of his College and of the instructors concerned. A special form of petition may be obtained at the Dean's office. No changes are permitted later than one month after the opening of the semester, except for extraordinary reasons. No credit is given for a subject not properly registered for and approved.

WARNINGS Monthly warnings are sent to students who are reported by their instructors as doing unsatisfactory work. Warnings in more than one-fourth of a student's hours debar him from participation in athletics, debates, dramatics, or other public performances until the deficiencies are removed.

SEMESTER REPORTS Final grades are reported to the Dean's office shortly after the close of each semester. As soon as possible thereafter, reports are sent to parents and guardians, except that the work of Juniors and Seniors is reported direct to themselves. Upon request, special reports will be published at any time.

CONDITIONS Conditions incurred in any subject must be removed at or before the time of the *next* condition examinations in September or February. If a condition examination is waived or not passed, credit can be received for the subject only by repeating it in class.

FINAL LIMIT FOR REMOVING CONDITIONS A student who has not completed by the beginning of Junior year all his entrance requirements is rated down in a lower class until such entrance conditions are removed. A student who has not removed by the beginning of Senior year all conditions and failures in required subjects up to the end of Sophomore year, is not registered as a Senior until these are removed. A student who has not, by the beginning of the second semester of Senior

year, removed in required subjects all conditions up to the end of Junior year, and all failures up to the middle of Junior year, is not considered a candidate for a degree.

CLASS RATING To be rated with an advanced class in college a student must not be more than eight credits behind the catalog requirements for entering that class at that time. (See also the preceding rule.) For B.A., B.S., and B.S.(H.Ec.) students the catalog requirements amount to an average of 32 credits at the end of the first year; 64 at the end of the second, and 96 at the end of the third. For students in other courses the requirements are fully stated in the catalog. Thus, for example, under the new requirements, a B.A. student to be classed as a Sophomore must have obtained at least twenty-four credits (32—8), as a Junior, fifty-six, and as a Senior, eighty-eight.

CREDITS ALLOWED No student in the College of Letters and Sciences is allowed to register for work amounting to less than twelve credits, nor more than seventeen, except in special cases with the approval of the Dean. In the other Colleges the work is largely prescribed. A student must receive an average of 3,000 (i. e. an average passing grade) in all registered subjects in order to continue at the University the following semester.

SYSTEM OF GRADING The following is the system used in marking grades:

A	(excellent)	90-100
B	(good)	80-89
C	(fair)	70-79
D	(passed)	60-69
E	(condition)	50-59
F	(failure)	below 50

Incomplete work, unexcused, is graded E or F at the discretion of the instructor. Absence from the final examination in a course, unexcused, gives the grade F. Absence from the final examination, if excused, must be made up at the earliest opportunity and in any case within a year.

HONORS In order to promote scholarship the Faculty has adopted a system of classified honors with the following rules: Honors are of two kinds: (1) *Yearly Honors,* given at the close of each year and known as First-Year Honors, Second-

Year Honors, Third-Year Honors, and Fourth-Year Honors; and (2) *Final Honors,* based upon the work of the entire course. Yearly Honors are divided into two groups, known as *Class A and Class B.* Final Honors are divided into three groups, known as *Honors, High Honors,* and *Highest Honors.*

Honors are determined in accordance with the following numerical system:

Each semester-hour with grade A counts as 6,
" " " " " B " " 5,
" " " " " C " " 4,
" " " " " D " " 3,
" " " " " E " " 2,
" " " " " F " " 1.

Numerical equivalents are attached to the above honor groups as follows:

First-Year, Second-Year, Third-Year, and Fourth-Year Honor Lists:—

Class B, an average of 5.000 or over.
Class A, an average of 5.333 or over.

Final Honor List:—

Honors, an average of 5.000 or over.
High Honors, an average of 5.333 or over.
Highest Honors, an average of 5.666 or over.

The award of Highest Honors is conferred by vote of the University Faculty only upon candidates who (a) have attained the required grade of 5.666, (b) have performed the work of the Junior and Senior years in residence at the University of Idaho, and (c) have shown capacity for intensive work.

The arrangement of names with each group is alphabetical.

(For honor-lists issued in September, 1913, see the latter part of this catalog).

I. COLLEGE OF LETTERS AND SCIENCES

FACULTY

MELVIN AMOS BRANNON, PH.D., PRESIDENT, *and Professor of Botany*

JAY GLOVER ELDRIDGE, PH.D., DEAN, *and Professor of the German Language and Literature*

WILLIAM SANDS MORLEY, A.M., SC.D., *Professor of Mathematics and Philosophy*

EDWARD MASLIN HULME, A.M., *Professor of History*

HENRIETTA EVANGELINE, MOORE, PH.D., *Professor of English Literature*

HAROLD LUCIUS AXTELL, PH.D., *Professor of Greek and Latin*

CARL LEOPOLD VON ENDE, PH.D., *Professor of Chemistry*

CHARLES HOUSTON SHATTUCK, PH.D., *Professor of Forestry*

PERMEAL JANE FRENCH, *Dean of Women, and Instructor in Public Speaking*

JESSIE MAY HOOVER, B.S., *Professor of Home Economics*

PHILIP HENDRICK SOULEN, M.A., *Professor of Education*

SHIRLEY GALE PATTERSON, PH.D., *Professor of Romance Languages*

CHARLES ARTHUR STEWART, PH.D., *Professor of Geology and Mineralogy*

MARTIN FULLER ANGELL, PH.D., *Professor of Physics*

JERRY EDWARD WODSEDALEK, PH.D., *Professor of Zoology and Entomology*

EUGENE HAMILTON STORER, *Professor of Vocal Culture, Choral Work, and Public School Music*

FAY HOSTETTER, *Professor of Pianoforte-Playing and Harmony*

WILLIAM ALEXANDER ROBINSON, PH.D., *Associate Professor of Political Science and Economics*

CAROLINE CHRISTINE ISAACSON, A.B., *Assistant Professor of German*

JOHN ANTON KOSTALEK, PH.D., *Assistant Professor of Chemistry*

BENJAMIN HARRISON LEHMAN, B.A., *Assistant Professor of English*

ISABEL MARY STEPHENS, B.S., *Assistant Professor of Physical Education*

IRWIN WYCLIFFE COOK, M.S.F., *Assistant Professor of Forestry*

MINNIE MARGARET BRASHEAR, A.B., *Assistant Professor of English*

JESSE PIERCE, B.S.(C.E.)., *Assistant Professor of Mathematics*

MARY AMELIA BREWER, *Instructor in Art and Design*

NORMA JESSIE DAVIS, B.S.(H.Ec.),*Instructor in Home Economics*

JOHN GEORGE GRIFFITH, B.S., *Instructor in Zoology*

HORACE ASA HOLADAY, B.A., *Instructor in Chemistry*

MARGUERITE VON FRITSCH HUGHES, *Instructor in Violin-Playing, Director of University Orchestra and String Quartet*

HALLIE HYDE, B.A., *Instructor in Home Economics*

CORA IRENE LEIBY, B.S.(D.E.), *Instructor in Home Economics*

GEORGIA LUCAS, *Assistant in Pianoforte-Playing*

MARY BELLE SWEET, B.L.S., *Instructor in Library Science*

ADDITIONAL INSTRUCTORS

GEORGE DAVID AYERS, A.B., LL.B., *Professor of Law*

EDWARD JOHN CAREY, *Instructor in Cornet-Playing, and Leader of the Cadet Military Band*

Lieut. HERBERT CLARENCE FOOKS, 16th Inf., U. S. A., *Professor of Military Science and Tactics*

HENRY FULMER, M.S., *Instructor in Bacteriology*

FLOYD WHITNEY GAIL, M.A., *Assistant Professor of Botany*

JAMES JOHN GILL, LL.B., *Professor of Law*

JOHN FREDERICK NICHOLSON, M.S., *Professor of Bacteriology*

CHARLES EDWARD TEMPLE, M.A., *Professor of Botany*

CHARLES WILCOX VAN DER VEER, *Director of the Gymnasium*

LYMAN P. WILSON, J.D., *Professor of Law*

WINFRED RULISON WRIGHT, B.S., *Assistant Professor of Bacteriology*

ADMISSION Courses are offered in the College of Letters and Sciences leading to the degrees of Bachelor of Arts, B.A.; Bachelor of Science, B.S.; Bachelor of Science in Home

Economics, B.S.(H.Ec.); Bachelor of Science in Forestry, B.S. (For.); Master of Arts, M.A.; and Master of Science, M.S. For the requirements of admission to these courses see page 49 and for detailed information, pages 48 to 53.

REQUIREMENTS FOR GRADUATION

To obtain the recommendation of the Faculty for a Bachelor's Degree in the College of Letters and Sciences a student is required to obtain at least 128 credits. A "credit" is given for the satisfactory completion of one hour-period a week of regular class room work for one semester. In laboratory work, drawing, field work, etc., two or more hours' attendance is necessary to secure one credit.

B.A. AND B.S. COURSES

It will be noted from the following conspectus of studies that the B.A. and B.S. courses are closely parallel but not identical. The "basic" or required subjects are nearly the same for each, but the subject which is "characteristic" of the degree varies; in the B.A. course it is a language pursued for three full years, while in the B.S. course some one natural science must be taken for three years. The "major," "minor," and "free" electives may or may not coincide in the two courses. The requirements for these degrees have been specified as follows:

FOR B.A.		FOR B.S.	
BASIC CREDITS		BASIC CREDITS	
English	16	English	16
Latin, French, or German	16	Latin, French, or German	16
*Mathematics	6	*Mathematics	6
Mil. Sci. or Phys. Ed.	8	Mil. Sci. or Phys. Ed.	8
CHARACTERISTIC		CHARACTERISTIC	
Greek, Latin, French, or German	24	Physics, Chemistry, or †Zoology	24
ELECTIVE		ELECTIVE	
Major Elective	24	Major Elective	24
Minor Elective	16	Minor Elective	16
Free Electives	18	Free Electives	18
Total	128	Total	128

A student is allowed to choose as major elective a study which is already one of his basics, but compensation must be made for the latter by his choosing a second minor.

Required studies must precede electives in order of time.

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*Substitutes in History or Science may be allowed by the Committee on Courses at its discretion, but see note immediately below the outline of the B.A. course on the next page.

†Botany and Bacteriology may be combined with Zoology.

B.A. COURSE A student pursuing the course leading to the B.A. degree will therefore arrange his course as follows:

FRESHMAN YEAR

FIRST SEMESTER.		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
*Math. 1. College Algebra	3	*Math. 2. Trigonometry	3
(Basic language) (5)	4	(Basic language) (5)	4
(Characteristic language) (4)	5	(Characteristic language) (4)	5
Phys. Ed. 1. Gymnastics, or Mil. 1. Reg. and Drill	2	Phys. Ed. 2. Gymnastics, or Mil. 2. Reg. and Drill	2

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 203a. Composition	2	Eng. 204a. Composition	2
Eng. 203b. Shakespeare	2	Eng. 204b. Shakespeare	2
(Basic language)	4	(Basic language)	4
(Characteristic language)	4	(Characteristic language)	4
(Major elective)	3	(Major elective)	3
Phys. Ed. 3. Gymnastics, or Mil. 3. Mil. Sci. and Drill	2	Phys. Ed. 4. Gymnastics, or Mil. 4. Mil. Sci. and Drill	2

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
(Characteristic language) (3)	4	(Characteristic language) (3)	4
(Major elective)	4	(Major elective)	4
(Minor elective)	4	(Minor elective)	4
(Free electives)	4	(Free electives)	4

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
(Major elective)	5	(Major elective)	5
(Minor elective)	4	(Minor elective)	4
(Free electives)	5	(Free electives)	5
		Total credits required	128

Note—One year of mathematics or natural science will be required for graduation of the Class of 1913 and succeeding classes.

*Or a substitute in history, philosophy, or a science, but see note above.

B.S. COURSE A student pursuing the course leading to the B.S. degree will arrange his course as follows:

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
*Math. 1. College Algebra	3	*Math. 2. Trigonometry	3
(Basic language) (5)	4	(Basic language) (5)	4
(Characteristic Science)	4	(Characteristic language)	4
Phys. Ed. 1. Gymnastics, or Mil. 1. Reg. and Drill	2	Phys. Ed. 2. Gymnastics, or Mil. 2. Reg. and Drill	2

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 203a. Composition	2	Eng. 204a. Composition	2
Eng. 203b. Shakespeare	2	Eng. 204b. Shakespeare	2
(Basic language)	4	(Basic language)	4
(Characteristic science)	4	(Characteristic science)	4
(Major elective)	3	(Major elective)	3
Phys. Ed. 3. Gymnastics, or Mil. 3. Mil. Sci. and Drill	2	Phys. Ed. 4. Gymnastics, or Mil. 4. Mil. Sci. and Drill	2

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
(Characteristic science)	4	(Characteristic science)	4
(Major elective)	4	(Major elective)	4
(Minor elective)	4	(Minor elective)	4
(Free electives)	4	(Free electives)	4

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
(Major elective)	4	(Major elective)	4
(Minor elective)	4	(Minor elective)	4
(Free electives)	5	(Free electives)	5
		Total credits required	128

*Or a substitute in history, philosophy, or a science.

B.S. (H.Ec.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Home Economics, the student must complete the following courses:

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
*German or French	4 (5)	*German or French	4 (5)
Chem. 1. General Chemistry	4	H.Ec. 102. Elementary Sewing	2
H.Ec. 101. Elementary Sewing	2	Chem. 2. General Chemistry	4
Phys. Ed. 1. Gymnastics	2	Phys. Ed. 2. Gymnastics	2
Total	15 (16)	Total	15 (16)

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 201. History of English Literature	2	Eng. 202. History of English Literature	2
*German or French	3 (4)	*German or French	3 (4)
Chem. 5a. Organic Chemistry	4	Chem. 10. Quantitative and Applied Chemistry	2
Bac. 1. General Bacteriology	2	Bac. 2. General Bacteriology	2
H. Ec. 1. Elementary Cooking	3	H.Ec. 2. Elementary Cooking	3
Phys. Ed. 3. Gymnastics	2	H.Ec. 4. Food Products	2
		Phys. Ed. 4. Gymnastics	2
Total	16 (17)	Total	16 (17)

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Zool. 1. General Zoology	4	Zool. 6. Physiology	3
Chem. 17. Chemistry of Foods	4	Chem. 18. Physiological Chemistry	3
H.Ec. 3. Advanced Cookery	3	H.Ec. 104. Advanced Sewing	2
H.Ec. 103. Textiles	2	Phys. 22. General Physics	3
Phys. 21. General Physics	3	†Electives	5
Total	16	Total	16

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
H.Ec. 201. House Management and Sanitation	3	H.Ec. 6. Home Nursing and Invalid Cookery	2
H.Ec. 203. House Construction	2	H.Ec. 108. Costume and Design	2
H.Ec. 5. Dietetics	3	H.Ec. 204. House Decoration.	2
H.Ec. 107. Costume and Design	2	Pol. Sci. 6. Principles of Sociology	3
Pol. Sci. 1. Elements of Economics	3	†Electives	7
†Electives	3	Total	16
Total	16	Total credits required	128

*Students may elect either German or French. Consult the head of the department.

†For suggested electives see *infra* (close of department.) The number to be chosen will depend upon whether French or German was taken in the Freshman and Sophomore years. In any case the total number of credits required for graduation is 128.

GENERAL B.S. (For.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Forestry, (general course), a student must complete the following courses:

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
Math. 1. College Algebra	3	Math. 2. Trigonometry	3
*Ger. 3. Intermediate German	4	*Ger. 4. Intermediate German	4
Chem. 1. General Chemistry	4	Chem. 2. General Chemistry	4
C. E. 1. Engineering Drafting	1	C. E. 2. Engineering Drafting	1
Shop 1. Wood Working	1	Shop 2. Wood Working	1
Mil. 1. Reg. and Drill	2	Mil. 2. Reg. and Drill	2
Total	18	Total	18

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ger. 11. Scientific German, or Chem. 3. Qualitative Analysis	4	Ger. 12. Scientific German, or Chem. 4. Quantitative Analysis	4
Bot. 1. General Botany	3	Bot. 2. General Botany	3
C. E. 15. Surveying	4	C.E. 16. Surveying	4
For. 1. General Forestry	3	For. 2. General Forestry	3
For. 3. Dendrology	3	For. 4. Silviculture	3
Mil. 3. Mil. Sci. and Drill	2	Mil. 4. Mil. Sci. and Drill	2
Total	19	Total	19

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Zool. 1. General Zoology, or Chem. 5. Organic Chemistry.	4	Zool. 10a. For. Entomology, or Chem. 6. Organic Chemistry	3
Bot. 3. Plant Physiology	3	Bot. 4. Plant Ecology	4
Geol. 1. General Geology	3	For. 6. Forest Mensuration	3
For. 5. Forestry Mensuration	3	For. 12. Forest Law	2
For. 9. Forest Engineering	3	For. 14. Forest Physiography	3
For. 13. Forest Protection	3	For. 16. Forest History and Economics	3
Total	19	Total	18

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
C.E. 21. Testing Laboratory.	2	Bot. 6. Morphology and Classification of Seed Plants	3
E. E. 17. Telephone Construction	1	Soils 2. Soil Fertility	5
Vet. 5. Sanitary Science	1	For. 8. Forest Management	2
For. 7. Forest Management	2	For. 10. Grazing	2
For. 11. Lumbering	4	For. 22. Thesis	4
For. 15. Timber Physics	3	Total	16
For. 17. Forest Utilization	3	Total credits required	143
Total	16		

*Those who present no German for entrance take Ger. 1-2, Elementary German, 5 credits; those who have had one year of high-school German take Ger. A1-A2, Supplementary German, 3 credits.

LUMBERMAN'S FORESTRY COURSE To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Forestry, with especial attention to preparation for lumbering, a student must complete the following courses:

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
Math. 101. Engineering Math.	5	Math. 102. Engineering Math.	5
Chem. 1. General Chemistry.	4	Chem. 2. General Chemistry	4
C. E. 1. Engineering Drafting	1	C.E. 2. Engineering Drafting.	1
C. E. 13.Descriptive Geometry	2	C.E. 14. Descriptive Geometry	2
Shop 1. Wood Working	1	Shop 2. Wood Working	1
Mil. 1. Reg. and Drill	2	Mil. 2. Reg. and Drill	2
Total	18	Total	18

SOPHOMORE YEAR

First SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Math. 104. Engineering Mathematics	5
Math. 103. Engineering Mathematics	5	C.E. 16. Surveying	4
C. E. 15. Surveying	4	M.D. 2. Machine Design	2
For. 1. General Forestry	3	Shop 4. Forge Work	2
For. 3. Dendrology	3	For. 2. General Forestry	3
Mil. 3. Mil. Sci. and Drill	2	For. 4. Silviculture	2
		Mil. 4. Mil. Sci. and Drill	2
Total	19	Total	20

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Phys. 101. Engineering Physics	4	Phys. 102. Engineering Physics	4
Phys. 105. Analytic Mechanics	3	Phys. 106. Analytic Mechanics	3
C.E. 23. Graphic Statics	2	C.E. 24. Mechanics of Engineering	4
M.E. 3. Prac. Thermodynamics	3	C.E. 28. Hydraulics	3
Mng. 5. Excavation	2	For. 6. Forest Mensuration	3
For. 5. Forest Mensuration	3	For. 8. Forest Management	2
For. 7. Forest Management	2		
Total	19	Total	19

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E. 1. Direct Current Mach.	2	E.E. 2. Alternating Current Mach.	2
C.E. 21. Testing Laboratory.	2	For. 12. Forest Law	2
For. 11. Lumbering	4	For. 14. Forest Physiography	3
For. 13. Forest Protection	3	For. 18. Mill Machinery	4
For. 15. Timber Physics	3	For. 22. Thesis	3
For. 17. Forest Utilization	3	For. 24. Logging Machinery	4
Total	17	Total	18
		Total credits required	148

DEPARTMENTS OF INSTRUCTION

Note—Courses with odd numbers are given in the first semester; those with even numbers, in the second semester; courses numbered 1-2, 3-4, etc., continue through the year.

GREEK

Professor AXTELL

Greek may be begun in any year as a basic or characteristic study, or as a major or minor elective. Students who have taken this study in high school may continue it in those courses for which they are prepared. Those who do not wish to learn the language, but desire to know something of the literature in order to gain a better appreciation of history and English literature are advised to elect course 13.

First Year

1-2 ELEMENTARY GREEK *4 credits* Each semester

First lessons comprising the main features of inflection and syntax are learned, simple sentences are translated from English into Greek, and the first book of Xenophon's *Anabasis* is read.

Second Year

3 XENOPHON *4 credits* First semester

Books II-IV of the *Anabasis* are read by prepared translation, and passages from Colson's *Stories and Legends of the Greeks* are frequently used for sight-reading. Bonner's *Greek Composition* is used for drill on forms and syntax.

4 HOMER *4 credits* Second semester

Selections from the most celebrated passages of the *Iliad* or *Odyssey* are translated and read metrically. Epic poetry, the Homeric Question, the Mycenean Age, the influence of Homer upon English literature, and other topics are investigated.

Third Year

5 PLATO *3 credits* First semester

The *Apology* and the *Crito*. Analysis of other Socratic dialogs. Introduction to Greek philosophy. Study of Plato's life and thought.

6 THE GREEK DRAMA *3 credits* Second semester

Translation of a representative tragedy, such as the *Antigone, Prometheus Bound,* or *Alcestis.* Lectures and papers on the evolution of classical tragedy. Study of lyric choruses.

Advanced Courses

One or two of the following courses will be given each semester and will be selected after consultation with the classes that are formed. The History of Greek Literature (course 13) is usually one of the courses chosen. In the second semester Latin 14 will be accepted in lieu of credits in basic or characteristic Greek.

7 HERODOTUS *3 credits* First semester

Selections from the *Histories,* especially Books VII and VIII. General survey of Greek historians. Rapid review of early Hellenic history. The Ionic dialect.

8 DEMOSTHENES *3 credits* Second semester

Translation of the *De Corona* and rapid reading in English version of the *Philippics.* Review of events during the ascendancy of Philip of Macedon. Investigation of the stylistic features of Demosthenes.

9 ADVANCED COURSE IN TRAGEDY *3 credits* First semester

Careful translation and critical study of a tragic masterpiece, such as the *Agamemnon,* with rapid reading of other plays. Comparison of the works of Aeschylus, Sophocles, and Euripides.

10 LUCIAN *3 credits* Second semester

Selected dialogs. Studies in late Greek philosophy and literature.

11 GREEK ORATORY *3 credits* First semester

Selected specimens of oratory from Antiphon, Isaeus, Aeschines, Lysias, Isocrates, and others. Parallel study in the laws and government of Athens.

12 GREEK COMEDY *3 credits* Second semester

The *Birds* or the *Clouds* of *Aristophanes* will be used as the basis of study of the development, form, and style of ancient comedy.

13 HISTORY OF GREEK LITERATURE *2 credits* First semester

A general lecture and reading course, intended for students of English literaure as well as of the classics. Ability to translate Greek is not required. Credits in this will be accepted as equivalent to advanced credits in Latin.

LATIN

Professor AXTELL

The following courses are intended for the student who wishes to know the language as well as the literature of the Romans. Latin 12 and 14 are intended also for those who desire a general acquaintance with the most important Latin institutions and writings. Students who have had at least three years of elementary Latin may enter the Freshman courses.

Freshman Year

1 LIVY AND VERGIL *4 credits* First semester

Selected passages from Livy's account of the early traditions of Rome or from the narrative of the war with Hannibal are read. Selections from Virgil's *Eclogues* and *Georgics.*

1a PROSE COMPOSITION *1 credit* First semester

Connected exercises on themes of modern interest are translated into idiomatic Latin.

2 ROMAN COMEDY *4 credits* Second semester

One of the comedies of Plautus or Terence, usually either the *Captivi* or *Phormio,* is read. Papers and reports on topics connected with the Roman drama. Study of the metres of comedy.

2a PROSE COMPOSITION *1 credit* Second semester

Continuation of 1a.

Sophomore Year

3 HORACE *3 credits* First semester

Selected *Satires* and *Odes,* setting forth Horace's career, literary development, and philosophy are translated. Metrical reading of the *Odes.*

3a ADVANCED COMPOSITION *2 credits* First semester

Intensive study of Latin grammar and practice in rendering English into Latin at sight are features of this course. Prerequisites: Latin 1a and 2a.

4 TACITUS *3 credits* Second semester

Translation and study of the *Germania* and *Agricola,* the earliest monographs on Germany and England. Early Teutonic and British institutions are compared with Roman. Characteristics of the literature of the Silver Age of Rome.

4a ADVANCED COMPOSITION *2 credits* Second semester

Continuation of 3a.

Advanced Courses

Only one or two of the following subjects will be given in each semester. These will be chosen after the needs and desires of those who form the classes have been consulted. The History of Latin Literature (course 14) is usually one of the courses selected. Credits in Greek 13 will be accepted in lieu of "basic" or "characteristic" Latin.

5 PLINY *3 credits* First semester

Selected letters. Life in Rome in the first century of the Empire.

6 CATULLUS *3 credits* Second semester

Selected *Carmina.* Lectures on Greek and Latin lyric poetry.

7 LUCRETIUS *3 credits* First semester

The *De Rerum Natura.* Lectures on Roman religion and philosophy.

8 PETRONIUS *3 credits* Second semester

Translation of the *Cena Trimalchionis.* Investigation of ancient romantic stories.

9 CICERO'S LETTERS *3 credits* First semester

Selected epistles, touching Roman politics between the conspiracy of Catiline and the death of Caesar. Study of the vexed question of Cicero's position in history.

10 JUVENAL and MARTIAL *3 credits* Second semester

Selected *Satires* and *Epigrams.*

11-12 TEACHERS' COURSE *2 credits* Second semester

Comprehensive and advanced work in syntax. Ideals, means, and methods of teaching Latin especially in the high school.

In the second semester, as the course will be devoted to a study of the civilization of the Romans—their government, religion, public and private life, architecture, art, and other topics—it is open to all students. Required for a recommendation to teach Latin.

14 HISTORY OF LATIN LITERATURE *2 credits* Second semester

A general lecture and reading course with the aid of standard translations. Open to all students. Ability to translate is not required. The influence of Latin upon English classics is emphasized.

GERMAN

Professor ELDRIDGE, Assistant Professor ISAACSON

Students who present two years of high-school German for entrance continue in course 3-4. Those who have had no German take course 1-2. A special course, German A1-A2, has been arranged for those who have had *one* year of high-school German and wish to complete their entrance requirements or to fit themselves to take German 3-4.

Courses 5-6, 7-8, 9-10, and 11-12 are parallel and may be taken together or in successive years.

Those who wish a recommendation to teach German in secondary schools are required to take courses 17-18 and 23-24 in addition to one or more literary courses in advance of course 3-4.

A1-A2 SUPPLEMENTARY GERMAN *3 credits* Each semester

Review of grammar. Translation. Composition.

When taken to complete admission requirements no credit will be given. Open only to those who have had one year of German in high school. Mrs. ISAACSON

1-2 ELEMENTARY GERMAN *5 credits* Each semester

The essentials of German grammar, with constant practice in pronunciation, simple translation from English into German; and the reading of easy narrative German. Professor ELDRIDGE

3-4 INTERMEDIATE GERMAN *4 credits* Each semester

Reading from modern and classic authors. Novel, epic, and drama from such authors as Baumbach, Eichendorff, Heine, Goethe, Ludwig, Freytag, and Ernst are studied. German composition and German idioms by means of prose composition. Text, Pope's *German Composition.* Special study of German lyrics with the *Deutsches Liederbuch* as a basis of study. ***Two sections.***

Prerequisites: course 2, A1-A2, or two years of high-school German. Mrs. ISAACSON

5-6 SCHILLER *3 credits* Each semester

Schiller's biography (Sime, with reference to Thomas). Selected lyrics and ballads. *Die Jungfrau von Orleans, Wilhelm Tell, Die Braut von Messina, Geschichte des dressingjährigen Krieges,* and the *Wallenstein* complete. Professor ELDRIDGE

7-8 MODERN NOVELS *2 credits* Each semester

Selected works of Kleist, Hauff, Scheffel, Freytag, Immermann, Ludwig, Meyer, Storm, Keller, Heyse, von Ebner-Eschenbach, Raabe, Sudermann, Frenssen. Given in alternation with course 9-10. [Given in 1915-16]. Mrs. ISAACSON

9-10 MODERN DRAMAS *2 credits* Each semester

Selected Dramas of Kleist, Grillparzer, Hebbel, Anzengruber, Fulda, Sudermann, Hauptmann. Given in alternation with course 7-8. [Given in 1914-15.] Mrs. ISAACSON

11-12 SCIENTIFIC GERMAN *3 credits* Each semester

A special course in scientific German, open to those who have completed course 3-4. Wait's *German Science Reader,* followed by short monographs. Professor ELDRIDGE

13-14 ADVANCED SCIENTIFIC GERMAN *2 credits* Each semester

Works are read which meet the special needs of the class. Professor ELDRIDGE

15-16 GOETHE: LIFE AND WORKS *3 credits* Each semester

Study of Goethe's life and development, in connection with his lyric poems; *Dichtung und Wahrheit, Götz von Berlichingen, Werther, Egmont, Tasso, Iphigenie.* Prerequisites: courses 5-6, 7-8, or 9-10. Mrs. ISAACSON

17-18 HISTORY OF GERMAN LITERATURE *3 credits* Each semester

Selected readings, reports, and lectures. Priest's *History of German Literature,* Thomas's *Anthology,* and *Mueller's German Classics.* A general survey of German literature from the earliest times. Open to those who have completed any of the following courses: 5-6, 7-8, 9-10. Required for a recommendation to teach German. Professor ELDRIDGE

19 LESSING *4 credits* First semester

Study of Lessing's life and place in literature and of the following works: *Minna von Barnhelm, Emilia Galotti, Nathan der Weise,* and *Laokoon,* or *Hamburgische Dramaturgie,* or prose selections. Professor ELDRIDGE

20 FAUST *3 credits* Second semester

Reading, interpretation, and discussion of *Faust I* and *II,* with collateral reading in Faust literature. Prerequisites: course 13-14. Professor ELDRIDGE

21-22 MIDDLE HIGH GERMAN *3 credits* Each semester

Grammar, Michels: *Mittelhochdeutsches Elementarbuch,* or Paul: *Mittellhochdeutsche Grammatik;* Reading of Hartmann's *Der arme Heinrich*; the *Nibelungenlied;* selected poems of Walther von der Vogelweide; and selections from Wolfram von Eschenbach's *Parzival.* Professor ELDRIDGE

23-24 TEACHERS' COURSE *3 credits* Each semester

The basis of the course is work in advanced grammar (Curme: *Grammar of the German Lanuguage as Spoken and Written Today*); composition (von Jagemann: *Syntax* and *Prose Composition*); and conversation based upon Kron: *German Daily Life.* Special attention is given to phonetics, the geography of Germany, and the discussion of text-books. Open only to those who have done superior work in advanced German courses. Required for a recommendation to teach German. Mrs. ISAACSON

ROMANCE LANGUAGES

Professor PATTERSON

French

1-2 ELEMENTARY FRENCH *5 credits* Each semester

The essentials of French grammar: Fraser and Squair's *French Grammar.* Pronunciation, translation, and the elements of composition. Guerber's *Contes et Légendes* will be studied for vocabulary and drill in easy sentence-construction. Afterwards, selections from Guy de Maupassant, and Mérimée's *Colomba.* Marique and Gilson's *Elementary Composition* will complete the work of the year. Dictation, drill in irregular verbs, and easy conversation.

3-4 INTERMEDIATE FRENCH *4 credits* Each semester

Translation, syntax, and composition. Translation from the works of Daudet, Guy de Maupassant, Balzac; *Contes des Romanciers Naturalistes*; Hugo, *Ruy Blas* and *Hernani*; Rostand, *Cyrano de Bergerac*; Sand, *La Mare au diable.* A review of French grammar, with conversation and drill based upon Cameron's *French Composition.* Occasional talks will be given upon the Romantic and Realistic movements in French literature. The class will be conducted in French.

5-6 THE SEVENTEENTH CENTURY *3 credits* Each semester

The first semester will be devoted to a study of the great prose writers, especially Descarets and Pascal. A study of their French philosophical works will be made, with reference to the *esprit* of the century, and to the subsequent philosophy of England and Germany, based upon the Cartesian system. The second semester will be spent in a study of the tragedies of Corneille and Racine, and the comedies of Molière. Lectures on the origin and technique of French drama, and on the relation of the contemporary philosophic movement to dramatic thought. Reports on outside reading.

7-8 ADVANCED PROSE COMPOSITION *2 credits* Each semester

Based on Francois, *Advanced French Prose Composition* and Pellissier, *Précis de l'Histoire de la Littérature Francaise.* It is thought to combine an introduction to French literary

history with practical exercise in composition and conversation. The course is conducted wholly in French. Students of French 5-6 are advised to add this course as supplementary.

9 THE EIGHTEENTH CENTURY *2 credits* First semester

This course will deal mainly with the life and works of J. J. Rousseau, Voltaire, and the Encyclopedists. The literary and philosophic role of Rousseau will be studied, in so far as his work may be considered one of the agencies contributing to the French Revolution. *Emile, La Nouvelle Héloise, Contrat social;* tragedies, *contes,* and letters of Voltaire. Lectures, readings, and reports. **[Given in 1914-15].**

10 FRENCH LITERATURE FROM MAROT TO MALHERBE *2 credits* Second semester

History of ideas during the Renaissance. Darmesteter-Hatzfeld, *Le seizième siècle en France.* The poetic theories of the Pleiade and the origins of classicism. Lectures, readings, and reports dealing with the Italian Renaissance and the subsequent influence of Petrarchism upon France and England. [Not given in 1914-15].

11-12 OLD FRENCH *2 credits* Each semester

The *Chanson de Roland, Aucassin et Nicolette,* and some reading from the romances of Chrétien de Troyes. Text-Book drill in Old French phonology and morphology. Lectures and text-book work on the history of Old French literature. Prerequisite: course 5-6, and an accurate pronunciation of Latin. Though primarily for graduate students of the Romance Languages, the course is meant to be of value to specialists in Latin and English. Those who intend to pursue graduate work in English, including Early and Middle English, or English Philology, will find a knowledge of Old French indispensable. The course will be scheduled upon the petition of two students.

Spanish

1-2 ELEMENTARY SPANISH *3 credits* Each semester

Pronunciation, sentence drill, translation. Text-books: Olmstead and Gordon's *Spanish Grammar* (Holt & Co.),

Fontaine's *Flores de España* (American Book Co.), Giese's Alarcon's *Novelas cortas* Ginn & Co. Morrison's *Tres Comedias modernas* (Holt & Co.); Ford's *Selections from Don Quijote* (Heath & Co.). [Given in 1914-15].

3-4 INTERMEDIATE SPANISH *2 credits* Each semester

Translation of novels and dramas. Compositions. Textbooks: Alarcon's *El Niño de la bola;* Galdos' *Electra, Marianela, Doña Perfecta;* Valdés' *El Capitan Ribot* and *José;* Valera's *Pepita Jiménez;* Gutierrez's *El Trovador;* Umphrey's *Spanish Prose Composition*; Remy's *Spanish Composition.* The course is conducted in Spanish.

Italian

1-2 ELEMENTARY ITALIAN *3 credits* Each semester

Grandgent's *Italian Grammar.* Bowen's *Italian Reader.* Goldoni's *La Locandiera, Un curioso Accidente, Il vero Amico.* In the second semester Grandgent's edition of Dante's *Purgatorio* will be read. The courses in Italian are designed to meet the needs of students desiring to specialize in History or English of the Renaissance period. [Given in 1914-15.]

3-4 INTERMEDIATE ITALIAN *2 credits* Each semester

Review of grammar; composition; reading of modern drama, prose, and poetry from the works of *Alfieri, Foscolo, Leopardi, Carducci, D'Annunzio, Fogazzaro,* etc.

5-6 EARLY ITALIAN *2 credits* Each semester

Lectures on Italian phonology and morphology. Readings in the easliest monuments of Italian literature. (Monaci's *Crestomazia italiana*). The second semester will be devoted to the reading of Fornaciari's *Novelle scelte di Giovanni Boccaccio* and Ferrarri's *Le Rime di Francesco Petrarca,* and to text-book study in the history of early Italian literature.

ENGLISH

Professor MOORE, Assistant Professors LEHMAN and BRASHEAR

Note: Owing to redistribution of work in the Freshman and Sophomore years, in 1914-15 the Freshman English, except that for

engineering students, will be arranged as a 3-credit course each semester; in 1915-16 the Sophomore English, with same exception, will be arranged as a 5-credit course each semester. These changes necessitate a renumbering of courses, as below. Students noticeably deficient in spelling, punctuation, sentence and paragraph structure, unity, and coherence, will be required to join a class meeting one hour each week, without credit, until such deficiency is removed.

1-2 COMPOSITION AND LITERATURE *3 credits* Each semester

Required of Freshmen in the College of Letters and Sciences. Class discussions, weekly themes and conferences. Selected classics and current events are studied and made the basis of work in oral and written composition. Collateral reading is required. *Four sections.* Text-book: Steeves and Ristine's *Representative Essays in Modern Thought.*

Professors LEHMAN and BRASHEAR

101-102 COMPOSITION AND LITERATURE *4 credits* Each semester

Required of Freshmen in the Colleges of Engineering and Agriculture. An introduction to the study of prose and poetry. Recitations, weekly themes, and conferences. Waddell and Harrington's *Addresses to Engineering Students,* current events, and classics are made the basis of oral and written composition. Collateral reading is required.

Professors LEHMAN and BRASHEAR

201-202 HISTORY OF ENGLISH LITERATURE *2 credits* Each semester

Required of Sophomores in Home Economics in 1914-15 only. An outline of the development of poetry and prose from the *Beowulf* to the death of Scott. Lectures and recitations.

Professor MOORE

3 GENERAL SURVEY OF ENGLISH LITERATURE AND COMPOSITION *5 credits* First semester

Required of Sophomores in the College of Letters and Sciences. An outline of the development of poetry and prose from the *Beowulf* to the death of Scott. Current events are made the basis of oral composition. Lectures, discussions, weekly themes and conferences. Text-books: Newcomer's *English Literature; The Atlantic Monthly.* [Not given in 1914-15.]

Professors MOORE, LEHMAN, and BRASHEAR

4 SHAKESPEARE *5 credits* Second semester

Required of Sophomores in the College of Letters and Sciences. Twelve selected plays. Lectures, recitations, written reports, and vocal interpretation. [Not given in 1914-15.]

Professor MOORE

203a-204a COMPOSITION *2 credits* Each semester

Required of B.A. and B.S. Sophomores in 1914-15 only. Recitations, weekly themes, and conferences. Discussion of current events. *The Atlantic Monthly* is made the basis of critical and constructive work. Collateral reading in the novel is required. Professors LEHMAN and BRASHEAR

203b-204b SHAKESPEARE *2 credits* Each semester

Required of B.A. and B.S. Sophomores in 1914-15 only. Twelve selected plays. Lectures, recitations, written reports, and vocal interpretation. Professor MOORE

103-104 COMPOSITION *2 credits* Each semester

Required of Sophomore students in the College of Engineering. Recitations, themes, and conferences. Collateral reading in current events and books of interest to engineers. A thesis based on library or original research in some engineering subject. Text-book: Sypherd's *Handbook of English for Engineers.* Professor LEHMAN

5-6 ADVANCED COMPOSITION *2 credits* Each semester

Courses 3 and 4 are prerequisites. Practice in theme writing to develop correct, fluent, and effective expression. A study of literary models and literary forms, and discussion of the theory of literary art. Lectures. Professor LEHMAN

7 ANGLO-SAXON *3 credits* First semester

Grammar and practice reading; the history of the language. Bright's *Anglo-Saxon Reader.* (Course requires no previous knowledge of Anglo-Saxon.) Professor LEHMAN

8 BEOWULF *3 credits* Second semester

Course 7 is prerequisite. Professor LEHMAN

9 CHAUCER *3 credits* First semester

Study of the forms of Middle English; collateral reading on the life and thought of Chaucer's time; reading of the

prologue, the Knight's Tale, and the Marriage group of tales.
Professor LEHMAN

11 ENGLISH GRAMMAR AND COMPOSITION FOR TEACHERS
2 credits First semester

Grammar: lectures on the history of the teaching of English grammar; methods of teaching; examination of the best text-books; discussion of cases of divided usage.

Composition: discussion of aims and methods of teaching, of class-work themes, and conferences; collateral reading; examination of text-books. Professor BRASHEAR

12 THE DEVELOPMENT OF THE ENGLISH DRAMA
3 credits Second semester

A study of the growth of the English drama from the earliest medieval times to the beginning of the nineteenth century.
Professor MOORE

13 EPIC POETRY *3 credits* First semester

A course in Comparative Literature. Lectures upon the epic as a poetic form, supplemented by a study of Dante's *Divine Comedy,* Ariosto's *Orlando Furioso,* Tasso's *Jerusalem Delivered,* and Camoens' *Lusiad.* Professor MOORE

14 POETICS *2 credits* Second semester

A study of the forms of English verse. Lectures.
Professor MOORE

15 MILTON *3 credits* First semester

A critical study of all of Milton's English poems, supplemented by lectures upon the poet's relation to his times. Class discussions and written reports. Professor MOORE

16 CONTEMPORARY WRITERS *3 credits* Second semester

A critical discussion of living writers, both English and such foreign writers as are influencing English thought and expression. Lectures and reports. Professor MOORE

17-18 THE ENGLISH NOVEL *3 credits* Each semester

A rapid historical survey of the origin and development of the English novel and the critical discussion of one novel each of Jane Austen, Scott, Dickens, Thackeray, George Eliot, Hardy, Meredith, Stevenson, and Kipling. Professor MOORE

19-20 ENGLISH POETRY OF THE NINETEENTH CENTURY
2 credits Each semester

Wordsworth, Coleridge, Scott, Byron, Shelley, Keats, Tennyson, Browning, Arnold, Rossetti, Morris, and Swinburne.
Professor MOORE

21 AMERICAN LITERATURE *2 credits* First semester

A general view of its history, illustrated by copious reading. Lectures and reports. Professor MOORE

22 ENGLISH LITERATURE FOR TEACHERS
3 credits Second semester

A study of typical masterpieces, with special reference to selection of texts, and the aims and methods of teaching literature. Professor MOORE

23 GREAT BOOKS *3 credits* First semester

A discussion of masterpieces of various peoples and times with the purpose of comprehending the unity of all literature. The Bible, Homer, Virgil, Dante, Shakespeare, Cervantes, Milton and Goethe are included in the study. The course is intended for advanced students, but is open to sophomores who may receive permission of the instructor. Professor MOORE

24 BROWNING *2 credits* Second semester

A study of the dramas, *Christmas Eve and Easter Day,* and *The Ring and the Book.* Professor MOORE

26 CARLYLE AND RUSKIN *2 credits* Second semester

Study of the lives and writings of these two representative nineteenth century thinkers. Professor LEHMAN

28 SHAKESPEARE: ADVANCED COURSE
3 credits Each semester

Seminar. Open only to Juniors and Seniors.
Professor MOORE

29-30 LITERARY CRITICISM *2 credits* Each semester

A study of the history of critical theory in Plato, Aristotle, Longinus, Horace, Sidney, Addison, Lessing, Burke, and Cousin, during the first semester; and of nineteenth century critics,

with an attempt to define the effect of the new scientific method upon literary judgment, during the second semester.

Professor BRASHEAR

LIBRARY WORK

Miss SWEET

1 ELEMENTARY REFERENCE *1 credit* First semester

This course is intended to teach the proper and effective use of the library and of general reference books in connection with other college work. It does not aim to fit students for library positions of any kind. The work consists of lectures, recitations, and the study of reference books. Problems will be given which require the use of the books studied. The course is open to any student in the University but it is specially recommended to members of the Freshman class. It will not be given for less than ten students.

3-4 LIBRARY APPRENTICE WORK *3 credits* Each semester

This work is intended to be of special benefit to those wishing to do library work in the small libraries or to be assistants in the large libraries. Additional reference books will be used and the care and management of a small library will be studied. This will include ordering, accessioning, shelf-listing, simple cataloguing, and loan systems. Practice work will be given. Two hours' class work and not more than four hours' practice work per week will be required.

Open to students who have taken course 1. Not given for less than five students.

PUBLIC SPEAKING

Miss FRENCH, Assistant Professor LEHMAN, Mr. ——

1 READING *2 credits* First semester

This course will be devoted to a study of the principles underlying good reading. Miss FRENCH

2 INTERPRETATIVE READING *2 credits* Second semester

Plays of the best authors will be read. Attention will be given to the action of the imagination in the vocal interpretation of literature.

Course 2 is open only to students who have taken course 1.

Miss FRENCH

3-4 ARGUMENTATION *2 credits* Each semester

Work in analysis, evidence, original brief-drawing, and presentation of argument. Careful attention will be given to source-work and arrangements of material. Some oral training will be included in course 4. Professor LEHMAN

5-6 DEBATE *3 credits* Each semester

Practical training in oral debate. Weekly debates will be held, chiefly upon current public questions. Instructions will be given in the gathering and handling of material, in the construction of briefs, and in oral debate. Course 6 is open only to students who have taken course 5. Mr. ————

HISTORY

Professor HULME

1 THE EARLY MIDDLE AGES *3 credits* First semester

Beginning with the decay of the Roman Empire, the development of early medieval life and institutions will be studied. The course is designed not only to acquaint the student with the important facts of the time, but also to afford training in systematic study. The work consists of lectures by the instructor and weekly written exercises by the students based upon their collateral reading. Instruction is given in note-taking and in the systematic use of books.

2 THE LATER MIDDLE AGES *3 credits* Second semester

This course deals with the history of Western Europe from the dissolution of the Frankish Realm to the Renaissance. It is a study of life under feudal conditions: feudalism crescent, feudalism militant, and feudalism decadent. Special attention is paid to the medieval church as the controlling force influencing every element of European life.

3 THE RENAISSANCE *3 credits* First semester

The development of the new humanism in its relations to the political, social, and religious life of the time. The lectures will deal with the sources as well as the development of the new and broadening thought of this critical and formative period; with the revival of nationality and individuality, of literature, of art, of science, and of conscience; with the results

of travel and discovery, with the changing economic and social conditions; with the development of political theory and the transformation of law.

4 THE REFORMATION *3 credits* Second semester

A study of the ecclesiastical, political, economic, and social causes of the Protestant Revolution, of the progress of the movement in its various phases, of its more immediate results, and of its bearings upon the life and thought of our own day; of the Catholic Reformation; and of the continuance of the Renaissance movement in political and social life.

5-6 MODERN EUROPE *3 credits* Each semester

A course particularly designed to connect the past with the present, to impart information about our own times. Military and political matters are not permitted to dominate the more important economic and social conditions and forces.

7-8 ENGLISH HISTORY *2 credits* Each semester

This course, like those in the Middle Ages, has for its purposes the teaching of students how to do college work in history, to stimulate their interest, and to lead them to know something of the development of an important nation. [Alternates with History 15-16 not given in 1914-15.]

9 THE EVE OF THE FRENCH REVOLUTION *2 credits* First semester

Because of the fact that no great and general movement of the human mind can be understood without careful analysis of the forces that have combined to produce it, one semester is devoted to a study of the political, industrial, and social conditions in France in the eighteenth century, and the development of the ideas that caused the Revolution. The course is open to those students who have taken courses 1 and 2, and to other advanced students with the permission of the instructor. The ability to read French is very desirable. [Given in alternate years. Not given in 1914-15.]

10 THE FRENCH REVOLUTION *2 credits* Second semester

A study of the Revolution with special reference to its constitutional experiments. Open only to students who have taken

the preceding course. [Given in alternate years. Not given in 1914-15.]

11-12 American Constitutional History
3 credits Each semester

A study of the principal constitutional questions that have arisen in the course of our national life. A connected account is also given of the political, industrial and social history of our nation.

13-14 The Pacific Northwest *2 credits* Each semester

Selected topics in the history of the Pacific Northwest, especially in the history of our own state. The course is conducted as an historical seminar. It has for its chief purpose training in investigation. [Not given in 1914-15.]

15 Historical Method *2 credits* First semester

A course preparatory to historical research and to the teaching of history. It will discuss what history is, what it is for, what are its materials, what are its methods, what are its relations to neighbor studies, how to read history, how to study it, and how to write it. It will also provide for introductory studies of many of the sciences that are auxiliary to history. The course will be open only to students of sufficient maturity and experience. [Alternates with History 7. Given in 1914-15.]

16 The Teaching of History *2 credits* Second semester

A course intended for those students who expect to teach history in intermediate or secondary schools. The purpose of the course is to make the student acquainted with the aims, the methods, the apparatus and the literature of the work of teaching history. Open only to students who have taken the preceding course. [Alternates with History 8. Given in 1914-15.]

17-18 Thesis Each semester

Credits to be arranged according to the need of the individual graduate student.

POLITICAL SCIENCE AND ECONOMICS

Associate Professor ROBINSON

1-2 ELEMENTS OF ECONOMICS *3 credits* Each semester

A general survey based on Taussig's *Principles of Economics,* supplemented by lectures, special reading, and written exercises. More attention given to current economic problems second semester. Courses 1-2 are prerequisites for courses 3-6.

3 TRANSPORTATION *3 credits* First semester

A study of the economic and political importance of the railway business, the principles of regulation and various systems of state control. Includes a brief survey of ocean and inland water transportation.

4 MONEY AND BANKING *3 credits* Second semester

A study of money and banking systems in foreign countries and the United States, with attention to the financial history of the latter country.

5 AGRICULTURAL ECONOMICS *3 credits* First semester

Economic principles as applied to agricultural problems. Attention given to rural political and social problems.

6 PRINCIPLES OF SOCIOLOGY *3 credits* Second semester

A survey of the general development of social institutions with reference to present-day social problems.

7 EUROPEAN GOVERNMENTS *3 credits* First semester

A study of the forms of government prevailing in the principal countries of Europe with special attention to the working of the cabinet system.

8 AMERICAN GOVERNMENT AND POLITICS *3 credits* Second semester

The working of federal and state governments and party machinery. A general course based on a systematic study of Bryce's *American Commonwealth,* with special readings, lectures, and reports.

LAW

Professors AYERS, WILSON, and GILL

The following Law courses are open to Junior and Senior students in other departments, and will be credited in the College of Letters and Sciences and in the other Colleges, according to their regulations.

LAW 1 HISTORY AND SOURCES OF THE COMMON LAW
3 credits First semester

A general survey of the legal system of English-speaking countries; rise and development of the Common Law; courts, their organization and jurisdiction; legal authorities and their use. Pound's *Readings on the History and Sources of the Common Law, second edition.* Professor AYERS

LAW 2 AGENCY *2 credits* Second semester

The law of principal and agent, formation of the relation; liabilities of the parties inter se and to third persons; termination of agency. Wambaugh's *Cases on Agency.*
Professor WILSON

LAW 3 CONTRACTS I *4 credits* First semester

Formation of simple contracts: offer and acceptance, reality of consent; consideration; legality of object; statute of frauds; construction and operation. Hopkins' *Cases on Contracts.*
Professor GILL

LAW 4 CONTRACTS II *2 credits* Second semester

Discharge of contracts; modes of enforcement; actions and remedies; what law governs; quasi contracts. Hopkins' *Cases on Contracts.* Professor GILL

LAW 9 PROPERTY I *2 credits* First semester

Nature and classes of property, real, personal, and chattels real; corporeal and incorporeal property. Personal property, acquisition of rights; possession, bailment, liens. Gray's *Cases on Property, Vol. 1, Parts 1 and 2,* and selected cases.
Professor WILSON

LAW 10 PROPERTY II *3 credits* Second semester

Real property; the feudal system; tenures; estates; rule in Shelley's case; rights of enjoyment; fixtures and improve-

ments; earth and minerals; vegetable products; profits a prendre, easements, covenants and restrictions. Gray's *Cases, Vols. 1 and 2;* Tiffany's *Real Property, Vol. 1.* Professor WILSON

To engineering students the following further course is open:

LAW 47 MINING LAW *2 credits* First semester

Statutes of 1866 and 1872; possessory rights prior to location; location; mineral character; prior appropriation; lode and placer claims; tunnel and mill sites; extra-lateral rights; assessment work; adverse claims; patent. Costigan's *Cases.*

Professor WILSON

To engineering and agricultural students the following further course is open:

LAW 48 IRRIGATION *2 credits* Second semester

History of Irrigation in the United States; growth of the Law by custom recognized by the courts; federal statutes of 1868, 1872, and "The Desert Land Act;" development of California and Colorado doctrines and their relation to the law of Idaho and the other states in the Northwest and the arid and semi-arid regions of the United States, appropriation of water and its incidents; development of the "Possessory" and the "Beneficial Use" doctrines; priorities; transfer and extinguishment of water rights; means and accessories for conveying water; state and federal control; remedies, eminent domain, taxation, Idaho Code. Pound's *Outline of a Course in the Law of Irrigation, second edition.* Wiel's *Water Rights in the Western States, third edition.* Professor AYERS

No student will be permitted to elect to exceed eight credit-hours under the provisions of this list of Law Courses open to students of other departments, and no student will receive any credit towards a law degree, or certificate for use in another law school, for courses so taken, without complying with the requirements of the College of Law regarding the "Six-year College and Law Course." Students electing law under this list of law courses open to students of other departments are assumed so to do for purposes of a general education and culture, or to aid them in some vocation, and not as professional courses. The particulars concerning the combined six-year B.A. or B.S. and LL.B. course, which has been provided, are given under the College of Law.

PHILOSOPHY

Professor MORLEY

1 PSYCHOLOGY *3 credits* First semester

A general course, giving a survey of mental processes and the methods of scientific investigation of these processes.

2 INTRODUCTION TO PHILOSOPHY *3 credits* Second semester

This course is designed as a general introduction to philosophy for beginners, and includes a study of the relation of philosophy to modern science, the fundamental problems of philosophy, and the representative forms of philosophic theory.

3 ETHICS *3 credits* First semester

A study of the development of moral conduct and the principal types of moral theory, with special reference to the application of ethical principles to the practical problems of individual and social life.

4 LOGIC *3 credits* Second semester

The methods of deduction and induction; investigation of the laws of correct thinking, with exercise in the detection of fallacies and in the expression of arguments.

5 HISTORY OF PHILOSOPHY *3 credits* First semester

This course includes the history of Greek and Roman philosophy to the close of the pagan schools, and of medieval philosophy to the fall of scholasticism and the beginning of the modern era.

6 HISTORY OF PHILOSOPHY *3 credits* Second semester

This course follows course 5 and includes the history of modern philosophy from Descartes to Comte.

7 PROBLEMS OF PHILOSOPHY *2 credits* First semester

A careful study, historical and systematic, of some of the main topics of philosophy, as materialism, agnosticism, and idealism.

8 METAPHYSICS *2 credits* Second semester

An examination of the various theories of reality.

9 ETHICS OF THE BIBLE *2 credits* First semester

A study of the teachings of the Old and New Testaments relative to the moral problems of individual and social life.

10 PHILOSOPHY OF RELIGION *2 credits* Second semester

An investigation of the grounds of religious belief, with a study of the history of the great religious systems.

EDUCATION

Professor SOULEN, Mr. ——

The objects of the courses in the Department are:

I. To afford students, whether they contemplate teaching or not, an opportunity to become conversant with the general, basic facts and principles of Education as an important function of society.

II. To meet the needs of students who expect to enter the teaching profession by offering them technical training for this vocation.

III. To assist teachers already in service in broadening their foundation for larger usefulness.

IV. To offer for mature students and teachers who contemplate future activity as principals, superintendents, supervisors, or special teachers, a training suited to such specialty.

Observation and Teaching

All students expecting to become candidates for a teacher's certificate are required to supplement their courses in educational theory by a supervised course in observation of actual class-room practice and, in so far as local opportunities permit, to assist under direction in teaching preparatory classes.

Teaching Certificates

Section (92) of the Idaho School Laws provides that:

"Every graduate of ..... the University of Idaho receiving either the degree of Bachelor of Arts or Bachelor of Science, and the certificate of the head of the Department of Education..... that he has completed the required work in said department..... shall receive a state certificate from the State Board of Education, if in the judgment of said Board the candidate is not otherwise disqualified."

To meet the requirements of the above legislative enactment students must make at least sixteen credits in Education, of which the following are required: History of Education, three; Educational Psychology, three; School Management, two; Observation and Teaching, two to four. The remainder may be taken in special methods. Inasmuch as beginners in secondary teaching are expected to teach more than one subject, it is advisable for college students, in addition to their courses in Education, to select a major and a minor in such departments as will specially qualify them for the subjects which they expect to teach.

Students completing the Special Teachers Courses in Music, Drawing, Manual Training, Home Economics, Physical Education, or Agriculture may receive from the State Board of Education a Specialist's State Certificate. (See also p. 91.)

The State Board of Education has also made arrangements for issuing to University students Provisional Teachers Certificates as follows:

A Two-Year Certificate upon completion of the Freshman year, including five credit-hours in Education.

A Four-Year Certificate upon completion of the Sophomore year, including ten credit-hours in Education.

Provisional Certificates require a recommendation by the faculty before being issued.

Courses

1 STUDY METHODS *2 credits* First semester

A course emphasizing the scientific method of securing proper study and independent thinking on the part of pupils. Text-book, readings, observation of efficient study methods.

2 CLASS-ROOM MANAGEMENT *2 credits* Second semester

A study and discussion of factors determining successful management, elimination of waste in teaching, routine factors, teaching qualifications, class-room technic.

3 PRINCIPLES OF TEACHING *3 credits* First semester

A consideration of the aims of Education, special aims of the high school, the principles underlying the education of the child in his physical, social, intellectual, and moral life.

4 EDUCATIONAL PSYCHOLOGY *3 credits* Second semester

Not open to Freshmen. Should be preceded by Phil. 1. This course aims to apply to educational practice the fundamental principles of adult, adolescent, and child psychology. The text course is supplemented by lectures, reports on psychological research, and readings.

5 HISTORY OF EDUCATION *3 credits* First semester

Not open to Freshmen. A course in the history of educational ideals and practices through Oriental, Jewish, Greek, Roman, and Medieval civilization. The aim of the course is to acquaint the student with the essential features of the educational thought of the past as a basis for the more detailed study of the educational systems and principles of the present.

6 HISTORY OF EDUCATION IN MODERN TIMES

3 credits Second semester

A continuation of the historical study begun in course 5. It aims to trace the development of the modern conception of education from the Renaissance to the present time. Special attention is given to the development of educational systems in the United States, including the principal foreign influences which have affected the same.

This course may be taken independently of course 5.

7 SECONDARY EDUCATION *2 credits* First semester

A course presenting the problems of the secondary school. A brief history of the American high school and its relation to the elementary school, to the college, and to the community; its curriculum; adolescence; survey of Idaho high schools.

8 SCHOOL ADMINISTRATION *2 credits* Second semester

Open to Juniors and Seniors. Treats of the problems of school administration and supervision; school systems, finances, supplies, teaching staff; discipline, reports, relations to community.

9-10 EXPERIMENTAL PSYCHOLOGY *1 credit* Each semester

For Juniors and Seniors only. A laboratory course in methods of introspection intended to give the student first-hand knowledge of some of the facts of mental life. Topics:

visual and auditory tests; learning by trial and error method; experiments in attention, apperception, memory, etc.

11-12 OBSERVATION AND TEACHING
2 to 4 credits Either semester

A course, under direction, in systematic observation of class-room work in high schools and grades; weekly conferences and reports on observations; class teaching under joint supervision of Principal and Department of Education.

Also the following courses offered by the respective departments, for description of which see under the respective departments:

English 11 ENGLISH GRAMMAR AND COMPOSITION FOR TEACHERS
2 credits First semester
Professor BRASHEAR

English 22 ENGLISH LITERATURE FOR TEACHERS
3 credits Second semester
Professor MOORE

History 16 THE TEACHING OF HISTORY
2 credits Second semester
Professor HULME

Latin 11-12 TEACHERS' COURSE IN LATIN
2 credits Each semester
Professor AXTELL

German 23-24 TEACHERS' COURSE IN GERMAN
3 credits Each semester
Mrs. ISAACSON

Zoology 5 THE TEACHING OF ZOOLOGY
2 credits First semester
Professor WODSEDALEK

Physics 4 THE TEACHING OF PHYSICS
3 credits Second semester
Professor ANGELL

Chemistry 20 THE TEACHING OF CHEMISTRY
2 credits Second semester
Mr. HOLADAY

THE TEACHING OF AGRICULTURE—See the Dean of the College of Agriculture.

SPECIALIST'S STATE CERTIFICATES

To meet a growing demand for college-trained teachers of special subjects the following courses will be offered. They meet the requirements of the Idaho School Law and lead to a Specialist's State Teacher's Certificate in any of the following subjects: Music, Drawing, Manual Training, Home Economics, Physical Education, and Agriculture. This certificate is valid for eight years.

Specialist Teacher's Course

First Year	Credits	Second Year	Credits
Specialty	8	Specialty	8
Education	5	Education	5
English	8	English	8
*Subjects allied to Specialty.	8	Subjects allied to Specialty.	8
Elective	4	Elective	4

*1 AGRICULTURE: Bacteriology, Soil Chemistry, Shopwork, or Farm Machines.

2 HOME ECONOMICS: Chemistry, Bacteriology, Zoology.

3 MANUAL TRAINING: Drafting, Machine Design, Elements of Mechanism.

4 PHYSICAL EDUCATION: Zoology, Dietetics, Communicable Diseases.

5 MUSIC: French, German, Italian.

MATHEMATICS

Professor MORLEY, Assistant Professor PIERCE

1 COLLEGE ALGEBRA *3 credits* First semester

Quadratic equations, arithmetical, harmonical, and geometrical progressions; the binomial theorem; logarithms and exponential equations; properties of series and the development of simple functions into series; permutations and combinations; introduction to the theory of equations.

2 TRIGONOMETRY *3 credits* Second semester

This course includes the elements of plane and spherical triginometry. The student is expected to become familiar with the various trigonometrical formulae, and proficient in the solution of problems involving plane triangles.

101-102 ENGINEERING MATHEMATICS
5 credits Each semester

Elements of plane and spherical trigonometry; the essentials of college algebra; the locus and its equation; the straight line; the conic sections; tangents and normals; higher plans curves; differentiation of algebraic functions; graphs.

103-104 ENGINEERING MATHEMATICS
5 credits Each semester

Differentiation of transcendental functions; expansion of functions into series; indeterminate forms; integration considered as the inverse of differentiation; definite integral the limit of a sum; reduction formulae; double and multiple integration; application to geometry and mechanics; elementary differential equations.

3 ANALYTICAL GEOMETRY *4 credits* First semester

Rectangular and polar coordinates; transformation of co-ordinates; straight line, circle, parabola, ellipse and hyperbola; the discussion of the general equation of the second degree in two variables; higher plane curves.

4 CALCULUS *4 credits* Second semester

Differentiation of algebraic and transcendental functions; expansion of functions into series; indeterminate forms; maxima and minima; integration; definite integrals; application to geometry and mechanics.

5 THEORY OF EQUATIONS *3 credits* First semester

The properties of rational integral functions and their graphical representation; method of approximating to the roots of equations; the roots of unity; the solution of the cubic and bi-quadratic; symmetric functions of the roots.

6 DIFFERENTIAL EQUATIONS *3 credits* Second semester

An elementary course devoted to the methods of solution of ordinary differential equations, and their application to physics and mechanics.

7 SOLID ANALYTICAL GEOMETRY *3 credits* First semester

Co-ordinates and direction cosines; straight line; plane; conicoids; transformation of co-ordinates; general equation of the second degree.

8 GENERAL ASTRONOMY *3 credits* Second semester

This is essentially a culture course for those desiring a general knowledge of descriptive astronomy. Very little mathematics is introduced, course 2 being the only prerequisite.

PHYSICS

Professor ANGELL, Mr. ———

1 GENERAL PHYSICS *4 credits* First semester

An elementary course, open to all students, presenting the fundamentals of mechanics, properties of matter, heat, and wave motion. Designed to present the fundamental principles of physics, while avoiding the difficulties presented by a mathematical treatment of the subject. Demonstration lectures, recitations, text-book, and laboratory work.

2 GENERAL PHYSICS *4 credits* Second semester

Continuation of course 1. Sound, electricity and magnetism, light, and radioactivity.

3 HEAT *3 credits* First semester

A more advanced course in heat. Conduction, convection, radiation, and the principles of thermodynamics, with a study of the methods of measuring high and low temperatures. Laboratory work will include the measurement of high temperatures by means of the thermo-couple.

4 THE TEACHING OF PHYSICS *3 credits* Second semester

A course intended for those who desire to teach physics in the high schools, consisting of lectures and discussions upon the choice of subject matter and the method of presentation best suited to elementary courses. The choice of text-books, reference books, suitable equipment, how to order apparatus, methods of laboratory procedure and other practical matters will be considered.

5 LIGHT *3 credits* First semester

Theoretical and experimental optics. Prerequisite: Physics 1 and 2 and a knowledge of the calculus.

6 CONDUCTION OF ELECTRICITY THROUGH GASES
2 credits Second semester

This course will be given with special reference to the modern theories of the constitution of matter. Prerequisite: Physics 1 and 2 and the calculus.

7 KINETIC THEORY OF GASES *2 credits* First semester

A mathematical treatment of the theory of the motion of the molecules.

8 HEAT CONDUCTION *2 credits* Second semester

A mathematical study of the conduction of heat, with application to many practical problems. Involving the use of differential equations.

9-10 RESEARCH *4 credits* Each semester

A course for advanced students desiring to pursue a special line of investigation under the supervision of the instructor.

11-12 MATHEMATICAL PHYSICS *2 credits* Each semester

The mechanics of rigid, fluid, and elastic bodies.

13-14 CELESTIAL MECHANICS *3 credits* Each semester

A study of the motion of the planets, central forces, and energy.

Prerequisite: Physics 107-108 or equivalent.

15-16 METEOROLOGY *3 credits* Each semester

In addition to a broad survey of meteorology, special attention will be given to meteorological conditions of this region and their bearing on local climatic conditions. Open to those who have completed General Physics.

21-22 GENERAL PHYSICS *3 or 4 credits* Each semester

A course similar to 1 and 2, designed especially for students in Home Economics, with application of the principles to household appliances.

101 ENGINEERING PHYSICS *4 credits* First semester

Mechanics, heat, and light with experimental lectures, recitations, and laboratory work. Lectures, recitations, and two

laboratory periods per week. A laboratory period consists of three consecutive hours. Must be preceded, or accompanied, by the calculus.

102 ENGINEERING PHYSICS *4 credits* Second semester

Continuation of course 101. Wave motion, sound, electricity and magnetism.

103 ELECTRICITY AND MAGNETISM *2 credits* First semester

A more advanced course with lectures and text-book work. Including a study of the standards of current, electromotive force, and resistance; induction, capacity, and the alternating current.

105-106 ANALYTIC MECHANICS *3 credits* Each semester

Statics, friction, kinematics, and kinetics. Prerequisite: courses 101-102 or 1-2 and the calculus.

107 ELECTRICAL MEASUREMENTS *2 credits* First semester

A laboratory course in electrical and electromagnetic measurements; including the standardization and calibration of electrical measuring instruments, measurement of capacity, and inductance.

109 ELEMENTARY MECHANICS *2 credits* First semester

An elementary treatment of the fundamental principles of mechanics. Instruction will be given concerning the theory and use of the slide-rule.

CHEMISTRY

Professor VON ENDE, Assistant Professor KOSTALEK, Mr. HOLADAY

(For outline of course in Chemical Engineering see under College of Engineering.)

(For courses in Agricultural Chemistry see under College of Agriculture.)

A laboratory period consists of three consecutive hours.

1 GENERAL CHEMISTRY *4 credits* First semester

Experimental lectures, recitations, and laboratory work. The laboratory work consists of a selection of representative experiments, including quantitative from Alex. Smith and

Hale's *Laboratory Outline*; followed by a selection of preparations from raw materials, using Blanchard's *Synthetic Inorganic Chemistry*. Text-book, Alex. Smith's *General Chemistry for Colleges*.*

Two lectures, one quiz, and two laboratory periods per week. Laboratory Sections: I, II, III. Quiz Sections: A, B, and C.

Professor VON ENDE, Assistant Professor KOSTALEK, Mr. HOLADAY

2 GENERAL CHEMISTRY *4 credits* Second semester

Continuation of course 1. The laboratory work consists of the completion of preparations, followed by an *introduction* to qualitative analysis, using W. A. Noyes' *Elements of Qualitative Analysis*. Sections as in Chemistry I.

Professor VON ENDE, Assistant Professor KOSTALEK, Mr. HOLADAY

3 QUALITATIVE ANALYSIS *3 or 4 credits* First semester

Lectures, laboratory, and recitations.

Text-books: W. A. Noyes' *Elements of Qualitative Analysis*, Prescott and Johnson's *Qualitative Chemical Analysis*, A. A. Noyes' *Qualitative Chemical Analysis*, and Stieglitz's *Theoretical Qualitative Analysis*.

Prerequisites: courses 1 and 2. One class and two or three laboratory periods per week.

Assistant Professor KOSTALEK

4 QUANTITATIVE ANALYSIS *3 or 4 credits* Second semester

Introduction to the fundamentals, theory and practice, of gravimetric and volumetric analysis; Talbot's *Quantitative Chemical Analysis*, and Stieglitz's *Theoretical Qualitative Analysis*.

Prerequisites: courses 1, 2, and 3. Periods per week the same as 3. Assistant Professor KOSTALEK

5 ORGANIC CHEMISTRY *5 credits* First semester

Three lectures per week on the general principles and theories of organic chemistry, covering the entire aliphatic series. The lectures are accompanied by a two-period course

*Chemical Engineers are advised to get in place of this the larger work by the same author, entitled "General Inorganic Chemistry."

in organic laboratory practice which includes the familiar operations involved in organic work, the preparation of 12-15 alphatic compounds, and oral recitations on the chemistry of the same.

Prerequisites :courses 1, 2, 3, and 4.

Assistant Professor KOSTALEK

5a ORGANIC CHEMISTRY *4 credits* First semester

Lectures, recitations, and laboratory work. A condensation of courses 5 and 6, intended for students in Home Economics. Text-books: Moore's *Outlines of Organic Chemistry,* and Lauder W. Jcnes's *Laboratory Outline of Organic Chemistry.*

Prerequisites: courses 1 and 2. Two lectures, one quiz, and two laboratory periods per week. Mr. HOLADAY

6 ORGANIC CHEMISTRY *3 credits* Second semester

Continuation of course 5. Two lectures per week on the aromatic compounds, with one period of laboratory work, including the preparation of 6-8 aromatic compounds, and a systematic study of the characteristic reactions involved in organic qualitative analysis, with supplementary work on the identification of unknown compounds and mixtures.

Assistant Professor KOSTALEK

7 ADVANCED QUANTITATIVE ANALYSIS

3 or 4 credits First semester

Continuation of course 4. Laboratory work designed for students in Mining Engineering, Chemical Engineering, and such students as may desire to continue quantitative analysis beyond course 4. Three or four laboratory periods per week.

Prerequisites: courses 1, 2, 3, and 4. Professor VON ENDE

8 SPECIAL QUANTITATIVE ANALYSIS

2 or 4 credits Second semester

Laboratory work two or four periods per week.

Prerequisites: courses 1, 2, 3, and 4. Professor VON ENDE

9 HISTORY OF CHEMICAL THEORIES

1 credit First semester

Lectures on the development of chemical theory.

Prerequisites: courses 1 and 2. Professor VON ENDE

10 ELEMENTS OF QUANTITATIVE ANALYSIS
2 credits Second semester

Introductory laboratory course with occasional lectures, designed for students in Food and Physiological Chemistry.

Prerequisites: courses 1, 2, and 5 or 5a. Two laboratory periods per week. Mr. HOLADAY

11-12 INDUSTRIAL CHEMISTRY *3 credits* Each semester

Lectures and laboratory work on the more important technical operations and analyses. Prerequisites: courses 1, 2, 3, 4, 5, and 6. Two lectures and one laboratory period per week.

Assistant Professor KOSTALEK

13-14 THEORETICAL AND PHYSICAL CHEMISTRY
3 credits Each semester

Lectures treating states of aggregation, molecular and atomic hypotheses, solutions, chemical statics and kinetics, electro-chemistry, and thermo-chemistry.

Laboratory work includes determinations of molecular weight, electrolytic conductivity, electrolytic potential, transference, rate of reaction, chemical action of the electric current, and calorimetry. Prerequisites: courses 1, 2, 3, and 4; at least Physics 1 and 2; and Math. 103 and 104. Two lectures and one laboratory period per week. Professor VON ENDE

15-16 THESIS *2 or 4 credits* Each semester

17 CHEMISTRY OF FOODS *4 credits* First semester

Lectures and laboratory work dealing with the composition, properties, and analysis of foods; also food preservatives, adulterants, and their detection.

Prerequisites: courses 1, 2, 5 or 5a, and 10. Two class and two laboratory periods per week. Mr. HOLADAY

18 PHYSIOLOGICAL CHEMISTRY *3 credits* Second semester

Two lectures per week, covering briefly the entire field of Physiological Chemistry. Laboratory one period per week. In the laboratory the following subjects are taken up: salivary digestion, gastric digestion, pancreatic digestion, and also a qualitative study of some of the tissues and body fluids. Text-book:

Hawk's *Practical Physiological Chemistry.* Prerequisites: courses 1, 2, and 5 or 5a.

Assistant Professor KOSTALEK

20 THE TEACHING OF CHEMISTRY

2 credits Second semester

A course designed for those who expect to teach Chemistry in secondary schools. By means of lectures, reports, and discussions the following are considered: aims, method, principles of selection and emphasis, sources of material, laboratory equipment, and instruction, modern text-books and laboratory manuals. Prerequisites: courses 1, 2, 3, 4, 5, 6, and Ed. 3, or 1, 2, 5a, 10, 17, 18, and Ed. 3.

Mr. HOLADAY

21 APPLIED CHEMISTRY *2 credits* First semester

A course of lectures and laboratory work for students in Home Economics. The course deals with the following subjects: metals and alloys, glass and ceramics, fuels, air, water, soaps and cleaning agents. Prerequisites: courses 1, 2, 5 or 5a, and 10 or 4. One lecture and one laboratory period per week.

Mr. HOLADAY

CHEMISTRY JOURNAL CLUB An informal organization of students and instructors interested in Chemistry. The object is to discuss current chemical literature and matters of general chemical interest. Junior and Senior chemical engineers are expected to take an active part; all others are welcome to do so.

DEPOSITS Deposits for laboratory courses are required as follows: Two-credit courses, $3.00; three-, four-, and five-credit courses, $5.00.

EQUIPMENT The department occupies nine rooms on the second and third floors of the Engineering Building. A large room in the basement is equipped for Industrial Chemistry, and one of the small rooms on the second floor for Physical Chemistry. The large laboratory on the third floor accommodates about one hundred and ten students in three sections, and the smaller quantitative laboratories on the second floor accommodate about eighty-seven students in three sections.

The lecture-room and preparation-room are on the third floor, adjoining the large laboratory. All these rooms are equipped with the necessary water, gas, reagents, and apparatus.

The balance-room adjoining the quantitative laboratory is fitted with analytical balances of the following makes: Sartorius, Becker, long and short arm; Bunge, and Spoerhase.

The library of the University receives the following periodicals: *Analyst, Journal of the American Chemical Society, Chemical Engineer, Zeitschrift für Untersuchung der Nahrungs-und Genussmittel, Zeitschrift für angewandte Chemie, Chemiker Zeitung, Journal of Agricultural Science, Berichte der deutschen Chemischen Gesellschaft, Transactions of the American Institute of Mining Engineers, Journal of Biological Chemistry, Chemical Abstracts, Journal of Industrial and Engineering Chemistry, Chemical News, Chemical and Metallurgical Engineering, Journal of the Chemical and Metallurgical Societies of South Africa, Metallurgie (Metall und Erz and Ferrum) Zeitschrift für Metallographie.* It also has complete files of *Transactions of the Institute of Chemical Engineers, Chemical Society Annual Reports, Mineral Industry, Proceedings of the Institution of Mining and Metallurgy (London), Transactions of the American Electro-Chemical Society, Staedel's Jahresbericht* [1873-81], and the last eleven journals, including the *Berichte,* named in the above list. The files of the other journals are more or less extended. In addition there are limited sets of the *American Chemical Journal,* volumes 35 to 50, and *Chemisches Central-Blatt,* 1897 to 1907. There are also available for reference limited sets of the *Journal of the Society of Chemical Industry, Zeitschrift für anorganische Chemie,* and *Zeitschrift für physikalische Chemie,* and a complete set of *Jahrbuch für Elektrochemie.*

The laboratories and chemical library are open Saturday mornings.

GEOLOGY AND MINERALOGY

Professor STEWART

1 GENERAL GEOLOGY *2 or 3 credits* First semester

Given for students in the College of Letters and Sciences who desire a general knowledge of the principles of geology, and for those who plan to teach natural sciences in the elementary or high schools. Emphasis is placed upon the phases of the

subject bearing on the scenery and natural resources of the Northwest.

Two lectures a week, and frequent, short, written recitations dealing with rock weathering and the formation of soil; the work of wind, water, and ice; underground-water; metamorphism; earthquakes; volcanoes; mountain making and continental movements; and the rock structures and topographic forms resulting from these processes. Textbook: Chamberlain and Salisbury's *College Geology.*

One laboratory period per week, devoted to the interpretation of geologic and topographic maps; indentification of rock types and rock structures; and the study of models and photographs.

Lectures may be elected without the laboratory work.

2 HISTORICAL GEOLOGY *2 or 3 credits* Second semester

The development of the earth.

A continuation of Geol. 1. Two lectures and one laboratory period a week. Prerequisite: Geol. 1 or 5.

3 CRYSTALLOGRAPHY AND BLOWPIPE ANALYSIS *2 credits* First semester

Lectures on crystallography, with practice in identifying the common crystal forms on models and natural crystals. Laboratory work in blowpiping, including qualitative analysis of unknown substances. Prerequisites: Chem. 1-2. A laboratory fee of $1.00 is required. Text-book: Moses and Parsons' *Mineralogy.*

4 DETERMINATIVE MINERALOGY *2 credits* Second semester

Lectures and laboratory practice in mineral identification. Prerequisites: Geol. 3.

5 PRACTICAL GEOLOGY *3 credits* First semester

Lectures, recitations, and occasional laboratory work in structural, dynamic, and historical geology. Emphasis is placed upon the details of importance to engineering and agricultural students. Text-book: Scott's *Introduction to Geology.*

Prerequisites: Chem. 1-2, Phys. 101-102.

7 PALEONTOLOGY *2 credits* First semester

Lectures and laboratory work dealing with invertebrate index

fossils. Prerequisites: Geol. 2 or 5. A knowledge of general biology is also desirable.

9 ECONOMIC GEOLOGY *2 credits* First semester

Study of the non-metallic mineral products with reference to their origin and mode of occurence. Text-book: Ries' Economic Geology. Prerequisites: Geol. 3, 4, 5.

10 ECONOMIC GEOLOGY *3 credits* Second semester

Study of the metallic mineral products with reference to their origin and mode of occurrence. Text-book: Ries' *Economic Geology*. Collateral reading: *Economic Geology*; *Transactions of the A. I. M. E.*; Lindgren's *Mineral Deposits*; and *Types of Ore-Deposits*. Prerequisites: Geol. 3, 4, 5.

11 PETROLOGY *2 credits* First semester

Lectures on the origin and alteration of rocks with special reference to the meaning of rock structures as revealed by the microscope.

Laboratory work in megascopic and microscopic determination and description of rocks. Emphasis is laid upon the interpretation of rocks rather than upon refinements of classification. Text-book: Kemp's *Handbook of Rocks* and laboratory outlines privately printed. Prerequisites: Geol. 3, 4, and 5 or 1.

12 PETROLOGY *2 credits* Second semester

A continuation of Geol. 11.

14 GEOLOGIC INVESTIGATIONS *2 credits* Second semester

Largely laboratory work, including practice in the use of literature, interpretation of topographic and geologic maps, cross-section making, and the solution of fault problems. Supplementary lectures are given to illustrate the application of geology to mining in specific instances. Prerequisites: Geol. 3, 4, and 5. Geol. 10 must precede or accompany this course.

15-16 ADVANCED ECONOMIC GEOLOGY *3 credits* Each semester

A careful study of the theories of ore-deposition, followed by detailed consideration of some of the important mining districts of the United States and Canada. Lectures, conferences,

and extensive collateral reading with study of ores in reflected light. Prerequisites: Geol. 9, 10, and 11.

18 GEOLOGY OF IDAHO *1 credit* Second semester

A description of the geology and mineral resources of Idaho. Prerequisites: Geol. 9, 10.

19-20 THESIS

Required of all candidates for the degree of M.S. in Mining Engineering who take the geological option. All students intending to register for this course should confer with the instructor the preceding June in regard to field work.

FIELD WORK In connection with the elementary courses occasional trips are taken to point of geologic interest in the vicinity of Moscow. During the spring recess a week is spent in studying and mapping the geology of some well-known mining camp.

EQUIPMENT The laboratory equipment includes apparatus for blowpipe work, and for making thin sections of rocks. There are seven high-grade microscopes with accessories and vertical illuminators. The collections are arranged so that they are easily accessible to all students, and include the following:

MINERALOGICAL COLLECTIONS. A set of celluloid crystal models for lecture purposes, wooden crystal models, natural crystals for identification; 800 museum specimens illustrating all of the important minerals; about 400 hand specimens kept in drawers where they may be handled by students at any time; over 800 mineral specimens used for practice in sight identification; over 1,000 small, massive specimens suitable for blowpipe tests.

PETROGRAPHIC COLLECTIONS. Over 400 labeled rock specimens illustrating rock structure and classification, including the U. S. Geological Survey Educational Series; collections illustrating the rocks of Idaho and special districts, aggregating 200 specimens; about 500 thin sections for misroscopic study; over 850 unlabeled specimens for practice in sight identification.

ECONOMIC GEOLOGY COLLECTION. Over 1,000 specimens illustrating the structural features of ore-deposits, and the ores and associated rocks of important mining districts.

PALEONTOLOGY. A representative collection of fossils and casts, including the Krantz and Ward collections.

The department is also equipped with a projecting lantern and several hundred slides; models illustrating faulting, erosion, etc.; and several hundred topographical and geological maps for class work.

The library includes all of the U. S. Geological Survey publications, the publications of the State Surveys relating to Economic geology, all of the recent text and reference books, and many of the important older volumes. All of the American geologic periodicals and the *Geologisches Zentralblatt* are received. The geological library is deposited with that of the mining department in the Metallurgical Building, where it is easily accessible. It is adequate for ordinary work in general geology, and especially well equipped for research in economic geology.

ZOOLOGY AND ENTOMOLOGY

Professor WODSEDALEK, Mr. GRIFFITH

1-2 GENERAL ZOOLOGY *4 credits* Each semester

Lectures, discussions, and laboratory work dealing in an elementary way with the general problems of animal structures, physiology, activities and adaptations, sex, development, heredity, evolution, and life-histories of representative and economic forms. Two lectures and three laboratory periods per week.

3 COMPARATIVE ANATOMY OF VERTEBRATES *5 credits* First semester

Dissection and study of types of vertebrates together with lectures and discussions on general vertebrate anatomy with special reference to the evolution of the various organ systems. Two lectures and four laboratory periods per week.

4 INVERTEBRATE ZOOLOGY *5 credits* Second semester

A study of the structure, development, classification, relationships, instincts, and life-histories of invertebrate animals. Special attention is given to the more important parasites and economic forms. Two lectures and four laboratory periods per week.

5 THE TEACHING OF ZOOLOGY *2 credits* First semester

A consideration of the aims, methods, and subject matter of Zoology in the schools. Discussion of laboratory and equipment technique, and specific hints on other points. Laboratory work dealing with reagents; the preparation of slides, charts, and museum specimens; class preparations; collecting; making cultures, equaria, etc. One lecture and two laboratory periods per week.

6 PHYSIOLOGY *3 credits* Second semester

Lectures, demonstrations, and laboratory work giving a general knowledge of the more important physiological problems, and of the structure and functions of the human body. Two lectures and one laboratory period per week.

7 ORGANIC EVOLUTION *3 credits* First semester

A critical discussion of the facts and theories of organic evolution, and the general development of evolutionary speculation since Darwin. Three lectures per week. (A considerable amount of reading is also required.)

8 HEREDITY AND EUGENICS *2 credits* Second semester

A scientific study of the main facts and theories of heredity and its mechanism, with emphasis on the phases pertaining to human welfare. Two lectures per week. Prerequisite: Zoology 1.

9 HUMANICS *5 credits* First semester

A study of the development of the human being from the early germ cells up to maturity. This includes the growth and development of both the male and female reproductive cells; the detailed structure of these cells from the standpoint of heredity and sex; fertilization of the ova, early cleavage stages, embryology showing the origin and development of the different systems and important organs; anatomy, health, sex-hygiene, and physical growth and development of childhood and youth; development of the various instincts; habit formation; order of the development of motor activities; intellectual development; mental economy in development; and problems of general human behavior. A critical consideration is given to such

subjects as prenatal influences, inheritance of acquired characters, determination of sex, the theory of recapitulation in development, evolution of man, etc., etc. Three lectures and two laboratory periods per week.

This course is particularly adapted to the needs of students expecting to teach, pre-medical students, Home Economics students, and those majoring in the biological sciences and physical training. Prerequisites: Zoology 1-2.

10 General Entomology *4 credits* Second semester

Morphology, anatomy, physiology, embryology, classification, and life-histories of insects and the more general problems of insect life. Special attention is devoted to the life-histories of the most economic species, and the relation of insects to agriculture, horticulture, and public health. Two lectures and three laboratory periods per week.

10a Forest Entomology *4 credits* Second semester

In the first part of the semester this is the same as the preceding, but the latter part is devoted to the study of the principal insects injurious to forest and shade trees. Students are required to collect with special reference to this branch of the subject. Two lectures and three laboratory periods per week.

11-12 Advanced Entomology *2 or 4 credits* Each semester

Advanced work for students who desire to continue some special line of work. The students may arrange for economic, histological, or taxonomic work. The surrounding region and the facilities of the department offer material and means for investigation of a wide range. Five laboratory and recitation periods per week. Half the amount may be taken for two credits.

13 Vertebrate Histology and Organology *5 credits* First semester

Histology, the study of the various tissues, is first taken up, and this is followed by the study of the minute structure of the chief mammalian organs. Some time will be devoted to the technic of preparing permanent slides of the various tissues and sections of the more important organs. Two lectures and

four laboratory periods per week. Prerequisites: Zoology 1-2, and 3.

14 CYTOLOGY *5 credits* Second semester

Particular attention is given to the physics and chemistry of the cell, the colloidal nature of protoplasm, the effect of electrolytes on the living substance, and the phenomena of metabolism, stimulation, and transformation of energy. In laboratory work especial emphasis is placed on the study of the structure of the cell, cell-division, maturation of the sex cells, fertilization, parthenogenesis, cleavage, and the relation of cytological phenomena to normal and abnormal growth, to differentiation, to sex, and to the theories of heredity and evolution. Considerable time is devoted to the methods of fixation, sectioning, and staining of tissues for detailed microscopical examination. Two lectures and four laboratory periods per week. Prerequisites: Zoology 1-2, 3, and 13.

16 EMBRYOLOGY *5 credits* Second semester

Lectures on general problems. The laboratory work deals with studies on maturation, fertilization, segmentation, and with serial sections and entire embryos, with reference to the origin of the various types of tissues and the development of the different organs. Attention is given to the technique of fixing, sectioning, and staining embryological material. Two lectures and four laboratory periods per week. Prerequisites: Zoology 1-2, and 3.

17-18 RESEARCH

Problems will be assigned, and students prepared for independent investigation in any phase of zoology will be given all the opportunities available for carrying on their work.

PRE-MEDICAL WORK

Premedical students are advised to arrange for the following courses: 1-2, 3, 6, 7, 8, 9, 10, 13, 14, and 16, all of which are required in the leading medical schools and may be accepted for advanced credit. Several of the other courses, or research work, may be elected to an advantage.

It is the opinion of the leading medical schools that candidates for admission to this profession should possess the general education implied by a college degree in Arts or Science. Furthermore,

the great advances of recent years in all the natural sciences have led to correspondingly great advances in the practice of medicine and surgery. As a result the four-year course in medicine has become so seriously overcrowded, that, if the teaching of medicine and surgery is to keep pace with the advance in scientific knowledge, the curriculum must be extended. Many of the best medical schools of this country now require for unconditional matriculation a degree from a college of liberal arts or science. Others require at least three years of college work, the major part of which lies in the science departments. The University of Idaho is especially well prepared to accommodate pre-medical students, not only in this department, but in Chemistry, Physics, Bacteriology, and the language departments.

Students who expect to enter the medical profession should confer with the chairman of this department.

EQUIPMENT The department occupies three rooms in the fireproof Administration Building. Among the more important items of equipment are thirty compound microscopes, thirty dissecting microscopes, two Zeiss binocular dissecting miscroscopes with Porro prisms, a Bausch and Lomb rotary microtome, and a universal balopticon with large miscroscope. The collections of the department are extensive in fishes, marine invertebrates, skeletons, and especially in insects; sufficient material in other groups is at hand to illustrate the more essential features of each. A large collection of microscope slides, prepared by the late C. B. Simpson of the class of 1898, has been presented to the department by his parents; it is especially valuable in material illustrating the neurology and general history of vertebrates. In addition to this a series of slides in histology, cytology, and embryology, numbering about 3,000, has been made in recent years. Several of the leading periodicals in zoology, entomology, and medicine are taken.

BOTANY

Professor BRANNON, Professor TEMPLE, Assistant Professor GAIL, Mr. ———

1-2 GENERAL BOTANY *3 credits* Each semester

This course begins with the study of the lowest forms of plants and progresses from the simpler to the more complex,

covering the algae, fungi, and liverworts the first semester, and the mosses, ferns, and seed plants the second semester. In addition to the study of the morphology, histology, and reproduction of representative species, the underlying principles of classification, nutrition, growth, development, and disease are studied. Two lectures and two laboratory periods. Professor GAIL

3-4 PLANT PHYSIOLOGY *2⅓ to 5 credits* Each semester

This course includes the study of the various life processes of plants, such as the absorption and disposition of water, nutrient salts, and gases; the manufacture of organic food materials and the digestion and assimilation of these; respiration; growth; heredity and variability; and the responses of plants to various kinds of external stimuli, as light, heat, gravity, electricity and fertility of soil. The student performs experiments in the laboratory, the greenhouse, and the field to demonstrate these life processes. Whenever possible the experiments are made to apply to practical agricultural problems. One lecture and laboratory according to credit desired.

Professor TEMPLE

5-6 CLASSIFICATION OF SEED PLANTS *3 credits* Each semester

The course begins with the lower seed plants and progresses toward the higher ones, giving special attention to the grasses the first semester and to the Composites the second semester. In the lectures the principles of classification and the relationships of the seed plants are discussed. In the laboratory type species of various families are studied in detail. In the field special emphasis is placed on the methods of arriving at the correct names of plants. The student is expected to become familiar with a large number of plants and to be able to classify them accurately. One lecture and six hours in laboratory and field. Professor GAIL

7 PLANT ANATOMY *3 credits* First semester

Training is given in this course in the technic for making permanent stained mounts of plant sections for microscopic study. A series of these mounts is made showing the structure of roots, stems, leaves and reproductive organs, including the development of the embryo of at least one seed plant. Special

attention is given to the study of the origin, development and function of all the tissues in the higher plants. This is followed by a comparative study of conifers and hardwoods. One lecture and three laboratory periods. Professor GAIL

8 ECOLOGY *4 credits* Second semester

The first half of the semester is devoted to the study of the principles of plant ecology. Plant sections are used to study the adjustment of the structure of the plant to its habitat. The second half of the semester is given to field work in which the principles of ecology are applied to the vegetation about Moscow and Moscow Mountain. Two lectures and six hours in laboratory and field. Professor GAIL

9-10 PLANT PATHOLOGY *2 2-3 or 3 credits* Each semester

This course gives a general survey of the field of plant pathology, laying special emphasis on the cause, identification, distribution and control of the diseases of fruits and vegetables. Occasional field trips are made into the orchards and truck gardens in the vicinity. Two lectures or recitations and one or two laboratory periods according to credit desired.

Professor TEMPLE

11-12 ADVANCED PLANT PATHOLOGY

2 to 5 credits Each semester

The following are some of the subjects included in this course: Pathological technic including the principles of sterilization, the making of culture media, the growing of parasitic fungi on the media, the isolation of pure cultures, and the inoculation of plants in the greenhouse; practice in fixing, imbedding, and staining parasitic fungi; the study of important life histories of fungi; and the investigation of a pathological problem by each student. Lectures, conferences, and laboratory to be arranged. Professor TEMPLE

21 FLESHY FUNGI *2 credits* First semester

This is mainly a laboratory and field course devoted to the classification of the higher fungi together with the study of certain life histories. Opportunity is given the student to learn the identification of edible and non-edible species. Two laboratory periods and an occasional lecture. Professor TEMPLE

22 PARASITIC FUNGI *3 credits* Second semester

The classification of fungi that cause disease in plants.

Professor TEMPLE

27-28 RESEARCH IN ECOLOGY *2 to 5 credits* Each semester

Professor GAIL

29-30 RESEARCH IN PLANT PATHOLOGY *2 to 5 credits* Each semester

Professor TEMPLE

31-32 RESEARCH IN PLANT PATHOLOGY *2 to 5 credits* Each semester

Professor TEMPLE

35-36 BOTANICAL JOURNAL CLUB *½ credit* Each semester

Each student is expected to give a review of important articles appearing in the botanical journals. Articles will also be reviewed from time to time by the members of the botanical staff and other instructors. These reviews are intended to keep the students and the staff abreast of the times botanically. One hour each week.

Note.—Courses 1 and 2 are prerequisites for all other courses.

BACTERIOLOGY

Professor NICHOLSON, Assistant Professor WRIGHT, Mr. PALMER

(For other courses in Bacteriology see College of Agriculture)

1 GENERAL BACTERIOLOGY *5 credits* First semester

Lectures and laboratory work. A general survey of the entire field of bacteriology from the biological side. This course is designed for students in the general science courses, and is prerequisite to the advanced courses in bacteriology. Students majoring in bacteriology must take this course. Open to all students prepared in chemistry and biology. Two lectures and three laboratory periods per week.

Professor NICHOLSON, Professor WRIGHT, Mr. FULMER

3-4 BACTERIOLOGY FOR HOME ECONOMICS STUDENTS *2 credits* Each semester

This course consists of one lecture and one laboratory period per week thruout the year. This course is required of the

Home Economics students, and considers the bacteria in their relationship to the home. Proper preparation in chemistry and biology are the only prerequisites.

Professor NICHOLSON, Professor WRIGHT, Mr. FULMER

5-6 RESEARCH WORK IN BACTERIOLOGY
Credits on consultation Each semester

Opportunities are given to advanced students for research work along special bacteriological lines. Subjects are assigned upon consultation with the head of the department. Only students with proper training in bacteriology will be admitted to this course. Professor NICHOLSON

7-8 THESIS *2 credits* Each semester
Professor NICHOLSON

EQUIPMENT The Department of Bacteriology is equipped with three large laboratories, a class-room, and an office on the third floor of Morrill Hall. The department has an adequate supply of glassware and chemicals for all work. There are three large autoclavs, three dry air sterilizers, six Arnold sterilizers, four large electrically heated incubators, ice chests, stills, Purdy Centrifuges, a rotary microtome, and twenty fully equipped compound microscopes for student use. The labratories are completely equipped with cold and hot water, gas and steam. There is an abundant supply of charts and illustrative material as well as a complete library of the latest books on bacteriological science, for class use. The department also receives a half dozen of the best hygienic and medical journals.

Besides giving instruction in bacteriology the department is the northern laboratory for the Idaho Board of Health, and the student can become familiar with the work carried on in that laboratory. This also furnishes an abundant amount of fresh material for class work along medical lines. Experiment Station work is going on continually in the department, and the student derives much benefit from this work.

DEPOSITS Deposits for laboratory courses are required as follows: $3.00 for one- and two-credit courses and $5.00 for three- and four-credit courses.

FORESTRY

Professor SHATTUCK, Assistant Professor COOK; Major F. A. FENN, Lecturer on Forest Management and Lumbering, C. A. FISHER, Lecturer on Forest Improvement, M. G. DONK, Lecturer on By-products from Waste Wood

Owing to the demands made on the Department of Forestry for men trained in special lines of forestry work it has been necessary to differentiate the subjects taught into two four-year courses. The first will be known as the General Forestry Course and is designed to prepare students for work in the Forest Service as rangers or forest assistants, for work in grazing reconnaissance, or to assist lumber companies in general forestry or by-products work. The second will be known as the Lumberman's Forestry Course and is designed to prepare young men to be of service with lumber manufacturers and loggers, and large timber owners who desire to secure foresters who have had more than the usual amount of training in mechanics and allied subjects. Both courses lead to the degree of Bachelor of Science in Forestry.

1-2 GENERAL FORESTRY *3 credits* Each semester

A general course in Forestry dealing with the subject both in Europe and the United States. An introductory study of the subjects of the entire Forestry course is made as a preparatory training for the advanced work taken up later. Throughout the entire course, as in all others where field work may be introduced, special emphasis is placed on field practice. Two lectures and one laboratory or field period per week.

This course may be taken by students in other departments as a two-credit lecture course without laboratory.

Professors SHATTUCK and COOK

3 DENDROLOGY *3 credits* First semester

The object of this course is to enable the student to classify and identify trees and shrubs in the field and in the laboratory. A study is made of the forest regions and the characteristic uses, distribution, life history, requirements and importance of the principal lumber species in the United States. Various manuals and tree books are available for laboratory, field, and class work. An herbarium of the leaves, flowers, and fruits of trees and shrubs is required of each student. This course is

given largely in the field. The student has access to an arboretum of over one hundred species.

One lecture and two laboratory or field periods per week.

Professor Cook

4 Silviculture *3 credits* Second semester

Lectures and field work cover the following subjects: Methods of forest description; influence of site factors upon the forest cover; influences exerted by the forest cover upon climate, stream-flow, and soil; seed collecting, nursery and planting practice; handling of woodlands as to cutting and improvement, and natural and artificial reproduction. A greenhouse, nursery containing several million seedlings and a plantation containing over 150 species will supplement the field work in the natural forests in this vicinity.

Two lecturers and one laboratory or field period per week.

Professor Cook

5-6 Forest Mensuration *3 credits* Each semester

The course covers: The various methods of forest measurements such as the measurements of forest products and single trees; timber cruising; growth studies; preparation of yield, volume, and stand tables; form factors; complete stem analysis; method of selecting sample trees and training in making the most useful graphs and charts. Much of this work must be done in the field and complete sets of forest and surveying instruments are available to the student. A large collection of complete sectional discs of western trees are provided for the work in stem-analysis.

Two lectures and one laboratory or field period per week.

Professor Cook

7-8 Forest Management *2 credits* First semester

A course dealing with the most approved methods of forest administration, forest regulation, forest working plans, forest finance, and forest policies of the various states and the federal government. Special emphasis is placed on forest mathematics with relation to timber taxation and to timber investments and the practice of forestry as business propositions. Two lectures per week.

Professor Cook

9 FOREST ENGINEERING *3 credits* First semester

This course is a more extended application of the principles of surveying to forest land. The field work includes; practice in the forest in using the various instruments which a forest engineer must use such as the traverse board, telescopic alidade, aneroid barometer, Abney hand level, clinometers, transit, compass, etc.; making contour maps by the various methods; locating corners; retracing old lines; meandering; laying out trails, roads, and fire lines, and simple bridge, road and trail construction. The lectures cover road and trail construction and maintenance, use of explosives, rough bridge construction, logging methods and machinery and transportation of logs. One lecture and two field periods per week. Professor COOK

10 GRAZING *2 credits* Second semester

This course is designed to assist those students who contemplate entering the department of grazing in the Forest Service. The course includes a history of the grazing industry in this country. A study of the principal ranges with their chief grasses, herbs, shrubs, etc., and the poisonous plants of the West. Range problems, such as determining the carrying capacity of the ranges, proper rotation, a study of brands, marks, etc. are taken up; also methods of handling various kinds of stock on the range. Two lectures per week.

Professor SHATTUCK

11 LUMBERING *4 credits* First semester

Lumbering is by far the greatest branch of forest utilization. Much emphasis is placed on this work. This course includes the history of lumbering in the United States; the study of labor conditions, cutting operations, and transportation methods, as driving, rafting, fluming, skidding by horse and steam power; study of saw-mills, and logging and mill-machinery; the grading of lumber; methods and machinery for manufacturing the rough and finished products; and the disposition of waste. Located as we are, close to some of the largest mills in the world, it is comparatively easy to give excellent practical field work in this course. The work in lumber grading will be in charge of an official grade inspector for the Western Pine Manufacturers' Association. Two lectures and four laboratory or field periods per week. Professors SHATTUCK and COOK

12 FOREST LAW *2 credits* Second semester

A course dealing with the elements of contracts, and laws relating to public lands and national forests. Special attention is given to the laws applying to grazing, timber cutting, mining, timber claims, leases, homesteads, etc. Two lectures per week.

Professor WILSON

13 FOREST PROTECTION *3 credits* First semester

This course deals with the methods of protecting the forest from its enemies, and includes a study of insects and fungi injurious to trees. Damage by natural elements; wind, heat, frost, and snow. Injury by animals; sheep, goats, cattle, deer, and rodents. Wasteful and injurious methods practiced by man, and the ravages of fire. The various methods employed by the Forest Service in combating these enemies are discussed, explained, and, where possible, practiced in the field work. Two lectures and two laboratory periods per week.

Professor SHATTUCK

14 FOREST PHYSIOGRAPHY *3 credits* Second semester

A course designed to give a working knowledge of the principal physiographic regions of the United States. Special attention is given to climate, soil, topography, drainage, and their effect on silvicultural and lumbering operations; and on forest administration. No forester can draw up a practical working plan for forests in a given region without the knowledge to be acquired in this course. A knowledge of elementary geology is required. Two lectures and one field period per week.

Professor SHATTUCK

15 TIMBER PHYSICS AND TECHNOLOGY *3 credits* First semester

A study of the physical and methanical properties of different species of woody plants. The relation of moisture to density, swelling, warping, shrinking, and strength, the effects of proper and improper seasoning on lumber, the importance of texture, grain, color, and rate of growth to the value of woods; the uses to which various woods are best suited; the effects of different wood preservatives and methods of application; the primary causes of decay and the effect of paints, oils, and various impregnating substances in preventing it. One lecture

and two laboratory periods per week. Professor SHATTUCK

16 FOREST HISTORY AND ECONOMICS
3 credits Second semester

A lecture course dealing with the history of forestry from early times to the present day. It is especially valuable in that the mistakes of the older countries in forest management are emphasized and practical lessons applicable to our own forests are derived from this study. Special attention is given to the history of forestry in the United States. The work in Economics deals with forestry as a national and state problem and shows its relation to the development of the economic welfare of the country as well as its relation to all natural resources. Three lectures per week. Professor COOK

17 FOREST UTILIZATION *3 credits* First semester

A detailed study is made of the uses and manufacture of forest products. This includes fuel wood, ties, poles, car material, mining timber, ship timber, wagon stock, cooperage, wood pavement, pulp, furniture, etc.; the wood manufacturing industries as sash and doors, box, wagon, car, furniture, factories, etc. A study of the technical qualities and uses of the various species of trees; the utilization of wood waste in boxes, lath, pulp, and distillation; the distillation of wood as regards methods, apparatus, and products, and a detailed study of distillation plants. Three lectures per week. Professor COOK

18 MILL MACHINERY *4 credits* Second semester

A course dealing with the machinery found in an up-to-date saw mill, its cost, weight, cost and methods of installation, principal manufacturers of standard machines with advantages claimed for various types. Training of men in the use of machinery, handling of saws and methods used in the filing room. A study of dry kilns, their structure, and operation. Mill plans and cost of building mills of different capacities. Three lectures and one laboratory period per week. Professor SHATTUCK

19-20 FOREST SEMINAR ½ *credit* Each semester

Once during each week the entire Forestry Department assembles for the discussion of trade journals and the review of important bulletins and work relating to Forestry. The pro-

grams for the meetings are arranged by the head of the department, and each student is required, at regular intervals to contribute papers or reviews. Professors SHATTUCK and COOK

22 THESIS *4 credits* Second semester

Each student before graduation must prepare as a thesis a carefully drawn working-plan of some assigned timber tract. In this he must give a clearly outlined plan of forest management acceptable to the head of the department. This plan must include a careful forest survey, with maps drawn after the plan of the United States Forest Service, showing contours, streams, roads, trails, fire lines, burns, cuttings, number of board feet per acre on various parts, minerals, grass and agricultural lands, together with practicable suggestions as to present and future methods of operation. Professor SHATTUCK

23 WOOD CHEMICS *3 credits* First semester

A course dealing with the general chemical composition of woods with special reference to the so-called resinous woods. Also a detailed study of the most approved methods for the distillation of wood by both direct heat and steam, as well as the solvent processes used in obtaining rosin and turpentine, also the methods of refining the various commercial products obtained from the wood. Open only to students who have completed their undergraduate work in forestry. Professor SHATTUCK

24 LOGGING MACHINERY *4 credits* Second semester

This course includes a study of all machinery used in the woods and in transporting logs to the mill. A thoro study is made of the various methods of logging, the different types of donkey engines, and the power used. A study of the various overhead systems and the advantages and disadvantages of each. The various logging engines and cars now in use, railway construction, bridge, flume, and splash-dam construction, care of logs in the woods and at the mill, location, construction, and management of railroads and camps, care of men, horses, and machinery, and methods of securing the greatest efficiency from each. Points to be observed in managing logging crews, and efficiency of different kinds of labor. Three lectures and one laboratory per week. Professor SHATTUCK

26 ADVANCED TIMBER PHYSICS

Credits *pro merito* Second semester

This course is a continuation of 15. It includes a study of the most approved methods of wood processing by means of heat, steam, and various impregnating media. The forestry laboratories are now sufficiently well equipped that the students may become familiar with the necessary machinery and methods of operating the same for successfully conducting this work. Most of the work of this course is expected to be along original lines. Open only to those students who are candidates for advanced degrees. Professor SHATTUCK

28 ADVANCED FOREST MANAGEMENT

Credits *pro merito* Second semester

An advanced course in practical forest management. A tract of virgin forest land will be assigned each student for which he will be expected to work out a plan of management. A detailed topographical survey, timber cruise, and growth studies will be required and a general and detailed plan of regulations and management made as to administration, protection, improvement, cutting, planing, logging, etc., based upon the most profitable rotation and methods. Professor COOK

FOREST CRAFT Throughout the entire course the students are taught the ways of woodsmen, such as taking natural trail observations, observing game signs, orientation at night or on cloudy or smoky days, packing, cooking, making and breaking camp, care of horses, camp equipment, care of health, and means of protection against wild animals, insects, and fire; also method of camping and sleeping in deep snow, first aid to injured, and simple remedies for colds and other ailments.

EQUIPMENT Our laboratories are equipped with ample apparatus for thorough work in such courses as require indoor study. A very full line of miscroscopes and miscroscopic and lantern slides is available for use in the study of plant tissues—mechanical and other structures peculiar to different woods, as well as for the study of pathology of woody stems and leaves and the life histories of insects injurious to trees. A collection of several hundred species of the most valuable woods, both native and foreign, is also available. A great variety of logging, lumbering, and foresters' tools and instruments is at the disposal of the students of the department.

Students in wood testing have access to a 200,000-lb. capacity Olsen universal testing machine in the department of Civil Engineering. This machine is completely equipped for tension and compression tests with beam extensions for transverse tests of full sized beams up to sixteen feet in length.

An arboretum and demonstration plot of about five acres has been set apart for work in silviculture where about one hundred and thirty species of forest and park trees are growing. A nursery and excellent greenhouses are also available for use of the students in silviculture. The University has secured six hundred and forty acres of excellent timber land near Moscow and the students will spend part of each school year at practical work in this forest. The library is supplied with the best works on forestry and related subjects, and our reading tables contain the leading periodicals and trade journals on lumbering and other phases of forestry.

DEPOSITS Deposits for laboratory and field courses are required as follows: Sophomores, $1.00; Juniors, $3.50; Seniors, $2.00.

MUSIC

Professor HOSTETTER, Professor STORER, Mr. CAREY, Mrs. HUGHES, Miss LUCAS

Pianoforte-Playing and the Theory of Music

Professor HOSTETTER, Miss LUCAS

Students entering Music 1a must have studied the pianoforte for at least three years, and must be able to play selections from memory and to read at sight third-grade music.

1a-2a PIANOFORTE-PLAYING *4 credits* Each semester

Studies by Czerny, *Opus 299,* Berens, Biehl, LeCouppey, Krause's *Trill Studies,* Turner's *Octave Studies,* Bach, *Two-Part Inventions.* Pieces by Mozart, Haydn, Schumann, Beethoven, etc.; modern selections.

Professor HOSTETTER, Miss LUCAS

1b-2b HARMONY *2 credits* Each semester

Thorough knowledge of intervals, scales, triads, chords. Harmonizing melodies and figured basses. Keyboard harmony. Modulation. Text-book: Chadwick's *Harmony.*

Professor HOSTETTER, Miss LUCAS

1c-2c NOTATION, EAR-TRAINING, SIGHT READING, AND DICTATION
1 credit Each semester
Miss LUCAS

3a-4a PIANOFORTE-PLAYING *4 credits* Each semester

Cramer: *Studies;* Czerny: *Opus 740;* Clementi: *Gradus;* Bach: *Three-Part Inventions*; Foote: *Preludes*; Turner: *Pedal Studies.* Pieces by Rubinstein, Tschaikowsky, Chopin, Grieg, etc. Professor HOSTETTER, Miss LUCAS

3b-4b HARMONY *2 credits* Each semester

Modulation continued, altered chords, non-harmonic tones, elementary analysis. Text-book: Chadwick's *Harmony.*
Professor HOSTETTER

5a-6a PIANOFORTE-PLAYING *4 credits* Each semester

Chopin: *Preludes*; Chopin: *Etudes*; Turner: *Etudes*; Moscheles: *Opus 70*; Kullak: *Octaves*; Bach: *Well Tempered Clavichord.* Pieces by Mendelssohn, Chopin, Schubert, Weber, Saint-Saens, etc. Professor HOSTETTER

5b-6b GENERAL THEORY *2 credits* Each semester

This course is a summary of the knowledge required by every teacher and professional musician, as the following list of topics may show: acoustics; study of rhythm and accent; history of notation; natural and artificial groupings; metronome; syncopation; trills; turns; mordents; long and short grace-notes; metre; hymn construction; figure treatment; guiding motives; phrasing; melodic constructions; song forms; sonata forms; symphony; rondo; concerto; overture; prelude; vocal forms; aria form; recitative; scena; suite; partita; dance forms; canon of all kinds; analysis of counterpoint; double counterpoint; triple counterpoint; fugue; fughetta. Orchestral Lectures. Text-books: Elson, Mathews, Prout.
Professor HOSTETTER

5c-6c HISTORY OF MUSIC *2 credits* Each semester

This course consists of thirty lectures dealing with the history of music from its beginning down to and including modern influences on the art. Those taking the course are required to do supplementary reading and to write up the lectures.

The course is illustrated by music of all periods.

Professor STORER

7a-7b PIANOFORTE-PLAYING *4 credits* Each semester

Etudes of Chopin, Saint-Saens, Liszt. *Well Tempered Clavichord* of Bach continued. Sonatas and selections by Beethoven, Liszt, Chopin, etc. Modern selections by MacDowell, Grieg, Brahms, Tschaikowsky. Professor HOSTETTER

7b-8b HARMONIC ANALYSIS, COUNTERPOINT, AND FUGUE *3 credits* Each semester

Analysis of works by Schumann, Chopin, Beethoven, D'Indy, Elgar; Wagner operas. Counterpoint: Richter, Jadassohn, Goetschius. Professor HOSTETTER

Special Department for Children

Miss LUCAS

The Dunning System is used in this course.

It includes sight reading, ear training, rhythm work, simple and advanced dictation, transposition, scale and chord building, table technic, musical biography and pianoforte-playing according to the principles laid down by Leschetizki of Vienna.

This system has been demonstrated by Carre Louise Dunning before the New York State Music Teachers' Association and the musical Pedagogical Society of Berlin, before which no American has formerly been asked to demonstrate.

Endorsements for the Dunning System have been made by Leschetizki, De Pachmann, Busoni, Fannie Bloomfield Zeisler, Carreno, Scharwenka, Gadski, and others. Gadski says in her endorsement that this system should revolutionize the study of music for beginners.

Vocal Instruction

Professor STORER

A thorough and systematic course in voice training is given by the Vocal Department, including the principles of breathing and breath control as applied to tone production, voice placing, execution, and interpretation. The method of development is adapted to each voice. The following is a general outline of the course:

Preparatory Course

Breathing and voice-placing exercises; sustained tones and scale work; vocalizes selected from Concone's *Fifty Lessons*; Abt's *Singing Tutor,* and Marzo's *Preparatory Course.*

Advanced Course

First Year—Voice-placing exercises; scales, sustained tones and exercises; Concone's *Twenty-five Lessons*; Vacai's *Studies,* Marchesi's *Studies,* Elementary songs from English, American, and Italian composers.

Second Year—Voice-placing exercises and scales continued. Marzo's *Art of Vocalization,* Concone's *Fifty Lessons,* Songs from Schubert, Schumann, Franz, Handel, selections from *Anthology of Italian Song,* and other standard foreign or American composers.

Third Year—Advanced studies and exercises, solos from the oratorios and operas. Selections from Italian, French, and German composers.

Fourth Year—Review of arias from Handel, Gluck, Mozart, Wagner, and other operatic composers. Modern songs of Wolf, Strauss, Brahms, Chadwick, and Franz.

Choral Instruction

Professor STORER

UNIVERSITY GLEE CLUB The University Glee Club is an organization of men under the leadership of the Vocal Instructor. Membership is decided by competition and is limited in number. Weekly rehearsals are held of two hours' duration. Membership in the organization involves a special fee of $1 a semester. Each student receives one credit per semester.

TREBLE CLEF CLUB The Treble Clef Club is an organization of women. The same rules apply to this organization as apply to the University Glee Club, and it is under the same leadership.

THE CECILIAN CHORAL SOCIETY The membership of this society consists of members of the Glee Clubs, other singers of the University, and townspeople who can pass a satisfactory examination. A membership fee of $1 is charged to those who are not members of either Glee Club. Weekly re-

hearsals are held for the study of cantatas, oratorios, or operas, under the leadership of the Vocal Instructor.

Public School Music

Professor STORER

Recognizing the growing need for trained teachers of music in the public schools throughout the state, the Vocal Department offers a course in Public School Music. It is the purpose of this department to graduate teachers from this course thoroughly equipped with a practical knowledge of Public School Music Methods and ability to organize and supervise the teaching of music in public schools and high schools.

THE COURSE The course as arranged covers two years. To students who have done some of the required studies before entering the course, credit will be given if such work is satisfactory to the faculty. Pupils taking the course are required to visit the graded schools to observe practical application of their studies, and also to attend the Cecilian Choral Society as an essential of their study, that they may gain experience in part singing and become acquainted with the masterpieces of vocal music.

As a majority of the applications by superintendents for Public School Music supervisors request that the prospective teacher be prepared to teach a secondary subject, it is advisable that students in this course fit themselves to meet this requirement in order to secure positions more readily.

The course in Music Appreciation is free to members of Public School Music classes.

REQUIREMENTS FOR ADMISSION The course involves a special fee of $40 a semester. Instruction is given in classes of six, two or more times a week. In accordance with the state law, applicants for this course must have completed a four-year high school course. A Specialist's State Certificate will be given on satisfactory completion of the course.

Public School Music Course

FIRST YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
*Piano	2	*Piano	2
Harmony	2	Harmony	2
Solfeggio, Ear Training, and Dictation	2	Solfeggio, Ear Training, and Dictation	2
Chorus Work	1	Chorus Work	1
History of Music	2	History of Music	2
Theory of Notation	1	Theory of Notation	1
*Voice	1	*Voice	1
School Management	2	School Administration	2
Physical Education	2	Physical Education	2
Total	15	Total	15

SECOND YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
*Piano	2	*Piano	2
Theory	2	Theory	2
Chorus Work	1	Chorus Work	1
Public School Music Methods	3	Public School Music Methods	3
Educational Psychology	3	Observation and Practice Teaching	3
Music Appreciation	2	Music Appreciation	2
*Voice	1	*Voice	1
Physical Education	2	Physical Education	2
Total	16	Total	16

MUSIC APPRECIATION *2 credits* Each semester

This is a lecture course illustrated by the piano, pianola, and Victrola which is especially intended for those who desire to know how to appreciate the best in music. It is intended to show the cultural side of music from several standpoints and to popularize it so as to make intelligent, appreciative listeners of music.

A moderate fee will be charged to cover cost of rolls and records. Students of Public School Music are admitted free to these lectures.

The Orchestra

Mrs. HUGHES, Director

To gain admittance into the Orchestra students are required to pass an elementary examination in sight reading. Rehearsals are

*Lessons given at the usual rates of tuition.

held weekly for two hours, and each student will receive one credit per semester, provided there is a regular attendance.

The orchestra library consists of works by the following composers: Haydn, Mozart, Beethoven, Brahms, Wagner, Mendelssohn, Grieg, Strauss, Puccini, etc.

Violin

Mrs. HUGHES

A thorough systematic course in violin instruction is given according to the methods in vogue at the Royal Conservatories of Music of Belgium, Russia, Paris, and Prague.

The individuality of the student and his requirements are carefully noted. Violin students, whether actual participants or not, will be required to attend orchestra rehearsals, as part of their musical training, according to the discretion of the instructor. Violin students who work for credits will be marked not so much for proficiency as by earnestness of their work.

SCHOOLS FOR VIOLIN IN USE

Cesar Thomson; Ysaye.

ETUDES

Kayser; Mazas; Kreutzer; Rhode; Wieniawski; Paganini; etc.

COMPOSITIONS FOR VIOLIN WITH ACCOMPANIMENT

Bach; Beethoven; Brahms; Sarasate; Wieniawski; Tartini; etc.

SONATAS FOR VIOLIN AND PIANO

Mozart; Beethoven; Brahms; Tartini; Schumann; Frank; etc.

University String Quartet

Mrs. HUGHES, Director

Aims to bring students in touch with the highest forms of chamber music. Rehearsals weekly.

Library consists of works by Mozart; Haydn; Beethoven; Schubert; Grieg; etc.

Cornet

Mr. CAREY

Otto Langey's *Elementary Studies.*

Arban's *Studies on the Art of Tonguing and Phrasing.*

Arban's *School of Cornet.*
Herbert L. Clarke's *Advanced Studies for the Cornet.*
Interpretation of all standard cornet solos.

Organ

Pedal Technic.
Manuals and Pedals combined.
Registration.
Chorals. Fugues.
Works of Carl, Buck, Bach, Mendelssohn, Guilmant, etc.
Accompanying.

RECITALS Students who complete the courses in pianoforte-playing and theoretical musical studies are required to give a graduation recital at the close of the Senior year, also to play a concerto movement at the Commencement concert.

Advanced students who major in piano are required to appear in at least two recitals during the year.

Opportunities will be given for ensemble playing with stringed instruments to those sufficiently advanced in pianoforte-playing.

DEPARTMENTAL REGULATIONS No student is permitted to register for a shorter time than the full semester, but all entering a session must register for the rest of that semester.

No student is permitted to take part in public performance without the consent of the instructor.

No deduction will be made for absence from lessons, except in case of sickness, when half the loss will be sustained by the department. Instruments for practice will be furnished at the student's expense. Students must provide sheet music and books at their own expense; they may be obtained at the music store at the usual discount.

Tuition is payable in advance for the semester or unexpired portion of it. Students entering after the opening of the semester are charged pro rata, except that no allowance will be made on account of absence from the first week of any semester.

Piano students not sufficiently advanced to enter Music la are rated as special pupils of the department and *receive no credits.*

Advanced students receive two or three or four credits in Piano, according to the amount of practice.

Students in any department may take any course in Music as an elective and receive corresponding credits for it.

Students who have studied at least one year may secure a certificate of proficiency. Those who have completed the course in Pianoforte-playing and theoretical studies only may receive a certificate of graduation.

TUITION The following are the prices of tuition in practical music courses for one semester, payable in advance at the Bursar's office:

Piano, Voice, and Violin

Two private lessons per week, 30 minutes each $30.00
One private lesson per week, 30 minutes each 15.00

Cornet

Two private lessons per week, 60 minutes each $30.00
One private lesson per week, 60 minutes each 15.00

Fully matriculated, regular college students of a certain standard of proficiency in any branch of music are entitled to a reduction of 33 per cent. from the above rates. To secure this reduction it will be necessary for the applicant to present to the Bursar a statement from his instructor, countersigned by the Dean of the University Faculty.

PIANO RENT The following are the prices for rent of piano for practice, payable in advance at the Bursar's office:

One hour a day per semester $3.75
Two hours a day per semester 6.00
Three hours a day per semester 7.00

HOME ECONOMICS

Professor Hoover, Misses Hyde, Leiby, Davis

The purpose of this course is to give instruction in the economic, sanitary, and aesthetic aspects of food, shelter, and clothing as connected with the selection, preparation, and use by the family in the home or by other groups of people. The Department of Home Economics aims to prepare students to teach in secondary schools and colleges, to become extension and Chautauqua lecturers, hospital dietitians or caterers, or to fill civil service positions. The

chief aim, however, is to prepare young women for their life work in the home.

On satisfactory completion of the course outlined on page 62 the degree of Bachelor of Science in Home Economics is granted.

A course in Cooking and House Management is open to students not candidates for the B.S.(H.Ec.) degree. Other courses may be elected by the B.A. and B.S. students subject to the written approval of the head of the Department.

FEES A fee of fifty cents per credit is charged for all laboratory courses in Home Economics.

Food

1-2 ELEMENTARY COOKING *3 credits* Each semester

This course includes a study of the methods of cooking and a general survey of foods as to classification, composition, and value in diet. The underlying principles involved in the cookery of each class of food are carefully studied. Care and construction of cooking apparatus. One lecture and two three-hour laboratory periods a week. Professor HOOVER

3 ADVANCED COOKERY *3 credits* First semester

This course includes preparation of food in family portions, also marketing, planning, and serving of meals. It is intended to have a very direct bearing on home problems. Prerequisites: Chemistry, 5a, and 10, H.Ec. 1-2, Bacteriology. Three three-hour periods a week. Professor HOOVER

4 FOOD PRODUCTS *2 credits* Second semester

This course in food products gives a knowledge of the source, use, and production of the various foodstuffs. Canning-factory and packing-house industries are considered. Two one-hour periods a week. Professor HOOVER

5 DIETETICS *3 credits* First semester

This course includes the study of food composition and metabolism; diets as influenced by age, occupation, habits of life, climate, and season; balanced rations, and computation of coloric values. Two one-hour and one three-hour periods a week. Prerequisites: Chemistry 18, H. Ec. 3, Zoology, and Bacteriology. Miss HYDE

6 HOME NURSING AND INVALID COOKERY

2 credits Second semester

This course includes the care and feeding of the invalid under home conditions; the administration of medicines under the physician's direction; the use and care of useful nursing devices; the preparation of the invalid tray. One lecture and one laboratory period a week. Prerequisites: H. Ec. 5, Zoology, Bacteriology. Professor HOOVER

7-8 COOKING AND HOUSE MANAGEMENT

2 credits Each semester

For students in other courses, this general course is offered as an elective. This will include briefly the preparation and serving of meals, the care and management of the house, marketing, etc. One three-hour period and one two-hour period a week. Miss HYDE

9-10 METHODS OF TEACHING HOME ECONOMICS

4 credits Each semester

The method of recitation is studied and applied to the teaching of domestic science and art in secondary schools. Also a typical course of study is made after a careful study of the relation of Home Economics to other subjects in the curriculum. The subject of equipment is studied in detail. Four one-hour periods a week. Prerequisite: H.Ec. 5, H.Ec. 107.

Miss HYDE, Miss LEIBY

10 PRACTICE TEACHING *2 credits* Second semester

Practice teaching must be elected by all students wishing a recommendation to teach Home Economics. Two two-hour periods a week. Prerequisites: H.Ec. 5, H.Ec. 9.

Miss HYDE, Miss LEIBY

11 CAMP COOKERY *2 credits* First semester

This course is intended to give a knowledge of cooking processes that are suitable to outdoor life. It is offered as elective for forestry students and others whose occupation calls for a working knowledge of plain cooking. Professor HOOVER

Clothing

101-102 ELEMENTARY SEWING *2 credits* Each semester

This course includes practice in hand and machine sewing; application of stitches to undergarments and simple dresses.

A simple drafting system is used for undergarments. This is used as a foundation for the study and use of commercial patterns. Discussion of materials and trimmings as to cost, width, suitability, and comparative wearing qualities. Two two-hour periods a week. Miss LEIBY

103 TEXTILES *2 credits* First semester

Study of textiles and textile fibers from their historical, hygienic, chemical, physical, and economical view point. Processes of production and manufacture. Theory and practice of dyeing. Laundry problems. Miss DAVIS

104 ADVANCED SEWING *2 credits* Second semester

Advanced hand and machine sewing. Making of more elaborate lingerie dresses. Two two-hour periods a week. Prerequisites: H.Ec. 101-102. Miss LEIBY

107-108 COSTUME AND DESIGN *2 credits* Each semester

Dressmaking.—This course includes the making of silk and wool dresses suitable for school and afternoon wear; the discussion of materials as to cost, width, required amounts, suitability, and comparative wearing qualities.

History of Costume and Design.—A study of color, line, and proportion as applied to various types of people and figures. Prerequisites: H.Ec. 103 and 104. Miss LEIBY

109 ART NEEDLE WORK *1 credit* First semester

This course includes the making of crochet, tatting, French embroidery, suitable for lingerie, also the designing and making completely by hand a waist, including hand made laces and embroidery. One three-hour period a week. Prerequisite: H.Ec. 101. Miss LEIBY

110 HAND WORK *1 credit* Second semester

A study of cross stitching, simple embroidery stitches, weaving, and basketry. One three-hour period a week. Miss LEIBY

111-112 MILLINERY *1 credit* Each semester

Fall and spring millinery; making wire and buckram frames and covering them with velvet, straw, or lace; lining and fin-

ishing; renovation of materials. One three-hour period a week. Prerequisite: H. Ec. 101. Miss LEIBY

114 INTERMEDIATE SEWING *2 credits* Second semester

An abridged course arranged for students presenting satisfactory work in sewing done in high school courses. Two three-hour periods a week. Miss LEIBY

Shelter

201 HOUSE MANAGEMENT AND SANITATION
2 credits First semester

Organization of the household; the hygiene of the home; the division of the income; household accounts and business points; care and use of modern conveniences. Lectures on household law will be given by the Dean of the Law School. Three lectures a week. Miss HYDE

203-204 HOUSE CONSTRUCTION AND DECORATION
2 credits Each semester

History of the development of architecture; location of house; terms used by architects; building materials; the making of original plans; lectures on theory of color and design as applied to interior decoration; types of furniture, rugs, etc. Two two-hour periods a week. Miss HYDE

Suggested Electives

English
History of Education
Educational Psychology
School Administration
School Management
Methods of Teaching Home Economics
Hand Work
Art Needlework
History
Political Science
Landscape Gardening
Music
Domestic Dairying
Cooking and House Management (Open to B.A. and B.S. students.)

All prospective teachers of Home Economics should elect credits in Education as follows: History of Education, 3-6 credits; Educational Psychology, 3 credits; Theory and Practice, 3-4 credits; Methods of Teaching Home Economics, 6 credits.

PHYSICAL EDUCATION

Mr. VAN DER VEER, Director of the Gymnasium
Miss STEPHENS, Director of Women

The department of physical training endeavors to meet the needs of the students in four ways: First, to give each student a thorough physical examination and to advise in matters of well-being; second, to offer a means of systematic exercise and body building; and third, to offer instruction suitable for teachers who may desire to carry on the work in the graded schools, in the high schools, or in the public play-grounds.

Provision is made for the study and practice of the hygiene of exercise in the classes organized for that purpose in the Gymnasium. These classes are intended to check and correct abnormal tendencies and to promote the general health of the students.

The Gymnasium is unusually well equipped for this work. All students have access to the classes.

Courses for Women

Work in this department is required of Freshmen and Sophomores. Juniors and Seniors are encouraged to continue by receiving credits toward graduation for the courses elected. Those who wish to specialize in Physical Education or to prepare for Playground work must consult the Director of Women before arranging a schedule.

1-2 FRESHMAN COURSE *2 credits* Each semester

Three hours per week. The work of this course is arranged with reference to the needs of the individual student as indicated by the physical examination and study of personal tendencies. It includes free one lecture in personal hygiene and two practice hours of free exercise with and without apparatus, social and folk dancing, gymnastic games, games of skill.

3-4 SOPHOMORE COURSE *2 credits* Each semester

Three hours per week. This is a continuation of 1-2, the work being of an intermediate and advanced character. The

required by General Orders No. 70, War Department 1913. The practical work in the U. S. Field Service Regulations and Guard Duty will be taken up during the Annual Encampment. Problems in Outpost Duty, Advance and Rear Guards, Attack and Defense of a position, and Patrolling. Required of Freshmen.

3a-4a DRILL *1 credit* Each semester

Continuation of courses 1a-2a. Required of Sophomores.

Theoretical

1b-2b REGULATIONS *1 credit* Each semester

Infantry drill regulations. Guard manual, firing regulations, and first aid to injured. Required of Freshmen.

3b-4b MILITARY SCIENCE *1 credit* Each semester

Review of drill; field service regulations. Lectures covering the essential principles and details of the subjects which a company officer of infantry, volunteers or militia, should know. Required of Sophomores.

5 MINOR TACTICS *1 credit* First semester

Hanna's *Tactical Principles and Problems.* Elective for Juniors.

6 FIELD ENGINEERING *1 credit* Second semester

Elective for Juniors.

7 MILITARY LAW *1 credit* First semester

Elective for Seniors.

8 INTERNATIONAL LAW *1 credit* Second semester

Elective for Seniors.

EQUIPMENT AND SUPPLIES Two hundred Krag-Jorgensen rifles, four 22-calibre gallery practice rifles, and a suitable amount of ammunition and target materials are furnished by the United States Government. The military department owns three 3-inch field guns; one, a relic of the War of the Rebellion, was presented by the G. A. R. post of Moscow.

ANNUAL ENCAMPMENT The above courses are supplemented by an annual encampment during which the instruction is entirely military and practical, and the cadets are put through all the duties of camp life. They conduct their own

commissionary and quartermaster departments, perform the duties of sentinels, patrols, etc., and are given all the drills and ceremonies prescribed in the two years' course.

SPECIAL MENTION TO WASHINGTON The cadets in the graduating class who have shown special aptitude for military service are reported to the War Department at Washington, where their names are recorded in the Military Secretary's office. In making appointments to the Regular and Valunteer Army from civil life, preference is given to those who have their names so recorded.

BATTALION ORGANIZATION, MARCH 14, 1914

Commandant

2nd Lieutenant HERBERT CLARENCE FOOKS, 16th U. S. Infantry

Cadet Commissioned Staff

O. F. Carlson ..... Major Commanding Battalion
H. J. Adams ..... 1st Lieutenant and Battalion Adjutant
....Captain and Battalion Quartermaster and Commissary

Cadet Non-Commissioned Staff

L. A. Ellington ..... Sergeant Major
R. R. Miller ..... Color Sergeant
W. R. Schofield ..... Color Sergeant

Band

Mr. E. J. Carey ..... Chief Musician and Leader
K. W. Bentley ..... Principal Musician
H. H. Swann ..... Drum Major
J. J. Keane ..... Sergeant
J. D. Boyd ..... Sergeant
D. K. David ..... Sergeant
C. A. Sylvester ..... Sergeant
H. S. Ayers ..... Corporal
R. R. Kruse ..... Corporal

Company A

OFFICERS

L. F. Stone .....Cadet Captain
D. W. Albert ..... Cadet 1st Lieutenant
T. S. Morrison ..... Cadet 2nd Lieutenant

NON-COMMISSIONED OFFICERS

F. A. Rapp ..... Cadet 1st Sergeant
A. T. Schick ..... Cadet Sergeant
C. M. Hallam ..... Cadet Sergeant
E. R. Hawkins ..... Cadet Sergeant
A. J. Kambitsch ..... Cadet Corporal
A. J. Lyon ..... Cadet Corporal
V. E. Jones ..... Cadet Corporal
O. W. Johnson ..... Cadet Corporal
W. A. Boekel ..... Cadet Corporal

Company B

OFFICERS

F. S. Gregory ..... Cadet Captain
H. C. Nuffer ..... Cadet 1st Lieutenant
T. S. Morrison .....Cadet 2nd Lieutenant

NON-COMMISSIONED OFFICERS

C. L. Johnson ..... Cadet 1st Sergeant
W. H. Booth ..... Cadet Sergeant
R. B. Cartee ..... Cadet Sergeant
G. D. Turnbow ..... Cadet Sergeant
D. A. Eaves ..... Cadet Sergeant
S. T. Brown ..... Cadet Corporal
W. F. McColl ..... Cadet Corporal
M. Ison ..... Cadet Corporal
C. P. Humphrey ..... Cadet Corporal

Company C

OFFICERS

H. S. Youngs ..... Cadet Captain
J. F. Krom .....Cadet 1st Lieutenant
C. B. Mickelwaite ..... Cadet 2nd Lieutenant

NON-COMMISSIONED OFFICERS

W. F. McMaster ..... Cadet 1st Sergeant
T. W. Lockwood ..... Cadet Sergeant
C. A. Meyer ..... Cadet Sergeant
C. E. Winter ..... Cadet Sergeant
H. V. McKeever ..... Cadet Sergeant
H. T. Stowe ..... Cadet Corporal
E. S. Tobias ..... Cadet Corporal
W. C. Sponsler ..... Cadet Corporal
G. Taylor ..... Cadet Corporal

II. COLLEGE OF AGRICULTURE

FACULTY

MELVIN AMOS BRANNON, PH.D., PRESIDENT

WILLIAM LEVI CARLYLE, M.S., DEAN, *and Director of Experiment Station*

*WALTER HERBERT OLIN, M.S., *Director of Agricultural Extension*

J. SHIRLEY JONES, B.S., *Professor of Agricultural Chemistry*

JOHN FREDERICK NICHOLSON, M.S., *Professor of Bacteriology*

†WILLIAM HALE WICKS, M.S.(AGR.), *Professor of Horticulture*

EDWARD JOHN IDDINGS, B.S.(AGR.), *Professor of Animal Husbandry*

CHARLES EDWARD TEMPLE, M.A., *Professor of Botany*

EVERETT WALTER HAMILTON, B.S.A., *Professor of Agricultural Engineering*

PETER POWELL PETERSON, PH.D., *Professor of Soils*

CLARENCE CORNELIUS VINCENT, M.S.(AGR.), *Professor of Horticulture*

FRANK LESLIE KENNARD, B.S., *Professor of Agronomy*

GUSTAV EDWARD FREVERT, B.S.A., *Associate Professor of Dairy Manufactures*

ELMER VERNE ELLINGTON, B.S.(AGR.), *Associate Professor of Dairy Production*

HARRY PROCTOR FISHBURN, M.A., *Assistant Professor of Agricultural Chemistry*

CHARLES WILLIAM COLVER, M.S., *Assistant Professor of Agricultural Chemistry*

WINFRED RULISON WRIGHT, B.S., *Assistant Professor of Bacteriology*

‡JOHN CALVIN KINZER, B.S.(AGR.), *Assistant Professor of Animal Husbandry*

FLOYD WHITNEY GAIL, M.A., *Assistant Professor of Botany*

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*Resigned April 1, 1914.
†Resigned Feb. 1, 1914.
‡Resigned Dec. 1, 1913.

ALBERT RICHARD HAHNER, D.V.S., *Assistant Professor of Veterinary Science*

CLARENCE SINCLAIR EDMUNDSON, B.S.(AGR.), *Principal of School of Practical Agriculture*

HENRY FULMER, M.S., *Instructor in Bacteriology*

ROBERT AUSTIN LAMSON, B.S.(AGR.), *Instructor in Dairy Manufactures*

PREN MOORE, *Instructor in Poultry Husbandry*

GEORGE WADSWORTH GRAVES, B.S., *Teaching Fellow in Soils*

JOHN SAMUEL KNOX, B.S.(AGR.), *Teaching Fellow in Horticulture*

ADDITIONAL INSTRUCTORS

GEORGE DAVID AYERS, A.B., LL.B., *Lecturer on Irrigation Law*

MINNIE MARGARET BRASHEAR, B.A., *Assistant Professor of English*

JAY GLOVER ELDRIDGE, PH.D., *Professor of the German Language and Literature*

HERBERT CLARENCE FOOKS, 2d Lieut., 16th Infantry, *Professor of Military Science and Tactics*

GEORGE HALL, *Instructor in Wood Working and Forge Work*

HORACE ASA HOLADAY, B.A., *Instructor in Chemistry*

CAROLINE CHRISTINE ISAACSON, B.A., *Assistant Professor of German*

JOHN ANTON KOSTALEK, PH.D., *Assistant Professor of Chemistry*

GUSTUS LUDWIG LARSON, B.S.(E.E.), *Professor of Mechanical Engineering*

BENJAMIN HARRISON LEHMAN, B.A., *Assistant Professor of English*

JESSE PIERCE, B.S.(C.E.), *Assistant Professor of Mathematics*

WILLIAM ALEXANDER ROBINSON, PH.D., *Associate Professor of Political Science and Economics*

CHARLES HOUSTON SHATTUCK, PH.D., *Professor of Forestry*

CHARLES ARTHUR STEWART, PH.D., *Professor of Geology and Mineralogy*

CHARLES WILCOX VAN DER VEER, *Director of the Gymnasium*

CARL LEOPOLD VON ENDE, PH.D., *Professor of Chemistry*

JERRY EDWARD WODSEDALEK, PH.D., *Professor of Zoology and Entomology*

ADMISSION For requirements for admission to all courses in the College of Agriculture, see page 49, and for further details pages 48-53. The requirements for admission to the School of Practical Agriculture are stated under that section, below.

Common Freshman and Sophomore Years

Students in all four-year courses in the College of Agriculture take the same work in the Freshman and Sophomore years.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 1. Composition and Literature	3	Eng. 2. Composition and Literature	3
Chem. 1. General Chemistry	4	Chem. 2. General Chemistry	4
Bot. 1. General Botany	2⅓	Bot. 2. General Botany	2⅓
Agron. 1. Cereals	3⅓	An. Hus. 2. Market Types of Live Stock	2⅔
Vet. 1. Anatomy	3	D. Pro. 2. Milk Production	3
Shop 1. Wood Working	1	Hort. 2. Nursery Practice	1⅔
Mil. 1. Regulations	2	Mil. 2. Regulations	2
Total	18⅔	Total	18⅔

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Chem. 3. Qualitative Analysis	3	Chem. 4. Quantitative Analysis	3
Zool. 1. General Zoology	4	Ag. Eng. 2. Farm Surveying	2
Bac. 9. Agricultural Bacteriology	3	An. Hus. 4. Breed Types of Livestock	2⅓
For. 1. General Forestry	2⅔	D. Mf. 2. Farm Dairying	2⅔
Hort. 3. Orchard and Garden Craft	1⅔	Soils 2. Soil Physics and Fertility	4⅓
Mil. 3. Military Science	2	Mil. 4. Military Science	2
Total	18⅓	Total	18⅓

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Agriculture, B.S.(Agr.), the student must, in addition to completing the regular courses of study prescribed by the department in which his major lies, present evidence of having spent at least one summer after his first year in residence at the University in practical farm work on an approved farm. This requirement will take effect with the class of 1915 and succeeding classes.

COURSE IN AGRONOMY

To obtain the recommendation of the Faculty for degree of Bachelor of Science in Agriculture, B.S.(Agr.), with major in Agronomy, a student must complete the following courses in addition to the common Freshman and Sophomore years outlined on page 141.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 3. Farm Machinery and Farm Motors	2⅔	Ag. Chem. 2. Gen. Ag. Chem.	3
Agron. 3. General Farm Man.	3	Agron. 2. Forage Crops	3
Bot. 3. Plant Physiology	2⅓	Ag. Eng. 4. Irrigation Practice	3
Silos 1. Soil Physics	2⅔	Bot. 4. Plant Physiology	2⅓
Geol. 5. Practical Geology	3	Soils 4. Soil Management	2
Elective	3	Elective	4⅓
Total	17⅔	Total	17⅔

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 5. Farm Drainage	2	Ag. Eng. 6. Farm Structures	2⅓
Bac. 11. Soil Bacteriology	2	*Agron. 8. or Soils 8. Thesis	2
Soils 3. Soil Chemistry	2⅓	Zool. 10. General Entomology	4
*Agron 7. or Soils 7. Thesis	2	Agron. 4. Plant Breeding	2
Agron. 9. Seminar	1	Agron. 10. Seminar	1
Elective	8	Elective	6
Total	17⅓	Total	17⅓

Total credits required for graduation 144

*Students majoring in Soils 7-8, those majoring in Agronomy take Agron. 7-8.

COURSE IN ANIMAL HUSBANDRY

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Agriculture, B.S.(Agr.), with major in Animal Husbandry, a student must complete the following courses in addition to the common Freshman and Sophomore years outlined on page 141.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 3. Farm Machinery and Farm Motors	3⅔	Ag. Chem. 2. General Ag. Chem.	3
Agron. 3. Farm Management	3	Ag. Chem. 2a. Quan. Ag. Anal.	1⅓
An. Hus. 5. Livestock Judging	1⅓	Ag. Eng. 4. Irrigation Practice	3
Vet. 3. Materia Medica	2	Agron. 2. Forage Crops	3
Elective	8	An. Hus. 6. Animal Nutrition	3
		Vet. 2. Comparative Physiology	3
		Elective	1⅔
Total	18	Total	18

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 5. Farm Drainage	2	Ag. Eng. 6. Farm Structures.	2⅓
An. Hus. 9. Advanced Live Stock Judging	1⅓	An. Hus. 10. Animal Breeding	2
An. Hus. 15. Practicums	⅔	An. Hus. 12. Live Stock Man.	2
An. Hus. 17. Thesis	1	An. Hus. 14. History of Breeds	3
Vet. 7. Animal Diseases	5	An. Hus. 16. Practicums	⅔
Elective	7	An. Hus. 18. Thesis	1
		Elective	6
Total	17	Total	17
		Total credits required for graduation	144

COURSE IN DAIRYING

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Agriculture, B.S.(Agr.), with major in Dairying, a student must complete the following courses in addition to the common Freshman and Sophomore years outlined on page 141.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 3. Farm Machinery and Motors	2⅔	Ag. Chem. 2. Gen. Ag. Chem.	3
D. Mf. 1. Ice Creams and Ices	2	Ag. Chem. 2a. Quantitative Analysis	1⅓
D. Mf. 13. Milk Technology.	3⅔	Ag. Eng. 4. Irrigation Practice	3
D. Pro. 1. Dairy Farm Economics	3	An. Hus. 6. Animal Nutrition	3
D. Pro. 3. Pure Bred Herds..	2	Bac. 10. Bacteriology Dairy Prob.	2
Elective	3	D. Pro. 4. Judging Dairy Cattle	1
Total	17⅓	Zool. 8. Heredity and Eugenics	2
		Elective	2
		Total	17⅓

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
D. Mf. 3. Cheese Making	2⅔	Ag. Eng. 6. Farm Structures	2⅓
D. Mf. 5. Dairy Seminar	1	An. Hus. 10. Animal Breeding	2
D. Mf. 7. Adv. Butter Making	2⅔	An. Hus. 12. Live Stock Man.	2
D. Mf. 9. Factory Management	3	D. Mf. 8. Judging Dairy Prod.	1
D. Mf. 11, or D. Pro. 7. Thesis	1	D. Mf. 12, or D. Pro. 8. Thesis	1
Vet. 7. Animal Diseases	5	D. Pro. 6. Dairy Seminar	1
Elective	2⅔	Vet. 2. Comparative Physiology	3
Total	18	Vet. 8. Veterinary Obstetrics	2
		Elective	3
		Total	17⅓
		Total credits required for graduation	144

COURSE IN HORTICULTURE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Agriculture, B.S.(Agr.), with major in Horticulture, a student must complete the following courses in addition to the common Freshman and Sophomore years outlined on page 141.

EXCURSIONS

Two excursions are required of students in Horticulture during the year.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 3. Farm Machinery and Farm Motors	3⅔	Ag. Chem. 2. Gen. Ag. Chemistry	3
Bot. 3. Plant Physiology	2⅓	Ag. Eng. 4. Irrigation Practice	3
Hort. 5. Practical Pomology	2⅔	Bot. 4. Plant Physiology	2⅓
Hort. 7. Small Fruit Culture	2	Hort. 6. Practical Pomology	2⅔
Hort. 13. Systematic Pomology	1⅔	Hort. 12. Vegetable Gardening	1⅔
Elective	5⅓	Zool. 10. General Entomology	4
		Elective	1
Total	17⅔	Total	17⅔

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ag. Eng. 5. Farm Drainage	2	Agron. 2. Forage Crops	3
Bot. 9. Plant Pathology	2⅔	Bot. 10. Plant Pathology	2⅔
Hort. 9. Horticultural Seminar	1	Hort. 8. Spraying	2⅔
Hort. 11. Commercial Pomology	1⅔	Hort. 10. Horticultural Seminar	1
Hort. 15. Thesis	1	Hort. 14. Landscape Gardening	1⅔
Zool. 11. Advanced Entomology	4	Hort. 16. Thesis	1
Elective	5	Zool. 12. Advanced Entomology	4
		Elective	1⅓
Total	17⅓	Total	17⅓

Total credits required for graduation 144

DEPARTMENTS OF INSTRUCTION

AGRICULTURAL CHEMISTRY

Professor JONES, Assistant Professor FISHBURN

Liberal room and laboratory facilities have been provided for those who take the laboratory courses offered in Agricultural Chemistry. In the department library may be found standard reference books, technical bulletins, and journals of pure and applied chemistry. In all courses the student will be required to make such use of reference books and original articles on the various phases of Agricultural Chemistry as occasion demands.

Quantitative Analysis, Chemistry 4, is prerequisite to all laboratory courses in Agricultural Chemistry.

2 GENERAL AGRICULTURAL CHEMISTRY

3 credits Second semester

A lecture course which deals with various applications of Chemistry to Agriculture. Particular attention is given to: (1) The chemical principles which underlie the growth and nutrition of farm crops, (2) The ultimate composition, economical importance, and utilization of farm crops, (3) The chemistry of certain manufactured products which find extensive use in farm practice.

Text used in part: Snyder's *Chemistry of Plant and Animal Life.* Three lectures per week. Professor JONES

2a QUANTITATIVE AGRICULTURE ANALYSIS

1⅓ credits Second semester

This laboratory course supplements Course 2. The work will be varied to meet the requirements of the student in Agronomy, Animal Husbandry, Dairying, and Horticulture. The student in Animal Husbandry and Dairying will give particular attention to the analysis of forage plants and other stock foods and to the interpretation of the analytical data secured. The student in Horticulture will give particular attention to the examination of insecticides and fungicides.

Texts used: *Bulletins of the Bureau of Chemistry, U. S. D. A.* Two laboratory periods of two hours each per week.

Professor FISHBURN

4 Food and Water Analysis *2⅓ credits* Sesond semester

This course is designed to acquaint the student with the composition and properties of human foods, and the methods employed in sanitary water analysis with interpretation of analytical data. A discussion of the more common adulterants of food materials and methods of detecting them, is a prominent feature of this course. One lecture and two two-hour laboratory periods per week. Professor Fishburn

5 Chemistry of Dairy Products

2 credits First semester

A laboratory course in the analysis of milk, butter, cheese, and other dairy products. Designed to meet the needs of advanced students in dairying. Two three-hour laboratory periods per week.

DEPOSITS To insure reasonable care in the use of laboratory apparatus, a deposit of from three to five dollars per semester will be required in all laboratory courses.

AGRICULTURAL ENGINEERING

Professor Hamilton

2 Farm Surveying *2 credits* Second semester

Use, care, and adjustment of instruments. Elementary land surveying and field practice in the use of instruments. Surveys for irrigation and drainage. One recitation and one three-hour laboratory period per week.

2 Farm Surveying *2 credits* Second semester

Use, care, and adjustment of instruments. Elementary land surveying and field practice in the use of instruments. Surveys for irrigation and drainage. One recitation and one three-hour laboratory periods per week.

3 Farm Machinery and Farm Motors

2⅔ credits First semester

A brief study of mechanics and materials. Power transmission. Development, construction, operation, adjustment and repair of farm machinery. The horse as a motor, steam, and gasoline engines and tractors. Electrical power. Three hours' recitation and one two-hour laboratory period per week.

4 IRRIGATION PRACTICE *3 credits* Second semester

A practical course in irrigation. Elementary hydraulics, measurement of water by weirs, floats, and current meters. Earthen drains and reservoirs. Canals and ditches, small irrigation structure, wells and pumping. Flow of water in ditches and pipes. Choice and preparation of land for irrigation. Methods of applying water, duty of water, and irrigation of special crops. Three lectures per week.

5 FARM DRAINAGE *2 credits* First semester

Principles and practice of draining lands. Reclamation and improvement of swamp lands, swales and mountain meadows. Control of rise of ground water in irrigated lands and their reclamation when lost by seepage and alkali. Two recitations per week.

6 FARM STRUCTURES *2⅓ credits* Second semestre

The location, arrangement, construction, lighting, ventilation, and cost of the different farm buildings, practice in preparing plans, specifications and estimates. Use of cement; concrete materials, mixtures, reinforcing, and forming. One lecture and two two-hour laboratory periods per week.

AGRONOMY

Professor KENNARD

1 CEREALS *3⅓ credits* First semester

A study of the cereal crops. Their production and improvement. classification, culture, uses, harvesting, history, and geographical distribution. Judging of wheat, oats, barley, corn, potatoes, etc., together with methods of cleaning, grading, and general care of stored seeds. Two recitations and two two-hour laboratory periods per week.

2 FORAGE CROPS *3 credits* Second semester

This embraces a study of the principal forage and fiber crops, with particular attention given to those adapted to the various sections of the state. Required of Juniors in Agronomy. Three recitations per week.

3 GENERAL FARM MANAGEMENT

3 credits First semester

The selection, laying out, and general management of farms, systems of farming, planning rotation schemes for these systems. Distribution of labor and market problems. Required of Juniors in Agronomy.

4 PLANT BREEDING *2 credits* Second semester

A study of the general principles of plant breeding, the evolution of plants under the hand of man. Methods followed by the plant breeder in the improvement of existing varieties and creation of new ones. Prerequisites: Bot. 1 and 2; Agron. 1. Required of Seniors in Agronomy.

5-6 METHODS OF INVESTIGATION

3 credits Either semester

For graduates. Opportunity is given along agronomy lines for advanced work. Studies of investigation work carried on in the state. Special work assigned upon consultation.

7-8 THESIS *2 credits* Each semester

All subjects for these must be selected and filed with the head of the department by the first Monday in November preceding graduation, and the completed copy of the thesis must be filed with the librarian by five o'clock on the third Monday in May. Required for graduation in Agronomy.

9-10 SEMINAR *1 credit* Either semester

Students will be required to present papers upon recent research work in agronomy, the object being to keep the student thoroughly informed and up-to-date on all problems under investigation.

ANIMAL HUSBANDRY

Professor CARLYLE, Professor IDDINGS, Associate Professor ELLINGTON, Assistant Professor KINZER

2 MARKET TYPES OF LIVE STOCK

2⅔ credits Second semester

A study of the various types of horses, cattle, sheep, and swine from a market and producer's standpoint. The classes and grades of animals recognized by the market are outlined in

lectures, and in connection laboratory work is given in the scoring of individuals and judging of groups representing the more important market classes. Two lectures and one two-hour judging period per week. Required of Freshmen in Agriculture.

4 BREED TYPES OF LIVESTOCK

2⅓ credits Second semester

Includes a brief study of the early history, development, and breed characteristics of the various improved breeds of domestic animals. Considerable time is given to practice work in judging representatives of the various breeds according to standards set by breed associations and by the show ring. One lecture and two two-hour judging periods per week. Required of Sophomores in Agriculture. Prerequisites: Animal Husbandry 2.

5 LIVE STOCK JUDGING *1⅓ credits* First semester

A practical course aimed to train the student to careful work and proficiency in live stock judging. The major portion of the work is done by the method of comparative judging, using rings of from three to six animals for this purpose. Two two-hour judging periods per week. Required of Juniors in Animal Husbandry. Prerequisites: Animal Husbandry 2 and 4.

6 ANIMAL NUTRITION *3 credits* Second semester

A study of the composition and feeding value of the various grains, grasses, fodders, root crops, etc., following which the compounding of rations is fully explained and practice work in determining the nutritive value of a large number of rations is given. The principles and practice of feeding the different classes of live stock for growth, maintenance, and fattening is fully explained and discussed. Three recitation periods per week. Required of Juniors in Animal Husbandry and Dairying.

8 FEEDING PRACTICE *2 credits* Second semester

A continuation of the work given in 6, dealing especially with the results secured by the experiment stations and methods followed by the most successful breeders and feeders. Students are required to obtain and summarize feeding data from all possible sources. Two recitation periods per week. Elective for

Seniors in Animal Husbandry and Dairying. Prerequisite: Animal Husbandry 6.

9 ADVANCED LIVE STOCK JUDGING

1⅓ credits First semester

A continuation of the work given in 5, especially planned for Senior students in Animal Husbandry. Methods of judging at fairs are considered and the student is prepared for judging in the show ring. So far as possible in this course excursions are made to live stock farms and shows within reach of the University. Four hours' judging work per week. Required of Seniors in Animal Husbandry. Prerequisite: Animal Husbadry 5.

10 ANIMAL BREEDING *2 credits* Second semester

A study of the principles of animal breeding. Attention is given to grading, inbreeding, cross breeding, and the practice of the most successful breeders is carefully studied and lessons drawn therefrom. Two recitation periods per week. Required of Seniors in Animal Husbandry and Dairying.

12 LIVE STOCK MANAGEMENT

3 credits Second semester

Study of the housing, care, and management of the various classes of live stock in maintaining them for breeding purposes. Successful methods of managing stock farms and handling registered breeding herds are considered. Particular attention will be paid to those phases of animal production that most concern the farmers and stockmen of the Northwest. Two recitation periods per week. Required of Seniors in Animal Husbandry and Dairying.

14 HISTORY OF BREEDS *3 credits* Second semester

A study of the history and development of the leading pure bred strains of domestic animals. Considerable time is devoted to tabulation of pedigrees, to consideration of the influence of families, to practice in the use of herd books, and to study of the work of breed and advanced registry associations. Three recitations per week. Required of Seniors in Animal Husbandry.

15-16 PRACTICUMS *⅔credit* Each semester

The practical feeding and management of horses, beef cattle, dairy cattle, sheep, and swine, is given in the barns, and each student is required to do the scheduled amount of this kind of work. Drill is given in the grooming, feeding, fitting, and training for show and exhibition purposes of those animals. The aim of the course is to aid the student to become a thoroughly practical and expert stockman. Two hours' laboratory work per week. Required of Seniors in Animal Husbandry.

17-18 THESIS *1 credit* Each semester

Subjects for these must be chosen and filed with the head of the department on or before the first Monday in November preceding graduation, and typewritten copies must be filed with the librarian on or before the third Monday in May. Required for graduation in Animal Husbandry.

BACTERIOLOGY

Professor NICHOLSON, Assistant Professor WRIGHT, Mr. FULMER

(For other courses in Bacteriology see College of Letters and Sciences.)

1 GENERAL BACTERIOLOGY *5 credits* First semester

Lectures and laboratory work. A general survey of the entire field of bacteriology from the biological side. This course is designed for students in the general science courses, and is prerequisite to the advanced courses in bacteriology. Students majoring in bacteriology must take this course. Open to all students prepared in chemistry and biology. Two lectures and three laboratory periods per week.

Professor NICHOLSON, Professor WRIGHT, Mr. FULMER

9 AGRICULTURAL BACTERIOLOGY

3 credits First semester

This is a lecture course of three lectures per week and is given to all agricultural students in the Sophomore year. This course covers the subject of bacteriology as it relates to the farm and prepares the student to take up the special subjects required in the Junior and Senior years. Professor NICHOLSON

10 BACTERIOLOGY OF SPECIAL DAIRY PROBLEMS
2 credits Second semester

Six hours laboratory work per week in practical problems arising in the dairy. Students will be assigned special problems by the instructor. Course 1 or 13 and 15 are prerequisite. Required of all dairy students. Professor WRIGHT, Mr. FULMER

11 SOIL BACTERIOLOGY *2 credits* First semester

A laboratory course of six hours per week. Course 1 or 13 is required. Required of all students in Agronomy.

Mr. FULMER

DAIRY MANUFACTURES

Associate Professor FREVERT, Mr. LAMSON

1 ICE CREAMS AND ICES *2 credits* First semester

Required in the Junior year in the Dairy course. This course is elective in the home economics course to those who have had Dairy Mf. 16. This course consists of one lecture and one three-hour laboratory per week.

2 FARM DAIRYING *2⅔ credits* Second semester

Required in the Sophomore year of all agricultural courses. It includes a study of the composition of dairy products, separation and acidity of milk, butter and cheese making on the farm, and some elementary work in the operation of the Babcock test. Two recitations and one two-hour laboratory per week.

3 CHEESE MAKING *2⅔ credits* First semester

Required in the Senior year of the Dairy course. This course includes a study of the methods of manufacture of various kinds of cheese. The laboratory work consists of the manufacture of the common varieties of cheese. One lecture and five hours of laboratory work per week.

5 DAIRY SEMINAR *1 credit* First semester

Required in the Senior year of the Dairy course. It consists of a study of the work done along dairy lines at the various experiment stations. One recitation per week. The student will be required to bring in reports to the class on reading assignments.

7 ADVANCED BUTTER MAKING *2⅔ credits* First semester

Required in the Senior year of the Dairy course and elective in the same semester of the Senior year of all other agricultural courses. A study of the modern methods of butter making with special reference to factory conditions. Two lectures and one two-hour laboratory period per week.

8 JUDGING DAIRY PRODUCTS *1 credit* Second semester

Required in the Senior year of the Dairy course. This course consists of a study of quality in dairy products and their market requirements. It includes practice in the scoring of milk, cream, butter, cheese, and ice cream. One three-hour laboratory period per week.

9 FACTORY MANAGEMENT *3 credits* First semester

Required in the Senior year of the Dairy course. It consists of a study of the location and construction of factories. Also lectures on general management of creameries. Three lectures per week with reading assignments.

11-12 THESIS *1 credit* Each semester

13 MILK TECHNOLOGY *3⅓ credits* First semester

Required in the Junior year of the dairy course. A study of the Babcock test for milk and its products, determining moisture in butter, and the nature and composition of milk. Also tests for preservatives and adulterants in milk. A study is also made of dairy sanitation. Two recitations and five hours of laboratory work per week.

16 DOMESTIC DAIRYING *2 credits* Second semester

This course is especially designed for students in Home Economics and is a prerequisite for Dairy Mf. 1. The object of the course is to give the student some practical as well as scientific knowledge concerning the care and preparation of Dairy Products for food purposes. It includes lectures and laboratory work as well as outside reading on the care of milk and cream in the home. Some work is also given in the manufacture of butter and cheese. One lecture and one three-hour laboratory period per week.

DAIRY PRODUCTION

Associate Professor ELLINGTON

1 DAIRY FARM ECONOMICS *3 credits* First semester

Study of the relation of dairy farming to the maintenance of soil fertility, intensive dairying, suitable crop rotation, soiling, and other systems, dairy farm buildings, silos, and yards. Required of Juniors in Dairying.

2 MILK PRODUCTION *3 credits* Second semester

This course covers the field of Dairy Husbandry in its relation to the producer rather than to the manufacturer. Required of all Freshmen in Agriculture.

3 PURE-BRED HERDS *2 credits* First semester

Study of the management of registered breeding herds; advanced registry systems and their influence; a study of the performance and breeding of the leading families of the various dairy breeds. Feeding for records. Interpretation of pedigrees involving the tabulation and study of pedigrees of famous breeding animals. Required of Juniors in the Dairy course.

4 JUDGING DAIRY CATTLE *1 credit* Second semester

Consists of a study of the dairy type, characteristics, and types of various breeds, with special reference to preparing students for judging in this class of live stock. Comparative judging. Required of Juniors in the Dairy course.

6 SEMINAR *1 credit* Second semester

Special investigation and study along selected lines of dairy research and discussion of recent works. Required in the Dairy course, Senior year.

7-8 THESIS *1 credit* Each semester

For students majoring in Dairy Production.

HORTICULTURE

Professor VINCENT, Mr. KNOX, Mr. ——

2 NURSERY PRACTICE *1⅔ credits* Second semester

This course consists of a very thoro study of the methods used in greenhouse and nursery in the propagation of plants.

It includes seedage, propagation of plants by separation and division, soft and hard wood cuttings, layering, budding, and grafting, a study of nursery soils, and care of greenhouse and nursery stock. One recitation and one laboratory period per week.

3 ORCHARD AND GARDEN CRAFT *1⅓ credits* First semester

A course dealing with the practical phases of fruit and vegetable growing. The student is expected to become familiar with common practices and problems of orchard, garden, and greenhouse. Required in the Sophomore year, one recitation and one two-hour laboratory period per week.

5-6 PRACTICAL POMOLOGY *2⅔ credits* Each semester

A study of general and fundamental principles of fruit growing. The student is expected to become skilful in planting, pruning, thinning, harvesting, and packing. Practical problems in growing and handling commercial orchards are made a prominent feature of this course. Junior year, two recitations and one laboratory period per week.

7 SMALL FRUIT CULTURE *2 credits* First semester

A study of small fruits, such as the strawberry, blackberry, raspberry, currant, gooseberry, dewberry, and Loganberry. Each is studied with reference to the following essential points: history, classification, propagation, planting, pruning, enemies, harvesting, and marketing. Junior year, two lectures per week.

8 SPRAYING *2⅔ credits* Second semester

The work of this course covers the essential subject relative to spraying. Special attention is given to history, materials, apparatus, and various methods employed in combating insects and fungi. Ample time is given for the student to become efficient in spraying by practice in the college orchard. Senior year, two lectures and one laboratory period per week.

9-10 HORTICULTURAL SEMINAR *1 credit* Each semester

The study of advanced problems in horticulture. This work is especially arranged for Seniors and Graduate students. The student is given practice in planning and conducting experiments in horticulture. Initiative ability and a true investi-

gational spirit are given an opportunity for development in this work. Senior year.

11 COMMERCIAL POMOLOGY *1⅔ credits* First semester

This course deals with problems of packing, marketing, transportation, storage, and storage-house construction, markets, formation of fruit growers' associations, and handling by-products. Senior year, two recitations, one laboratory, and reference reading.

12 VEGETABLE GARDENING *1⅔ credits* Second semester

This course consists of work in classification, culture, handling, and marketing of vegetables. Special attention is given to western conditions and markets. Lectures, recitations, reference reading, and laboratory work. Junior year, one recitation, and one laboratory period per week.

13 SYSTEMATIC POMOLOGY *1⅔ credits* First semester

The description, nomenclature, and classification of our common fruits are carefully studied. An opportunity is given the student for practice in fruit judging and displaying. A large collection of fruit from Idaho and other states enables the student to become skilful in recognizing types. Junior year, one recitation, one laboratory period. Work consists of lectures, reference reading, and laboratory work. Senior year.

14 LANDSCAPE GARDENING *1⅔ credits* Second semester

A study of the elementary principles underlying the use of plants for beautifying private and public grounds. Senior year, one recitation, and one laboratory period per week.

15-16 THESIS *1 credit* Each semester

17 ADVANCED POMOLOGY *3 credits* First semester

Studies of special problems such as the geography of fruit growing showing the adaptations of varieties of fruit to different localities; the improvement of orchard fruits; etc. For graduate students.

18 EXPERIMENTAL HORTICULTURE

3 credits Second semester

A course designed for those intending to follow professional horticulture or experiment station work. For graduate students.

POULTRY HUSBANDRY

Mr. Moore

1 Types and Breeds *2⅔ credits* First semester

Judging poultry and selecting breeding stock. Two recitations and two two-hour laboratory periods per week.

2 Poultry Management *2⅔ credits* Second semester

Feeds and feeding, egg production, incubation, brooding, housing, rearing, feeding young stock, fattening, and management. Drawing plans of houses and appliances suitable for work on the farm, poultry house construction, mixing feeds, examination of incubators and brooders, killing and dressing poultry, grading eggs for market, fitting fowls for exhibition. Two recitations and two two-hour laboratory periods per week.

3 Poultry Literature *2 credits* First semester

Advanced course in the study of bulletins and reports of experiment stations of this and other countries; poultry papers and text books. Required only of students who intend to become teachers or experiment station workers in poultry husbandry. Two recitations per week.

SOILS

Professor Peterson, Mr. Graves

1 Soil Physics *2⅔ credits* First semester

An advanced course covering in detail the mechanics of soil moisture, temperature, tilth, etc. This course also includes mechanical analysis of soils. Two lectures and one laboratory period.

2 Soil Physics and Fertility

4⅓ credits Second semester

An elementary course dealing with the physics and chemistry of the soil in relation to its fertility. Three lectures and four laboratory periods. Required of all Sophomores in Agriculture.

3 Soil Chemistry *2⅓ credits* First semester

This is an advanced course in soil fertility. Careful analysis of different types of soil will be made. One lecture and two laboratory periods. Prerequisite: Quantitative Analysis.

4 SOIL MANAGEMENT *2 credits* Second semester

The management of the different types of soil. The rotation of crops and the use of fertilizers. A lecture course. Prerequisite: Course 2 in Soils.

5 ORIGIN AND CLASSIFICATION OF SOILS
2 credits First semester

Primarily a lecture course, designed especially for those who wish to specialize in soil fertility. Prerequisites: Course 2 in Soils and Course 1 in Geology.

7-8 THESIS *2 credits* Each semester

Thesis in Soil Physics and Soil Chemistry. Lectures, assigned reading, and laboratory work.

9-10 RESEARCH IN SOIL CHEMISTRY AND FERTILITY
Credits to be arranged Each semester

Graduate students having sufficient knowledge of soils and chemistry will be assigned special problems.

11 ADVANCED SOIL CHEMISTRY
Credits to be arranged First semester

A course of lectures designed especially for those desiring to prepare themselves for station work.

VETERINARY SCIENCE

Assistant Professor HAHNER

1 COMPARATIVE ANATOMY *3 credits* First semester

Required of all Freshmen in the College of Agriculture. A systematic study of the bones, articulations, muscles, digestive, respiratory, genito-urinary, circulatory, and nervous systems, and the organs of special sense, is taken up. Three recitations per week.

2 COMPARATIVE PHYSIOLOGY *3 credits* Second semester

Required of Juniors in Animal Husbandry. The various functions of the animal body, including a study of the protoplasm, cell and tissues, the blood and lymph, respiration and digestion, absorption and nutrition, generation and development, are considered. Prerequisite: Vet. 1. Three recitations per week.

3 MATERIA MEDICA *2 credits* First semester

Elective for Juniors. Common medicines used on the farm in the treatment of diseased live stock are studied. Poisons and their antidotes, administration of medicines, and the indications for the various biological products are also considered. Two recitations per week.

5 SANITARY SCIENCE *1 credit* Second semester

Required of Juniors in Forestry. This course embraces the common diseases and accidents of live stock found in national forests, with modes of prevention. Emphasis is placed on those diseases which are transferable to man. One recitation per week.

7 ANIMAL DISEASES *5 credits* First semester

Required of Seniors in Animal Husbandry and Dairying. The diseases of domestic animals, including their cause, symptoms, and management, are studied. Special attention is given hygiene and sanitation, emphasizing their importance in the prevention of disease. The simple surgical operations are also considered. The purpose of this course is to familiarize the student with veterinary science to an extent sufficient for his own needs as an agriculturist. Prerequisite: Vet. 2. Five recitations per week.

8 VETERINARY OBSTETRICS *2 credits* Second semester

Elective for Seniors in Animal Husbandry and Dairying. The common diseases and accidents of pregnancy and parturition in live stock will be considered from the standpoint of the stock breeder. Prerequisite: Vet. 2. Two recitations per week.

Note—It is not the object to turn out professional veterinarians, as this is impossible with the time, equipment, and teaching force allotted this department. Students desiring to graduate in veterinary medicine will find it advantageous to complete the agricultural course, and then enter the veterinary medical department of some well-equipped school. This course is designed as an adjunct to the Agricultural department. Its aim is to instruct students in the care of live stock in health and disease. Particular attention is given to the prevention of disease. The course is as practical as it can be made. The student first studies the structure of the animal body and its normal functions. The abnormal is next taken up, in-

cluding the non-infectious and contagious diseases, together with lameness and soundness.

SPECIAL COURSES IN AGRICULTURE

SIX-MONTHS COMMERCIAL COURSE IN DAIRYING

To meet the growing demand of those who want to acquire a knowledge of practical dairy methods, as well as something of the scientific principles underlying the work, but do not feel able to take a longer course, the University offers a six-months course in Dairying.

The Dairy department is located on the first floor of Morrill Hall; it is fitted up with the most modern apparatus for butter- and cheese-making. All the leading makes of the centrifugal separator are shown in operation. The most improved cream ripener and pasteurizer are in use. All laboratory work is so arranged that each student has individual charge of all the different processes through which the cream goes before it reaches the finished product. This enables the student fully to see and realize the importance of each process.

The keeping qualities and general palatability of dairy products depend largely on bacteriological control. During this course the student has opportunity to become familiar with bacteriology as related to dairying.

The work of this course covers a period of two semesters, beginning Oct. 12, 1914, and ending Mar. 12, 1915.

The laboratory is modern and is well equipped with apparatus. A thorough training in the use of Babcock's milk and cream test, Mann's acid test, and the various rapid tests for moisture in butter is given.

The University Creamery is in operation throughout the year. It receives cream from many patrons in the vicinity of Moscow, in addition to the entire supply of milk and cream from the University farm.

The purpose of operating the University Creamery on a commercial scale is that it may offer the largest possible opportunity for practical work. It enables the student to gain a thorough knowledge of the practical as well as the theoretical phases of dairy work.

Throughout the entire course, the student is required to perform a certain amount of work in the University Creamery.

There are no special scholastic requirements for entrance to this course in Dairying, but at least a common-school education will be a great advantage to the student, and even a college training would not be out of place.

COURSE OF INSTRUCTION

Six-Months Dairy Course

First semester

Butter Making	3 credits
Milk Testing	2 credits
Breeds and Types of Dairy Animals	2 credits
Dairy Bacteriology	2 credits
Dairy Engineering	1 credit
Dairy Practice	4 credits
Dairy Calculations	2 credits
Total	16 credits

Second semester

Butter Making	3 credits
Cheese Making	4 credits
Breeding and Feeding Dairy Animals	3 credits
Scoring Butter	1 credit
Factory Management	1 credit
Dairy Practice	4 credits
Ice Cream and Ices	1 credit
Dairy Engineering	1 credit
Bookkeeping	1 credit
Total	19 credits

SCHOOL OF PRACTICAL AGRICULTURE

The School of Practical Agriculture was organized in 1910 for the purpose of providing practical industrial and agricultural training for those young men who are unable to take or do not care for such courses as the ordinary high school offers. The School also meets the needs of those who have taken high-school or collegiate

courses and desire such practical agricultural training as can be immediately applied to farm life.

METHOD OF INSTRUCTION

The students are trained in class room and laboratory to understand and put into operation the most progressive and profitable practices having to do with modern agriculture, and are taught to make the farm a pleasant and profitable place to live. Such cultural subjects are required as will fit for active and useful citizenship.

It is not intended to turn out university men from the School of Practical Agriculture, nor is it intended to compete with or supplant the high schools. This course is drawing those young men who feel that they have not time or inclination for the high school and university and is giving them thorough training along the lines of industrial education. Experience has made it possible to plan these courses of study and to provide the teaching force and apparatus for carrying them on in such an intensely practical way that ambitious young men cannot afford to miss the advantages offered.

The practical nature of the work offered in the School is emphasized wherever possible. Text-books are required in some courses. Others are given in lectures. A great deal of work, however, consists of practical exercises aimed to make the student skilful in handling live stock, grains, grasses, fruits, farm machinery, etc.

FIELD FOR GRADUATES

This course is so planned that students will find it complete as a training for those intending to return to the farm on leaving school. It is also a valuable training for those who desire to become managers of livestock ranches, fruit orchards, and other agricultural enterprises. At the same time it offers an excellent general education comparable to that to be obtained in the usual high-school course, particularly for the young men of the state who desire to follow farming as a vocation.

ADMISSION

Students fifteen years of age or older are accepted. Students who have completed the eighth grade are admitted without examination. Those who have not passed the eighth grade are accepted after taking an examination in arithmetic, United States history, grammar, geography, and reading. Those who have credit for work in accredited high schools or colleges will be able to arrange for advanced standing.

If the student is not sure that he possesses sufficient qualifications for entrance, he should confer with the Principal of the School of Practical Agriculture, C. S. Edmundson, before coming to the School. Practical experience and maturity of years are desirable qualifications. All students should bring, upon their first entrance into the School, eighth-grade diplomas and any advanced credits they may possess.

ENTERING FOR SECOND TERM A number of classes are usually organized at the opening of the second term in January. Students wishing to enter at that time should make arrangements in advance by correspondence.

ARRIVAL IN MOSCOW As soon as possible after their arrival in Moscow, students should present themselves at the Principal's office in Morrill Hall. There they will be registered and help will be given them in securing rooms and board.

COST The expenses connected with the course are small when compared with the benefits to be derived. The students attend during the winter months when the work on the farm is not pressing, and have the busy summer season in which to follow their usual vocations. Five dollars entrance fee will be charged. The necessary expenses will be for room, board, books, laundry, railroad fares, charges for apparatus broken and materials used in some departments, and incidentals. With reasonable economy the cost of one year's attendance should not exceed $180. There are some opportunities for earning money to pay part of the necessary expenses. An energetic young man can more than earn enough during the six months summer vacation to pay his expenses during the six months spent in school.

CERTIFICATES A regular certificate of the School of Practical Agriculture will be awarded upon the completion of the full three-year course.

ENTRANCE TO FOUR-YEAR COURSES Students having completed in a satisfactory manner the work of the School of Practical Agriculture and wishing to enter the regular University course in Scientific Agriculture will be required to take an additional year or intermediate year of nine months before they will be permitted to enter the four-year courses.

DATE OF OPENING The School of Practical Agriculture opens for the registration of students Monday, October 12th, 1914. Classes will be started Tuesday, October 13th. The Practical School year will close Friday, March 12th, 1915.

SPECIAL CATALOG Those who are especially interested in this School should write to the Principal of the School of Practical Agriculture, Moscow, Idaho, for special catalog.

SCHOOL OF PRACTICAL AGRICULTURE

COURSE OF STUDY

Agriculture

FIRST YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.
Composition and Rhetoric	3	
Arithmetic	5	
Breeds and Judging	4	4
Plant Life	3	4
Forge		4
Military Science	1	4
Total Hours	16	16

SECOND TERM	Hrs. per Wk. Lec.	Lab.
Composition and Rhetoric	3	
Algebra	3	
Farm Machinery	2	2
Soils	2	2
Grain Judging and Field Crops	3	4
Veterinary Anatomy	3	
Plant Life	2	4
Military Science	1	4
Total Hours	19	16

SECOND YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.
Stock Judging		4
Bacteriology	3	
English	3	
Physics	3	2
Veterinary Physiology	3	
Farm Motors	2	2
Farm Dairying	1	4
Practical Pomology	1	2
Military Science	1	4
Total Hours	17	18

SECOND TERM	Hrs. per Wk. Lec.	Lab.
Algebra (Elec.)	2	
Practical Pomology	1	2
Parliamentary Practice	3	
Physics	3	2
Chemistry	2	2
Milk Production	3	
Irrigation	3	2
Military Science	1	4
Total Hours	18	12

THIRD YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.
Entomology	3	
Forestry	3	2
Agricultural Chemistry	2	2
Feeds	3	
Stock Judging		4
Animal Diseases	3	
Commercial Pomology	1	2
Farm Drainage	2	4
Total Hours	17	14

SECOND TERM	Hrs. per Wk. Lec.	Lab.
Entomology	3	
Feeds	3	
Agricultural Chemistry	2	2
Farm Bookkeeping		4
Animal Breeding	3	
Live Stock Management		4
Forage Crops	3	
Commercial Pomology	1	2
Farm Structures	2	2
Total Hours	17	14

ELECTIVES

FIRST TERM	Hrs. per Wk. Lec.	Lab.
Steam Engines	2	2
Clinics		2
Physical Education		4
Rural Hygiene	3	

SECOND TERM	Hrs. per Wk. Lec.	Lab.
Algebra	2	
Farm Surgery	3	
Animal Diseases	2	
Physical Education		4
Poultry Raising	1	2
Plant Diseases	2	2

HOME SCIENCE COURSE

It is the purpose of this course to train young women for the duties and responsibilities of the home. For various reasons it is not always possible for young women to enter school in the early fall, hence this course begins the middle of October. In selecting and arranging the curriculum the needs of the homemaker have been constantly in mind. A reasonable number of electives are permitted. For number of hours and amount of credit for each course see schedule.

Entrance Requirements

Young women who have completed the work of the eighth grade should present certificates for the same. They will be admitted without examination to the first year of this course. All young women desiring to enter who have not fulfilled the entrance requirements, but who are over eighteen years of age, should write to the head of the Home Economics Department, University of Idaho.

Courses of Instruction

Hygiene.—In order to insure an understanding of the laws of health, it is deemed advisable to give a course in hygiene the first year after enrollment.

Drawing.—The drawing of simple objects and study of the laws of perspective.

Cooking 1.—This course includes a study of the principles of cooking the carbohydrate foods, starches and sugars. Practice in preparing cereals, bread, vegetables, beverages, etc. Lectures on the source, methods of preparation, and value of these foods. Also use of water and mineral matter in the diet.

Cooking 2.—A continuation of Cooking 1; also the principles of preparing the protein foods (meat, milk, eggs, etc.) Practice in the preparation of these foods. Also the use of fats and oils in the cooking processes. Preparation of cakes, fried food, and pastry are included. Lectures on the source, preparation, and food values of the above food classes.

Cooking 3.—The preservation of foods as fruit, vegetables, meat, etc. Jelly making, fruit juices, marmalades, etc. This course is correlated with the course in bacteriology and food chemistry.

Cooking 4.—Serving. Table setting, serving, marketing, planning meals. Practical work in serving on limited sums of money, keeping careful record of the same.

Invalid Cooking .—In connection with the course in Home Nursing and Emergencies a course in preparation of food for invalids and children is given. Trays for patients will be prepared and the diet for various common diseases will be given.

Home Nursing.—In this course both lectures and practice are given on the home care of the sick, the making of devices for such care. What to do in emergencies. Care of infants and children.

Human Nutrition.—The balanced ration, the nutritive value of food, food for different climates, ages, health and disease.

Home Management.—The systematic planning of the housework, marketing, household accounts, division of the income, cleaning processes, removal of stains.

House Sanitation.—Care of the house, ventilation, plumbing, heating, drainage, also modern conveniences for the farm and village home.

House Planning.—The convenient house will be thoroughly discussed and good examples shown. A careful study of plans which will be so arranged as to save steps.

Home Decoration.—This course has for its object, development of taste in the decoration and furnishing of a modest home.

Chemistry of Foods.—A study of the composition of foods and the changes that take place in the cooking processes.

Sewing 1.—Study of stitches adapted to household articles: making of towels, bags, pillow cases, hemming napkins, making aprons, patching, darning, buttonholes. Study of textiles, their characteristics, adulterations, and tests for the same. Laundry problems.

Sewing 2.—Continuation of Sewing 1, study of machines, care and use of attachments, making of plain garments. Cost.

Sewing 3.—A plain house dress. Cost.

Sewing 4.—An afternoon dress of inexpensive material; study of style, color harmony, and suitable material. Cost.

Sewing 5.—Dressmaking, a study of styles and materials and the making of a dress in which richer materials are used. Cost.

Millinery.—Making and trimming hats, suitability of style. Cost.

Handwork.—Crochet, basketry, weaving, etc. Course continues throughout the year. Elective in any year. Two two-hour periods a week.

SCHOOL OF HOME SCIENCE

COURSE OF STUDY

FIRST YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.	SECOND TERM	Hrs. per Wk. Lec.	Lab.
Composition and Rhetoric	3		Composition and Rhetoric	3	
Hygiene	1		Poultry Raising	1	2
Vegetable Gardening	1	2	Vegetable Gardening		1
Drawing		2	Drawing		2
Sewing I, Textiles	1	4	Sewing II	1	4
Cooking I	1	4	Cooking II	1	4
Gymnasium		2	Gymnasium		2
Total Hours	7	14	Total Hours	6	15

SECOND YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.	SECOND TERM	Hrs. per Wk. Lec.	Lab.
English I	3		English II	3	
Farm Dairying	1	4	Home Sanitation	1	2
Home Management	1	2	Cooking IV	1	4
Cooking III	1	4	Sewing IV		4
Sewing		4	Chemistry of Foods	1	4
Chemistry of Foods		2	Gymnasium		2
Bacteriology	3		Total Hours	6	16
Gymnasium		2			
Total Hours	9	18			

THIRD YEAR

FIRST TERM	Hrs. per Wk. Lec.	Lab.	SECOND TERM	Hrs. per Wk. Lec.	Lab.
English III	2		English IV	2	
Entomology	3		Entomology	3	
Human Nutrition	1	2	Human Nutrition	1	2
Physiology	2		Home Nursing, Emergencies, and Invalid Cooking	1	6
House Construction		4	Home Decoration		4
Dressmaking		6	Millinery		4
Rural Sociology	2		Total Hours	7	16
Total Hours	10	12			

An elective course in hand work is offered for those wishing to learn the more ornamental stitches. It may be elected in any year.

III. AGRICULTURAL EXPERIMENT STATION

STATION STAFF

The experiment work of the Station is conducted under the supervision of the Station Staff, consisting of the following officers:

M. A. BRANNON, PRESIDENT
W. L. CARLYLE, DIRECTOR
J. S. JONES, *Chemist*
J. F. NICHOLSON, *Bacteriologist*
E. J. IDDINGS, *Animal Husbandman*
P. P. PETERSON, *Soils*
G. E. FREVERT, *Dairy Manufactures*
E. V. ELLINGTON, *Dairy Production*
F. L. KENNARD, *Agronomist*
C. C. VINCENT, *Horticulturist*
H. P. FISHBURN, *Assistant Chemist*
C. W. COLVER, *Assistant Chemist*
E. W. HAMILTON, *Irrigation Engineer*
PREN MOORE, *Poultryman*
*J. C. KINZER, *Assistant Animal Husbandman*
W. R. WRIGHT, *Assistant Bacteriologist*
H. FULMER, *Assistant Bacteriologist*
H. M. ROOT, *Assistant Chemist*
C. V. SCHRACK, *Gardener*
*W. H. OLIN, *Director Agricultural Sub-Stations*
J. S. WELCH, *Superintendent, Gooding Sub-Station*
L. C. AICHER, *Superintendent, Aberdeen Sub-Station*
RHODA HOBSON, *Executive Clerk and Stenographer*

OBJECTS The objects of the Experiment Station, established by a provision of an Act of Congress, approved March 2, 1887, commonly known as the Hatch Act, entitled, "An Act to Establish Agricultural Experiment Stations, in connection with colleges established in the several states, under the provisions

*Resigned.

of an Act approved July 2, 1862, and of the acts supplementary thereto," are defined in the second section of the Act as follows:

"That it shall be the object and duty of said Experiment Stations to conduct original researches, or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued in a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical compositions of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of different kinds of foods for domestic animals; the scientific and economic questions in the production of butter and cheese; and such researches or experiments bearing directly on the agricultural industry in the United States, as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States and Territories."

This act has been supplemented by the Adams Act, approved March 16, 1906, and which is designed to enlarge the scope and usefulness of these stations.

STATION COUNCIL

To carry forward more effectually the lines of work contemplated in these acts, as indicated by the regulations of the Department of Agriculture of the Federal Government, the Board of Regents has created the Station Council, consisting of the President of the University, the Director of the Station, the Animal Husbandman, the Horticulturist, the Agronomist, the Bacteriologist, the Dairymen, the Agricultural Chemist, and the Soil Technologist.

The Station Council directs and conducts experiments in the various lines of scientific investigation, and enlists in this work the active and cordial cooperation of the scientific departments of the University.

The Station, in its broad sense, comprises the officers of the University, the Station staff, the Agricultural laboratories of the University, and such other equipment as may be required to prosecute the scientific investigations contemplated in the Hatch-Adams Act.

The Station, therefore, is a regularly constituted department of the University, with a function peculiarly its own, that of scientific investigation along purely agricultural lines.

FARM

The citizens of Moscow and Latah County donated ninety-four acres of land, conveniently located within half a mile of the University, for experimental purposes. The original donation has been enlarged by the purchase of two hundred and sixty-six acres additional for farm purposes, and forty-five acres for gardening and horticulture, making a total of four hundred and five acres.

The farm comprises almost every variety of soil and slope to be found in the Palouse country and is an ideal tract for scientific experimentation. Suitable barns and other buildings have been erected and an extended series of investigations instituted.

Portions of the campus are also used for horticultural work.

A small flour mill has been erected and equipped for experimental work. These facilities will aid very materially in the efficiency of the Station work, particularly in studying wheat improvement.

The Station is well equipped with the necessary teams, improved farm machinery, and other appurtenances for well-conducted farm and scientific operations.

THE AUXILIARY SUBSTATIONS

The people of Caldwell, Idaho, have secured for the University three hundred and twenty acres of land near that city for the purpose of carrying on investigations in irrigation and dry land farming. Ex-Governor Frank Gooding, of Gooding, has donated and equipped with buildings and fences forty acres of land near Gooding, to be used as an experiment station for that section. Hon. Paul Clagstone, of Clagstone Junction, in Bonner County, has donated two hundred acres of land in a cut-over timber district, to be used as an experiment station for investigation in the northern or Panhandle district. The citizens of Aberdeen have recently donated eighty acres of land near that city for a demonstration farm in dry-farming methods. The citizens of Sandpoint have donated one hundred and seventy acres of land immediately adjoining the city of Sandpoint and have also donated money and building material sufficient to equip the farm for a live stock demonstration farm. These are all well equipped and are rapidly becoming of great prac-

tical service to the farmers in these particular districts. Each farm is in the immediate charge of a superintendent, who carries on the various investigations, many of which are in co-operation with the officers of the central station at Moscow. The Department of Agriculture at Washington is co-operating in the work at Gooding and at Aberdeen.

Agricultural and Home Economics Extension Service

For several years past the Agricultural College has been conducting farmers' institutes and farmers' meetings of various kinds throughout the State. For the past three years the character of this work has been modified, and the Extension Service has been developed along the lines of movable schools and the employment of fieldmen, who are constantly at work among the farmers of the state, giving advice and counsel along whatever lines might be required. The central office for this service has been established in the State House in Boise with a Director in charge. In addition to supervising the movable schools, the direction of fieldmen, and the conducting of farmers' institutes in the small places, this Director also has active charge of the Demonstration farms. At the present time plans are being made for the establishment in every county of a County Agriculturist, who will be an officer of the University, representing the Agricultural Department in the particular county where he is located. The terms under which it is proposed to appoint these County Agriculturists is that the University, through its Federal and State appropriations, shall pay one-third of the salary and expenses of such Agriculturist and direct his work. The county, either by direct appropriation or through donation, to furnish the other two-thirds of the salary and expenses. At the present time two counties have availed themselves of this provision.

The Extension Service is now equipped with a Director, an Assistant Director in charge of county agriculturists and the organization of counties for this work, an Animal Husbandman, a Horticulturist, an Entomologist, a Dairyman in co-operation with the U. S. Department of Agriculture and a Lecturer in Home Economics. The Extension Service also directs the work of the State Seed Inspector and Seed Improvement work. All of these officers have their headquarters in the State House at Boise.

IV. COLLEGE OF ENGINEERING

1. Civil Engineering
2. Mining Engineering
3. Electrical Engineering
4. Mechanical Engineering
5. Chemical Engineering

FACULTY

MELVIN AMOS BRANNON, Ph.D., PRESIDENT

CHARLES NEWTON LITTLE, PH.D., DEAN, *and Professor of Civil Engineering*

*RICHARD STANISLAUS MCCAFFERY, E.M., *Professor of Mining and Metallurgy*

GUSTUS LUDWIG LARSON, B.S.(E.E.), *Professor of Mechanical Engineering*

LAURENCE JAY CORBETT, B.S.(E.E.), *Professor of Electrical Engineering*

CARL LEOPOLD VON ENDE, PH.D., *Professor of Chemistry*

DOUGLAS CLERMONT LIVINGSTON, B.S.(MNG.E.), *Professor of Mining Engineering*

DAVID BERNARD STEINMAN, C.E., PH.D., *Associate Professor of Civil Engineering*

CLARENCE LEO LARSON, E.M., *Instructor in Metallurgy*

GEORGE HALL, *Instructor in Machine Shop Practice and Wood Working*

ADDITIONAL INSTRUCTORS

MARTIN FULLER ANGELL, PH.D., *Professor of Physics*

MINNIE MARGARET BRASHEAR, A.B., *Assistant Professor of English*

*Resigned February, 1914.

JAY GLOVER ELDRIDGE, PH.D., *Professor of the German Language and Literature*

Lieut. HERBERT CLARENCE FOOKS, 16th Inf., U. S. A., *Professor of Military Science and Tactics*

HORACE ASA HOLADAY, B.A., *Instructor in Chemistry*

CAROLINE CHRISTINE ISAACSON, A.B., *Assistant Professor of German*

JOHN ANTON KOSTALEK, PH.D., *Assistant Professor of Chemistry*

BENJAMIN HARRISON LEHMAN, B.A., *Assistant Professor of English*

HENRIETTA EVANGELINE MOORE, PH.D., *Professor of English Literature*

JESSE PIERCE, B.S.(C.E.), *Assistant Professor of Mathematics*

CHARLES ARTHUR STEWART, PH.D., *Professor of Geology and Mineralogy*

EQUIPMENT

CIVIL ENGINEERING

The department has an adequate equipment of field instruments. It includes a triangular theodolite; seven transits—one Heller & Brightly, one C. L. Berger & Sons, one Gurley with Burt's solar attachment, one Dietzgen, one Sterling, and two Lietz preliminary; three wye levels; dumpy level; architect's level; two plane tables; aneroid barometer; compasses; sextant; Price current meter, by Gurley; artificial horizon and chronometer.

There is a well equipped cement laboratory with two Fairbanks cement testing machines; slate damp closet; Vicat needles, standard steaming apparatus; and the usual accessories for cement testing. There is also an Olsen standard abrasion machine.

The department has a 200,000-lb. capacity Olsen universal testing machine, completely equipped for tension and compression tests, and with beam extension for transverse tests of full-sized beams up to sixteen feet in length.

The new departmental drafting room in the Administration Building is admirably adapted to its use. It is equipped with Economy desks having provision for one hundred and fourteen students working at different times.

ments are here mounted for direct comparison as secondary standards, and a complete potentiometer equipment for both continuous and alternating current, shared with the department of Physics, is available as a primary standard. A rotating standard watthour meter, with several current and potential ratios, together with phantom loads and phase shifter, offer ready means for commercial tests of watthour meters. The photometer equipment is available for the testing of incandescent lamps or other sources of illumination.

MECHANICAL ENGINEERING

The Mechanical and Electrical Engineering departments share quarters in the Engineering Building. The department library, which is also located in this building, contains all the leading texts and reference books on the various branches of mechanical engineering. The leading journals on this branch of engineering are also received and kept here.

The steam laboratory is well equipped with steam apparatus, including automatic cut-off and throttling engines for testing and valve setting; boilers; surface condenser; pumps; indicators; injectors; steam calorimeters; various calibrating appliances; gas and oil engine; fuel testing apparatus, including Mahler bomb and Parr calorimeters. A compressor plant, including boiler, feed water heater, single stage compressor, and receiver is also available for this work.

There are also a wood shop, a forge shop, and a machine shop, all well equipped. The wood shop is equipped with a sufficient number of work benches and turning lathes, circular saw, planer, and band saw. The forge shop is equipped with down-draft forges, power blower, exhauster, and a generous supply of the various blacksmithing tools. The machine shop is equipped with the leading makes of modern engine lathes, shaper, drill press, milling machine, universal tool grinder, emery wheel grinder, and bench and vise work equipment.

CHEMICAL ENGINEERING

For the courses and equipment of the Chemistry Department, see pages 95-100; for the work required in the different lines of engineering, note the equipment of the various departments concerned.

ADMISSION The requirements for admission to the Freshman class of all engineering courses are:

English . . . . . 3 units
Social Science, including History . . . . . 1 unit
Physics . . . . . 1 unit
Mathematics . . . . . 3 units
a. Elementary Algebra . . . . . 1 unit
b. Advanced Algebra . . . . . ½ unit
c. Plane Geometery . . . . . 1 unit
d. Solid Geometery . . . . . ½ unit
One Foreign Language . . . . . 2 units
One additional academic unit . . . . . 1 unit
(English, Foreign Language, Social Science, Botany, Zoology, or Chemistry)
Elective . . . . . 4 units

Total 15

DEGREES Courses are offered in the College of Engineering leading to the degrees of Bachelor of Science in Civil Engineering, B.S.(C.E.); Bachelor of Science in Mining Engineering, B.S.(Mng.E.); Bachelor of Science in Electrical Engineering, B.S.(E.E.); Bachelor of Science in Mechanical Engineering, B.S.(Mech.E.); Bachelor of Science in Chemical Engineering, B.S.(Chem.E.); also the advanced degrees of Master of Science in the respective branches of engineering, M.S.(C.E.), etc.

REQUIREMENTS FOR GRADUATION

Students in all four-year courses in the College of Engineering take the same work in the Freshman year, as follows:

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 101. Composition and Literature	4	Eng. 102. Composition and Literature	4
Math. 101. Engineering Math.	5	Math. 102. Engineering Math.	5
Chem. 1. General Chemistry.	4	Chem. 2. General Chemistry.	4
C.E. 1. Engineering Drafting	1	C.E. 2. Engineering Drafting	1
C.E. 13. Descriptive Geometry	2	C.E. 14. Descriptive Geometry	2
Shop. 1. Wood Working	1	Shop. 2. Wood Working	1
Mil. 1. Regulations and Drill	2	Mil. 2. Regulations and Drill	2
Total	19	Total	19

B.S.(C.E.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Civil Engineering, B.S.(C.E.), the student must complete the following courses in addition to the common Freshman year outlined on page 179.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Math. 103. Engineering Math.	5	Math. 104. Engineering Math.	5
Phys. 101. Engineering Phys.	4	Phys. 102. Engineering Phys.	4
C.E. 15. Surveying	4	C.E. 16. Surveying	4
Geol. 5. Practical Geology	3	Shop. 4. Bench and Forge Wk	2
Mil. 3. Mil. Sci. and Drill	2	Mil. 4. Mil. Sci. and Drill	2
		Elective	1
Total	20	Total	20

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Phys. 105. Analytic Mech.	3	Phys. 106. Analytic Mech.	3
C.E. 21. Testing Laboratory.	2	C.E. 22. Testing Laboratory.	2
C.E. 23. Graphic Statics	2	C.E. 24. Mech. of Engineering	4
C.E. 25. R. R. Engineering.	4	C.E. 26. R. R. Engineering.	2
C.E. 27. Roads and Pavements	2	C.E. 28. Hydraulics	3
M.E. 3. Practical Thermodynamics	3	M.E. 4. Practical Thermodynamics	2
Elective	2	Elective	1
Total	18	Total	17

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Mng. 5. Earth and Rock Excavation	2	Mng. 6. Metallurgy of Iron and Steel	1
C.E. 31. Reinforced Concrete	2	C.E. 34. Steel Frame Design.	1
C.E. 33. Roof Design	2	C.E. 36. Railroad Economics.	2
C.E. 37. Sewers and Sewerage	2	C.E. 38. Irrigation	4
C.E. 41. Masonry and Foundations	3	C.E. 42. Arch Design	1
C.E. 43. Framed Structures.	4	C.E. 48. Contracts and Specif.	2
Elective	3	C.E. 50. Thesis	4
		Elective	3
Total	18	Total	18
		Total credits required for graduation	149

B.S.(Mng.E.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Mining Engineering, B.S.(Mng.E.), a student must complete the following courses in addition to the common Freshman year outlined on page 179.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Math. 103. Engineering Math.	5	Math. 104. Engineering Math.	5
Phys. 101. Engineering Phys.	4	Phys. 102. Engineering Phys.	4
Chem. 3. Qualitative Analysis	4	Chem. 4. Quantitative Analysis	4
C.E. 15. Surveying	4	C.E. 16. Surveying	4
Mil. 3. Mil. Sci. and Drill	2	Mil. 4. Mil. Sci. and Drill	2
Total	21	Total	21

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Phys. 105. Analytic Mechanics	3	Phys. 106. Analytic Mechanics	3
Chem. 7. Adv. Quan. Analysis	3	Geol. 4. Det. Mineralogy	2
Geol. 3. Crystallography and Blowpipe Analysis	2	M.E. 4. Practical Thermodynamics	2
Geol. 5. Practical Geology	3	E.E. 2. Alt. Cur Mach.	2
M.E. 3. Practical Thermodynamics	3	C.E. 24. Mech. of Engineering	4
E.E. 1. Direct Cur. Mach.	2	Mng. 2. Fire Assaying	3
Mng. 1. Ore Dressing	2	Mng. 10. General Metallurgy	2
Mng. 5. Excavation	2	Total	18
Total	20		

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Geol. 9. Economic Geology	2	Geol. 10. Economic Geology	3
Geol. 11. Petrology	2	Geol. 12. Petrology	2
Mng. 3. Met. of Gold and Silver	2	C.E. 28. Hydraulics	3
Mng. 7. Mining Methods	3	Mng. 4. Met. of Copper and Lead	2
Mng. 9. Mining Economics	3	Mng. 6. Metallurgy of Iron and Steel	1
Mng. 11. Ore Dressing and Metallurgical Lab.	3	Mng. 8. Mining Machinery	3
Mng. 19. Mine Plant Design	2	Mng. 20. Underground Surveying	2
Mng. 21. Thesis or Elective	2	Mng. 22. Thesis	2
Total	19	Total	18
		Total credits required for graduation	155

B.S.(E.E.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Electrical Engineering, B.S.(E.E.), the student must complete the following courses in addition to the common Freshman year outlined on page 179.

SOPHOMORE YEAR

First SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Math. 103. Engineering Mathematics	5	Math. 104. Engineering Mathematics	5
Phys. 101. Engineering Phys.	4	Phys. 102. Engineering Phys.	4
M.D. 1. Mechanical Drawing.	2	M.D. 2. Machine Design	2
C.E. 15. Surveying	4	M.D. 4. Elements of Mechanism	2
Shop 3. Pattern Making	1	Shop. 4. Forge Work	2
Mil. 3. Mil. Sci. and Drill	2	Shop 6. Machine Work in Iron	2
		Mil. 4. Mil. Sci. and Drill	2
Total	20	Total	21

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Phys. 103. Electricity and Magnetism	2	Phys. 106. Analytic Mechanics	3
Phys. 105. Analytic Mechanics	3	E.E. 2. Alt. Current Mach.	2
Phys. 107. Electrical Measurements	2	E.E. 2a. Elect. Prob. and Design	2
E.E. 1. Direct Current Mach.	2	E.E. 4. Elect. Eng. Lab.	1
E.E. 1a. Elect. Prob. and Design	2	C.E. 24. Mechanics of Engineering	4
E.E. 3. Elect. Eng. Lab.	1	C.E. 28. Hydraulics	3
C.E. 23. Graphic Statics	2	M.E. 4. Prac. Thermodynamics	2
M.E. 3. Prac. Thermodynamics	3	*Elective	2
*Elective	3		
Total	20	Total	19

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
E.E. 5. Electrical Engineering	4	E.E. 6. Electrical Engineering	4
E.E. 7. Elect. Eng. Lab.	2	E.E. 8. Elect. Eng. Lab.	2
E.E. 9. Hydro-Elect. Plants	3	E.E. 10. Elect. Ry. Engineering	2
E.E. 11. Telephony	2	E.E. 14. Seminar	2
E.E. 13. Seminar	2	E.E. 16. Thesis	4
M.E. 11. Steam Power Plants	3	C.E. 16. Contracts and Specifications	2
M.E. 17. Hydraulic Machinery	2	*Elective	2
Total	18	Total	18
		Total credits required for graduation	154

*Electives must be approved by the head of the department. Suggested electives are subjects in higher mathematics, general geology, physics, chemistry, economics, and other branches of engineering.

B.S.(Mech.E.) COURSE

To obtain the recommendation of the Faculty for the degree of Bachelor of Science of Mechanical Engineering, B.S.(Mech.E.), the student must complete the following courses in addition to the common Freshman year outlined on page 179.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Math. 103. Engineering Math.	5	Math. 104. Engineering Math.	5
Phys. 101.Engineering Phys.	4	Phys. 102. Engineering Phys.	4
M.D. 1. Mechanical Drawing	2	M.D. 2. Machine Design	2
Shop 3. Pattern Making	1	M.D. 4. Ele. of Mechanism	2
Shop 5. Mach. Work in Iron	2	Shop 4. Forge Work	2
Shop 5a. Machine Shop Practice	2	Mil. 4. Mil. Sci. and Drill	2
Mil. 3. Mil. Sci. and Drill	2		
Total	20	Total	19

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Phys. 105. Anal. Mechanics	3	Phys. 106. Anal. Mechanics	3
C.E. 23. Graphic Statics	2	C.E. 22. Testing Labratory	2
M.E. 3. Practical Thermodynamics	3	C.E. 24. Mechanics of Eng.	4
M.E. 5. Heating and Vent.	2	C.E. 28. Hydraulics	3
M.E. 7. Refrigeration	1	M.E. 4. Prac. Thermodynamics	2
M.E. 9. Mechanical Laboratory	1	E.E. 2. Alt. Cur. Machinery	2
M.D. 5. Machine Design	2	E.E. 4. Electrical Laboratory	1
E.E. 1. Direct Current Mch.	2	Elective	2
E.E. 3. Electrical Laboratory	1		
Shop. 7. Mach. Work in Iron	2		
Total	19	Total	19

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
M.E. 11. Steam Power Plants	3	M.E. 12. Power Plant Design	3
M.E. 13. Steam Engine Design	3	M.E. 14. Mechanical Laboratory	2
M.E. 15. Steam Turbines	3	M.E. 16. Gas Engines	2
M.E. 17. Hydraulic Machinery	2	M.E. 18. Thesis	4
E.E. 7. Electrical Laboratory.	2	C.E. 34. Steel Frame Design.	1
E.E. 9. Hydro-Electric Plants	3	C.E. 48. Contracts and Specifications	2
E.E. 13. Seminar	2	Mng. 6. Metallurgy of Iron and Steel	1
Elective	0 or 2	E.E. 14. Seminar	2
		Elective	2 or 0
Total	18 or 20	Total	19 or 17
		Total credits required for graduation	152

B.S.(Chem.E.) COURSE

To obtain the recommendation of the Faculty in the degree of Bachelor of Science in Chemical Engineering, B.S.(Chem.E.), the student must complete the following courses in addition to the common Freshman year outlined on page 179.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Eng. 103. Composition	2	Eng. 104. Composition	2
Math. 103. Engineering Math.	5	Math. 104. Engineering Math.	5
Ger. 3. Intermediate German	4	Ger. 4. Intermediate German	4
Chem. 3. Qualitative Analysis	4	Chem. 4. Quantitative Analysis	4
Phys. 101. Engineering Phys.	4	Phys. 102. Engineering Phys.	4
Mil. 3. Mil. Sci. and Drill	2	Mil. 4. Mil. Sci. and Drill	2
Total	21	Total	21

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Ger. 11. Scientific German	4	Phys. 106. Anal. Mechanics	3
Phys. 105. Anal. Mechanics	3	Chem. 6. Organic Chemistry	3
Chem. 5. Organic Chemistry	5	Chem. 8. Special Quantitative Analysis	2
Chem. 7. Advanced Quantitative Analysis	4	C.E. 24. Mechanics of Engineering	4
E.E. 1. Direct Current Mach.	2	E.E. 2. Alternating Cur. Mach.	2
M.D. 1. Mechanical Drawing	2	M.D. 2. Mechanical Design	2
		M.D. 4. Elements of Mechanism	2
Total	20	Total	18

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
Chem. 11. Industrial Chemistry	3	Chem. 12. Industrial Chemistry	3
Chem. 13. Theoretical and Physical Chemistry	3	Chem. 14. Theoretical and Physical Chemistry	3
Chem. 15. Thesis	2	Chem. 16. Thesis	2
Geol. 3. Crystallography and Blowpipe Analysis	2	Geol. 4. Det. Mineralogy	2
Mng. 1. Assaying	2	C.E. 21. Testing Laboratory	1
M.E. 3. Practical Thermodynamics	3	C.E. 28. Hydraulics	3
M.E. 9. Mechanical Laboratory	1	Mng. 14. Metallurigcal Lab.	2
Shop 5. Mach. Work in Iron	2	M.E. 4. Practical Thermodynamics	2
Total	18	Total	18

Total credits required for graduation 154

DEPARTMENTS OF INSTRUCTION

CIVIL ENGINEERING

Professor LITTLE, Professor STEINMAN

1-2 ENGINEERING DRAFTING *1 credit* Each semester

Use of drafting instruments; plane problems; freehand lettering; dimensioning. Conventional signs for materials of construction. Topographic conventional signs. Working drawings; sections; tracings; blue-prints. Three hours in drafting room. Professor STEINMAN

13-14 DESCRIPTIVE GEOMETRY *2 credits* Each semester

Problems on point, line, and plane; classification of surfaces; tangent planes; sections; intersections; developments; warped surfaces. Applications to engineering problems. Theory of shades and shadows. Perspective. Isometric, cabinet, and trimetric projections. One recitation and three hours in drafting room. Professor STEINMAN

15-16 SURVEYING *4 credits* Each semester

Theory and use of transit, level, plane table, and minor instruments. Land surveying. Government method of laying out public lands. Topographic, hydrographic, city and mining surveying. Recitations, two hours; field work, computations, topographic drawing, and mapping, six hours. Prerequisites: Math. 101-102. Professor STEINMAN

21-22 TESTING LABORATORY *2 credits* Each semester

Experimental study of strength and other qualities of cement, brick, stone, timber, iron, and steel. Professor LITTLE

23 GRAPHIC STATICS *2 credits* First semester

Graphic composition and resolution of forces. Equilibrium polygon. Graphic representations of shears and moments. Fixed and moving loads. Influence lines. Applications to bridge and roof trusses, and plate girders. One recitation and three hours in drafting room. Professor STEINMAN

24 MECHANICS OF ENGINEERING *4 credits* Second semester

Theory of strength and elasticity of materials of construction; tension, compression, and shear; theory of flexure of

beams and columns, shock and resilience. Prerequisite: Phys. 105. Professor LITTLE

25-26 RAILROAD ENGINEERING *4 credits* First semester
2 credits Second semester

Railroad field geometry: Simple curves, compound curves, spirals, earthwork, switches and crossings. Railroad construction and maintenance: Track, trestles, culverts, tunnels, yards and terminals, block signaling. The field work includes reconnaissance, topography, location surveys, cross-sectioning, special problems in curves and turnouts, practical work on track. The office work includes right-of-way mapping, profiles, estimates; detailing of trestles, culverts, and other special structures; design of terminal layouts. Prerequisites: C.E. 15-16.
Professor STEINMAN

27 ROADS AND PAVEMENTS *2 credits* First semester

Earth, gravel, and stone roads. Wood, brick, stone, and asphalt pavements. Professor LITTLE

28 HYDRAULICS *3 credits* Second semester

Hydrostatics and hydrodynamics; orifices; weirs; flow in pipes, conduits, and canals. Stream measurements.
Professor LITTLE
Professor STEINMAN

31 REINFORCED CONCRETE *2 credits* First semester

Theory of the reinforced concrete beam and column. Design of floor slabs and girders. Prerequisites: C.E. 24 and Phys. 105-106. Professor LITTLE

33 ROOF DESIGN *2 credits* First semester

Design of wooden roof truss and of one of steel. Prerequisites: C.E. 23-24, and Phys. 105-106. Professor LITTLE

34 STEEL FRAME DESIGN *1 credit* Second semester

Study of floor systems, roof construction, girders, columns, walls, foundations. Building laws and specifications. Complete design of fireproof building; column-schedule and detail drawings. One recitation and three hours in drafting room for eight weeks. Prerequisites: C.E. 23-24, and Phys. 105-106.
Professor STEINMAN

36 RAILROAD ECONOMICS *2 credits* Second semester

Promotion of railroad projects. Cost of railroads. Operating expenses. Economic theory of railroad location. Train resistance. Cost of distance, curvature, rise and fall. Ruling and minor grades. Virtual profile. Pusher grades. Balance of grades for unequal traffic. Improvement of old lines. Railroad organization and maintenance. Lectures and recitations.

Professor STEINMAN

37 SEWERS AND SEWAGE *2 credits* First semester

The principles involved in the design, construction, and maintenance of sewers and sewage systems. Prerequisite: Civ. 28.

Professor LITTLE

38 IRRIGATION *4 credits* Second semester

Brief comparative study of the irrigation institutions and laws of the different states and foreign countries, with detailed consideration of irrigation laws of Idaho. General survey of irrigation practice. Detailed study of structures, as water wheels, pipes, flumes, head gates, and dams. Prerequisite: C.E. 28.

Professor LITTLE

41 MASONRY AND FOUNDATIONS *3 credits* First semester

Plain and reinforced concrete; stone, artficial stone, and brick masonry. Ordinary pile and subaqueous foundations; coffer-dam, open-caisson, pneumatic, open-dredging, and freezing processes. Bridge-piers and abutments. Theory of retaining walls. Culverts, Arches. Complete design of bridge-pier and foundation. Design of retaining walls by analytic and graphic methods. Two recitations and three hours in drafting room.

Professor STEINMAN

42 ARCH DESIGN *1 credit* Second semester

Theory of arches. Complete design of masonry arch. Design of reinforced concrete arch by the elastic theory. One recitation and three hours in drafting room for eight weeks.

Professor STEINMAN

43 FRAMED STRUCTURES *4 credits* First semester

Stress analysis and computations for framed structures. Bridge trusses. Prerequisites: C.E. 23-24, and Phys. 105-106.

Professor LITTLE

44 EFFICIENCY ENGINEERING *1 credit* Second semester
Principles of efficiency engineering. Given 1914-15.
Professor LITTLE

48 CONTRACTS AND SPECIFICATIONS
2 credits Second semester
Brief statement of law of contracts, and consideration of examples of general and technical clauses in engineering specifications. Professor LITTLE

50 THESIS *4 credits* Second semester
Professor LITTLE

DEPARTMENT LIBRARY

The department library of over 500 volumes includes the most useful texts, and bound volumes of engineering serials. The most important engineering journals and serials in English are kept on file.

MINING AND METALLURGY

Professor LIVINGSTON, Mr. LARSON

1 ORE-DRESSING *2 credits* First semester
General principles, crushers, rolls, stamps, tube-mills, etc. Sizing, screens, sorting, classifiers, jigs and laws of jigging. Fine sand and slime concentration. Magnetic, electro-static, oil and flotation methods. Mill otulines, testing of mill apparatus and efficiency, determination of process of treatment. Mechanical dressing of coal and iron. Mr. LARSON

2 FIRE ASSAYING *3 credits* Second semester
Lectures and laboratory work. Reactions and uses of the fluxes employed; oxidation and reduction processes; constitution and calculation of assay slags; crucible assay of gold and silver ores; scorification assay; fire assay for lead ores; assay of reagents.

Comparison of methods in the assay of ores and metallurgical products containing copper, arsenic, antimony, tellurum, etc.; assay of ores containing metallic scales; calculation of slag and cupel losses; assay of gold and silver bullion.

Practice in the handling of a number of determinations in a day in accordance with practical conditions in a mine assay office. Professor LIVINGSTON

3 METALLURGY OF GOLD AND SILVER

2 credits First semester

Silver, ore-treatments by amalgamation methods (patio, barrel, kettle, and pan), by chemical methods (Ziervogel, Augustin, Claudets, Von Patera and Russel), and by smelting.

Gold-silver ores amalgamation, chlorination and cyaniding chemistry, methods and apparatus required. Retorting of amalgams and refining of precipitates. Parting of gold and silver. Mr. LARSON

4 METALLURGY OF COPPER AND LEAD

2 credits Second semester

Chemistry and methods of roasting copper ores in lump form-heaps, stalls and kilns; in pulverized form-shaft furnaces, stalls, hand reverberatory, revolving cyllinder and automatic reverberatory furnaces. Smelting of copper ores in reverberatories and blast furnaces. Furnace products, matte, slag, black and blister copper, flue dust. Copper refining. Costs of copper production.

Chemistry and methods of roasting lead ores. Pot or sintering roasting. Reverberatory, ore-hearth and blast furnace smelting. Details of plant construction, calculations of charges, heat balances, etc. Products of smelting. Desilverization of base bullion, refining, cupellation. Mr. LARSON

5 EARTH AND ROCK EXCAVATION *2 credits* First semester

Methods and costs of handling earth and rock by hand and mechanical excavation. Ditching, trending, dredging; machines and costs. Explosives; composition, principles, determining the force of an explosion, blasting.

Drilling; hand drilling, construction of the different types of rock drills and their suitability for certain classes of work, shape of drill bits, sharpening and tempering drills, principles of tunnel driving and shaft sinking methods through soil, rock and water-bearing formations. Professor LIVINGSTON

6 METALLURGY OF IRON AND STEEL

1 credit Second semester

Principles and methods of manufacture of the various commercial grades of iron and steel. Changes of structure and

properties by heat and mechanical treatments. Standard specifications. Mr. LARSON

7 MINING METHODS *3 credits* First semester

Prospecting; prospecting of ground by boring, different types of boring machines, survey of bore holes, calculation of strike and dip of veins, etc., from bore holes.

Development; comparison of mine entries, vertical shafts, inclines, tunnels, etc.; drifts, cross cuts, raises and winzes.

Support of excavations: principles of mine support, classification of mine supports, timbering of shafts, drifts, and support of stopes, etc.

Methods of ore extraction; open cuts, overhand and underhand stoping, square set stoping, shrinkage stoping and methods employed for large ore bodies, caving, coal mining methods, etc.

Placer mining; gravel washing by hand, principles of hydraulic mining and dredging.

Ventilation. Principles of mine ventilation by natural and artificial means. Professor LIVINGSTON

8 MINING MACHINERY *3 credits* Second semester

Hoisting; calculation of size of wire ropes, types of treadframes and principles of design, different types of hoisting engines, calculation of size of hoisting engines for certain depth and output, comparison of steam. Compressed air and electricity for hoisting, cages, skips and safety appliances.

Drainage; flow of surface and underground water and principles of drainage, different types of pumps, calculation of size of pump for certain conditions.

Air transmission and compression; calculation of pipe line and distribution, types of air compressors and calculation of size and capacity for certain conditions.

Haulage; underground and surface, including electric, compressed air, endless rope, tail rope and wire rope tramways.

Bins and retaining walls. Underlying principles of design for bins and retaining walls, with example.

This course is taken in combination with Mng. 18.

Professor LIVINGSTON

9 MINING ECONOMICS *3 credits* First semester

Mine sampling, including the principles involved and the different methods used in sampling veins, placer deposits, disseminated deposits, coal, etc.; mine valuation; calculation of value in sight from width and assays; probable and prospective ore; amortization of capital invested; cost of production, simple cost keeping; the more important points in the mining law of the United States; essential features of reports by mining engineers. Professor LIVINGSTON

10 GENERAL METALLURGY *2 credits* Second semester

Properties of metals and alloys, metallic compounds, ores and their values, fuels, refactory materials, pyrometallurgical processes and apparatus, hydro-metallurgical processes and apparatus, electro-metallurgical processes and apparatus, mechanical treatment of alloys, handling of gases, metallurgical products. Mr. LARSON

11 ORE-DRESSING AND METALLURGICAL LABORATORY *3 credits* First semester

Pyrometry; desilverization of base bullion; study of effects of heat and mechanical treatments and metalloid composition of steel; elements of metallurgy; laboratory ore-testing; mill runs in ore-dressing laboratory, with commercial size machines. Professor LIVINGSTON

12 METALLURGICAL LABORATORY *2 credits* Second semester

For Chemical Engineers and elective to all engineers other than those in mining. Combined lecture and laboratory work: properties of metals, alloys and chemical compounds, fuels, fluxes; calorimetry, pyrometry, deoxidation and calcining operations; desilverization of base bullion by Parke's process; study of effects of temperature and mechanical treatment of steels; metallography. Professor LIVINGSTON

13-14 METALLURGICAL DESIGN *3 credits* Each semester

The solution of problems in the design and construction of concentration and reduction works, with working drawings, bills of material, specifications and estimates. For graduate students. Mr. LARSON

15-16 METALLURGICAL INVESTIGATION

2 credits Each semester

Laboratory work on some problems in the metallurgical treatment of gold, silver, copper, lead or zinc ores. For graduate students. Mr. LARSON

17 MINING RESEARCH PROBLEMS

4 credits Each semester

Special problems and investigations in mining methods, mining machinery, equipment and design. For graduate students. Professor LIVINGSTON

18 MINE PLANT DESIGN *2 credits* Second semester

The student either chooses or is assigned a mine with certain output and conditions, designs a plant and machinery necessary from this data. This includes design of shaft or entry, head frame, hoist, compressor, air pipe lines, pumps and connections, boilers, electric installation, method of mining, etc. A detailed drawing of the head frame and ore bin is required, and specifications for the other machinery. Professor LIVINGSTON

20 MINE SURVEYING *2 credits* Second semester

Lectures on the standard methods of surveying practiced in the large mining districts of this country, including instruments and equipment; carrying the meridian underground; measurement of angles and distances; underground stations and methods of marking; note-books and office records; maps required; stope surveying; mappings and calculation of tonnage extracted. Drafting room work consists of the calculation and reduction of notes from a mine survey and the plotting of same by co-ordinates. Claim surveying. Mine surveying on spring trip.

Professor LIVINGSTON

21-22 THESIS *2 credits* Second semester

SPECIAL COURSES Special courses will be arranged for students of mature years according to their individual needs and ability.

PRACTICAL MINING Every student taking the regular mining course is required to spend at least three months of the summer vacation at mines, mills, or smelters. A written report with sketches and photographs must be submitted to

the professor of mining the first week of the first semester, detailing the observations of the summer work regarding methods, machinery, and costs.

MINING TRIP During the spring vacation, a visit is made to one of the large mining districts for detailed study of mining and metallurgic practice. This trip is required of Junior and Senior students. During the spring vacations of 1910 and 1912, the class visited the Center Star, War Eagle, and Le-Roi mines at Rossland, B. C., and the copper and lead smelter and refinery at Trail, B. C.

In 1913 the class visited the Butte mines and the smelter at Anaconda, Mont.

DEPARTMENT LIBRARY In addition to the standard works on mining and metallurgy, complete files of the transactions of mining and metallurgical societies and the more important periodicals on these subjects are accessible to the students at all times and new publications of value are added as fast as they appear.

MINING MUSEUM The mining museum contains models of mines, head frames, mine plant and timbering, tools, lamps, machine drills of both the reciprocating and air hammer types; drawings of mines, mine plant, mills, reduction works, furnaces, machinery, and specimens of metallurgical products and suits illustrating mill practice.

ELECTRICAL ENGINEERING

Professor Corbett, Professor Larson

1 Direct Current Machinery and Distribution

2 credits First semester

A study of the theory, construction, and operation of direct current generators and motors, the calculation of distribution systems, for light and power. A general course suitable for all engineering students. Prerequisite: Junior standing in the College of Engineering.

1a Electrical Problems and Design

2 credits First semester

A parallel course with E.E. 1, consisting of one recitation or lecture and one drawing period per week, emphasizing details

passed over in the general course. Required of students in Electrical Engineering. To be taken only in conjunction with E.E. 1.

2 ALTERNATING CURRENT MACHINERY AND DISTRIBUTION
2 credits Second semester

A general course in continuation of E.E. 1, treating of alternating current machinery and circuits. Prerequisite: E.E.1.

2a ELECTRICAL PROBLEMS AND DESIGN
2 credits Second semester

A continuation of E.E. 1a. To be taken only in conjunction with E.E. 2.

3 ELECTRICAL ENGINEERING LABORATORY
1 credit First semester

The use of instruments, testing and operation of direct current machinery and apparatus. To be taken only in conjunction with E.E. 1.

4 ELECTRICAL ENGINEERING LABORATORY
1 credit Second semester

Continuation of E.E. 3, with tests on single phase alternating current apparatus in the latter part of the semester. To be taken only in conjunction with E.E. 2.

5 ELECTRICAL ENGINEERING *4 credits* First semester

An advanced course in direct and alternating current machinery, apparatus and transmission. The use of the complex quantity in the calculation of alternating current phenomena. Prerequisites: The completion of courses 1 to 4 inclusive.

6 ELECTRICAL ENGINEERING *4 credits* Second semester

A continuation of E.E. 5, taking up the theory of the synchronous motor, rotary converter, the induction motor, single phase induction, commutating and repulsion motors, and their operation in transmission systems.

7 ELECTRICAL ENGINEERING LABORATORY
2 credits First semester

A continuation of E.E. 4, with more extended tests on direct and alternating current equipment, illustrating the work of the class room. To be taken only in conjunction with E.E. 5.

8 ELECTRICAL ENGINEERING LABORATORY
2 credits Second semester
A continuation of E.E. 7, with tests on equipment studied in 6. To be taken only in conjunction with E.E. 6.

9 HYDRO-ELECTRIC PLANTS
2 or 3 credits First semester
A course in water power engineering, dealing with stream flow, reservoirs and their relation to power demands, selection of machinery and accessories, and the design of hydraulic plants with special reference to electric power. Two lectures and one drawing period per week.

10 ELECTRIC RAILWAY ENGINEERING
2 credits Second semester
A course in electric railway economics, construction and operation.

11 TELEPHONY *2 credits* First semester
The principles, design, construction, operation and testing of lines and apparatus used in telephony and telegraphy.

11a TELEPHONE CONSTRUCTION *1 credit* First semester
A special course for students in Forestry.

13 POWER SEMINAR *2 credits* First semester
Discussions of typical power stations and industrial applications, with problems and reviews of current articles in the technical press. The preparation of papers on assigned subjects.
Prerequisite: Senior standing in electrical or mechanical engineering.

14 POWER SEMINAR *2 credits* Second semester
A continuation of E.E. 13, with trips to typical plants in the vicinity.

16 THESIS *4 credits* Second semester
An original investigation or dissertation upon some subject in electrical engineering.

MECHANICAL ENGINEERING

Professor LARSON, Professor CORBETT

1 ELEMENTARY MECHANICS *2 credits* First semester
An elementary treatise on the fundamental principles of mechanics, without the use of Calculus. Intended as a prepara-

tion for applied and theoretical mechanics. Instruction is given on the theory and use of the slide rule. Each student is required to purchase a slide rule and to use it in all his calculations in this course.

3 PRACTICAL THERMODYNAMICS
3 credits First semester

A course in the thermodynamics of perfect gases and vapors as applied to the study of steam engines, steam turbines, and boilers, followed by a study of fuels, the principles of combustion, and engine and boiler auxiliaries. Prerequisite: Math. 104.

4 PRACTICAL THERMODYNAMICS
2 credits Second semester

A continuation of Course 3, taking up the study of the internal combustion engine, gaseous fuels, compressed air, refrigeration, and heating and ventilation. Prerequisite: M.E. 3.

5 HEATING AND VENTILATION *2 credits* First semester

Covers the theory and principles of modern systems of heating and ventilation of buildings of various types, and is accompanied by problems involving the design and specifications for such systems. Prerequisite: M.E. 3, or can be taken in conjunction with M.E. 3.

7 REFRIGERATION *1 credit* First semester

A study of the principles and methods of producing low temperatures artificially, together with the construction, operation, and application of refrigerating machinery. Prerequisite: M.E. 3, or can be taken in conjunction with M.E. 3.

9 MECHANICAL LABORATORY *1 credit* First semester

Calibration of engineering instruments and apparatus, steam calorimetry, fuel and gas analysis, calorific power of fuels, testing of lubricants, feed water, etc.

11 STEAM POWER PLANTS *3 credits* First semester

A study of the mechanical layout of modern power plants, covering the various arrangements of boilers, gas and steam engines, steam turbines, auxiliaries, and piping. Prerequisite: M.E. 4.

12 POWER PLANT DESIGN *3 credits* Second semester

Involves the complete design of a small power plant. The course consists largely of drawing room work and calculation, with such lectures given by members of the Mechanical and Electrical departments as may be needed from time to time. The work consists in making the working drawings necessary to show the location of boilers, engines, auxiliaries, piping, coal pockets, etc., for a power house, and also drawings and calculations of some of the details. Prerequisite: M.E. 11.

13 STEAM ENGINE DESIGN *3 credits* First semester

A course of lectures and drafting room work on steam engine design. The projection of theoretic indicator diagrams; the inertia effect of reciprocating parts; resultant forces on crank pin and main bearing; the development of the design to meet the conditions thus predicted. The cylinder and piston; castings, fastenings, adjustments, drainage. The mechanism; connecting rod, crank shaft, fly wheel and valve rods. The bed; rigidity, weight, convenience. Prerequisites: M.E. 3 and M.E. 4.

14 MECHANICAL LABORATORY *2 credits,* 6 hours Second semester

Drill in the running and care of engines, steam engine tests for water consumption and mechanical and thermal efficiency. Tests of gas engines and compressors, efficiency tests of boiler plant. Sketches and reports on boiler and engine room piping. Prerequisites: M.E. 3 and M.E. 4.

15 STEAM TURBINES *3 credits* First semester

A study of the theory and design of the common types of steam turbines, and their methods of operation. Two recitations and one drafting period per week. Prerequisites: M.E. 3 and M.E. 4.

16 GAS ENGINES *2 credits* Second semester

The chief constructive features of gas engines; theory and principles of operation; general arrangement of valves, igniters, etc., methods of regulation, followed by a detailed study of the gas producer. Prerequisites: M.E. 3 and M.E. 4.

17 HYDRAULIC MACHINERY *2 credits* First semester

A study of hydraulic motors, pumps, and other machines with practical applications. Prerequisite: C.E. 28.

18 THESIS *4 credits* Second semester

MACHINE DESIGN

Professor LARSON, Professor CORBETT

1 MECHANICAL DRAWING *2 credits* 6 hours First semester

Drawing of parts of machines from models and plates, third angle projection. Includes lettering, tracing, and blue printing. Prerequisites: C.E. 1-2, Engineering Drafting.

2 MACHINE DESIGN *2 credits* Second semester

The aim of this course is to familiarize the student with machine elements, such as bolts, keys, journals, bearings, couplings, gears, etc. Problems are given requiring simple calculations for strength. Six hours. Prerequisite: M.D. 1, Mechanical Drawing.

4 ELEMENTS OF MECHANISM *2 credits* Second semester

The object of the course in mechanism is to make the student familiar with typical mechanisms and mechanical movements and with the kinematic principles involved in laying out such mechanisms. The motion system is studied both by the method of instantaneous centers and by the method of velocity polygons. Special attention is given to parallel motions, valve gears, and epicyclic trains. Prerequisites: Phys. 101-102

5 MACHINE DESIGN *2 credits* 6 hours First semester

A continuation of Course 2. Lays special stress on toothed gearing and takes up engine details, such as the slide valve, piston, stuffing box, etc. Prerequisite: M.D. 2.

SHOP WORK

Mr. HALL

EXPENSES For all shop courses a fee of fifty cents per credit per semester is charged. The receipt for this fee must be presented to the instructor in charge before admission to classes.

1 WOOD WORKING *1 credit* First semester

Care and use of saw, plane, chisel, etc. Practice in the laying out of work, followed by joining and joint making, such as is involved in building construction. Three hours.

2 WOOD WORKING *1 credit* Second semester

A continuation of Course 1, with practice in wood turning and elementary pattern making. Prerequisite: Course 1. Three hours.

3 PATTERN MAKING *1 credit* First semester

Practice in pattern making. The patterns are so chosen as to illustrate the principles involved in their construction and in molding. Some instruction is also given in molding and core making. Three hours. Prerequisite: Course 2.

4 FORGE WORK *2 credits* Second semester

Practice in forge work in iron and steel. The ground covered includes instruction in the building and care of fires, heating, drawing, forming, bending and twisting, upsetting, punching, bolt making, tool making, etc. Careful instruction is given in welding and the scarfing used for various welds. Six hours.

5 MACHINE WORK IN IRON *2 credits* First semester

Lathe work in metals. Instruction is given in the mechanism of the machine tools used and careful attention is paid to the various adjustments to the work in hand. The different measuring tools and devices, with the advantages, method of use, and limits of accuracy of each are considered. As each cutting tool is taken up, its cutting angles and general adjustments are discussed, together with the feeds and cutting speeds suitable for each material worked and for each machine. The course includes instruction in centering, squaring, straight and taper turning and fitting, outside and inside screw cutting, chucking, reaming, finishing and polishing, drilling, tapping, and boring. Six hours.

5a MACHINE SHOP PRACTICE *2 credits* First semester

A study of machine tools and shop practice. Two recitations a week taken in conjunction with Shop 5.

6 MACHINE WORK IN IRON *2 credits* Second semester

Same course as Shop 5, but given in the second semester for Electrical Engineers. Six hours.

7 MACHINE WORK IN IRON *2 credits* First semester

A continuation of Course 5. Work with the milling machine and universal grinding machine; gear cutting, tool making, including drills, taps, reamers, and milling cutters. Also work in the building of complete machines. Six hours.

8 ADVANCED WOOD WORKING Second semester

Advanced work in construction of furniture in hard and soft woods. Attention will be given to wood finishes, stains and polishes.

9 FORGE WORK *1 or 2 credits* First semester

Chemical Engineers, one credit for three hours. Short Course students, two credits for six hours.

10 MACHINE WORK IN IRON *2 credits* Second semester

Same as Shop 7.

20 MANUAL TRAINING FOR WOMEN *1 credit* Second semester

A one credit course of two hours each Wednesday evening from seven-fifteen to nine o'clock will be given during the second semester, consisting of elementary exercises in wood working, followed by interesting and instructive work in art furniture, lamp shades, tables, tabourets, picture frames, shirt waist boxes, etc., in fumed oak, mahogany, walnut, cedar and fir, and instruction in wood finishes, fuming, staining, varnishing, and in polishing.

CHEMICAL ENGINEERING

For the outline of the course see page 184; for the description of the courses in chemistry see pages 95-100; for the description of the other required courses see the various departments concerned.

GOOD ROADS SCHOOL

On March 12th, 13th, and 14th, 1913, a Good Roads School for road overseers and others was held at the University by the Civil Engineering department of the College of Engineering, cooperating

with the Office of Public Roads, U. S. Department of Agriculture, and the County Commissioners of Latah County. Dr. L. I. Hewes, of Washington, D. C., Chief of the Division of Economics, represented the Office of Public Roads. The other instructors were Mr. J. P. Congdon, Consulting Engineer, Boise, Idaho, and Professors Little and Steinman of the University. Lectures were freely illustrated with lantern slides. Dr. Hewes gave four lectures: Earth Road Repair and Maintenance; Road Management; Economic Influence of Highways; Recent Development in Road Building. Mr. Congdon gave two: Road Legislation in the Twelfth Idaho Legislature; Concrete Roads in Ada County. Professor Little: Local Road Conditions; Concrete Construction for Culverts and Bridges. Professor Steinman: Road Location; Good Roads in Foreign Lands.

Four-fifths of the Road Overseers of Latah County as well as many others interested in road construction attended this school.

V. COLLEGE OF LAW

(Idaho Law School)

FACULTY

MELVIN AMOS BRANNON, PH.D., PRESIDENT

GEORGE DAVID AYERS, A.B., LL.B., DEAN, *and Professor of Law*

LYMAN P. WILSON, B.S., J.D., *Secretary, and Professor of Law*

JAMES JOHN GILL, LL.B., *Professor of Law*

FRANK LATHAM MOORE, LL.B., *In charge of work in Practice*

EDWARD MASLIN HULME, A.M., *Professor of American Constitutional History*

In addition to the Faculty the following lecturers among others will deliver lectures during the term of each regular student's residence:

JOHN FISHER MACLANE, B.A., LL.B., First Dean of this Law School, *Public Land Law, Legal History, and Jurisprudence*

OTIS EDDY MCCUTCHEON, A.B., Second Dean of this Law School, *Idaho Law and Practice*

JAMES FRANKLIN AILSHIE, LL.D., Chief Justice, Supreme Court of Idaho, *Legal Ethics and Conflict of Laws*

JAMES ELISHA BABB, B.S., LL.B., Lewiston, *Law of Eminent Domain*

FRANK SIEGEL DIETRICH, A.M., United States District Judge, District of Idaho, *Federal Practice*

SHIRLEY GALE PATTERSON, PH.D., *Special Lecturer on the Psychology of Evidence*

HISTORY AND PROSPECTS

The Idaho Law School was established by the Board of Regents of the University, at its April meeting in 1909. The attendance during these first years, and the interest shown by the students and public, have justified the action of the Regents in establishing the school.

The first year's course alone was offered during the academic year 1909-10; the school being under the direction and instruction of Hon. John F. McLane; and much of the succeeding prosperity of the school may be attributed to his efficient personal efforts.

The school is now offering its instruction to students in all three classes. The courses offered as first- and second-year studies will be given during the years 1914-15, in accordance with the system hereinafter explained. The courses offered as first- and third-year studies will be given during the years 1915-16. Some second- and third-year studies are given each year; consequently, the students taking the full three year course have the opportunity to take all of the required courses offered in the law school. Registration for the academic year 1914-15 will occur on the 14th and 15th of September, 1914. Late registrations should be avoided.

ENTRANCE REQUIREMENTS

Applicants for admission for the academic year 1914-15, as candidates for a degree will be required to exhibit certified credentials, or to undergo examinations in the following subjects, which are the equivalent of a four-year high-school course:

English	4	*units
Mathematics	2	units
†Foreign Language	2	units
Social Science, including History	1	unit
Natural Science	1	unit
†Additional Foreign Language or Social Science	1	unit
Electives	4	units
Total	15	units

No student presenting a total of fifteen units only will be allowed to present more than four units in any one subject. In addition to the requirement in English, each student will be required to present three units in one other of the above specified subjects. Students offering fourteen of the above units will be admitted subject to condition in the remaining one, such condition to be removed be-

*A unit is not less than four recitations per week of not less than forty minutes each, during a school year of not less than thirty-six weeks.

†This requirement will not be satisfied by less than two years work in any one language. In no instance should a single year of language be presented.

fore entering the second-year class. An applicant for admission to the law school must be at least eighteen years of age. Notwithstanding compliance with the foregoing requirements, the faculty reserves the right to reject any applicant who from immaturity, physical, mental, or moral defects, appears not qualified to enter upon the study of law, and *to withhold its degree* from anyone markedly deficient in English.

It is highly recommended that Latin be presented in satisfaction of the above Foreign Language requirement, and that the electives above mentioned shall be applied upon additional Latin, or other Foreign Languages or Mathematics.

Additional Requirements as a Prerequisite for Admission After 1914-15

After the academic year 1914-15, applicants for admission as candidates for a degree shall be required previously to have obtained credits showing completed work in courses in the College of Letters and Sciences of the University of Idaho, or their equivalent in some other institution of learning, having academic standing satisfactory to the Law Faculty of the University of Idaho, as follows: Beginning with the academic year 1915-16, credits showing one full year, and beginning with the academic year 1916-17, credits showing two full years of completed college work. Beginning with the academic year 1915-16, the college credits or their equivalent, required for such admission, shall include at least six credits, or their equivalent, in American Constitutional History.

Also students entering the College of Law after only one previous year of college work in the College of Letters and Sciences or its equivalent, are strongly advised to take, during that previous college year, such courses as will prepare them to undergo, with credit to themselves, the hard study expected of law students. It is especially desired that law students should be fitted both to reason soundly and to express themselves well, both orally and in writing, in correct English. The Courses in the College of Letters and Sciences on the Argumentation and Debate as here taught are excellent preparation for the habits of thorough research and sound legal reasoning which are necessary in order to attain proficiency in the study of The Law. The various courses in English and the translation, in the courses in Foreign Languages from those languages into English are very valuable in enabling the student to

acquire facility in good English expression. The course in Dramatic Reading, as here taught, is valuable not only as teaching proper delivery, but especially in developing the power of imagination, which, when well trained, with all tendency to mere fancy eliminated, is a most useful faculty in the hands, not only of the able lawyer, but also, indeed, of anyone called upon to do original thinking.

For the student intending to take more than one year of work in the College of Letters and Sciences, before entering the College of Law, no further advice is here suggested regarding the choice of preparatory studies. The most important consideration is that the student, before entering the College of Law, should have acquired, so far as possible for one of his age, the habits of careful observation, sound discrimination, close application to study, and clear and logical thinking. The members of the Law Faculty, however, will be glad to make further suggestions to pre-legal students, whenever desired by the latter personally.

Special Students

Persons unable to comply with the entrance requirements may apply for admission as special students, not candidates for a degree. Such applications will be received in the case of persons over twenty-one years of age, who appear to the faculty qualified by general training and business experience to pursue legal studies.

Advanced Standing

Students having completed courses in law in standard law schools will be given credit towards a degree in such courses. The time spent in other schools, when added to the time spent in this school, must equal three full academic years of nine months each.

No credit will be given for work completed elsewhere than in standard law schools, while in residence at such schools.

Tuition Fee and Expenses

A tuition fee of twenty-five dollars per year, payable in advance for the full year, and not subject to rebate in case of failure from any cause to complete the year's work, is required of all students. While tuition in other departments of the University is free and it is the policy of the University to afford an opportunity for education free of cost, it is believed that for professional students the payment of a small fee, as an earnest of good faith and serious purpose, is advisable. The proceeds of these fees are devoted primarily to

the purchase of case books for the use of students, and to the expansion of the law library. Students are required to furnish their own text-books; the average expense of a full set for each year is approximately thirty dollars, but they may, by making their purchase in pairs or trios, reduce such expense proportionately. A fee of five dollars per semester is collected for the support of the various enterprises of the student body known as the "Associated Students of the University of Idaho," and at the end of the Senior year a diploma fee of five dollars must be paid. Board and room averages from four to six dollars per week. Other expenses are within the control of the individual student.

EQUIPMENT AND FACILITIES

The school occupies rooms, including a well designed court room, set apart for its use, near the Library, in the Administration Building of the University. A portion of the Library is set aside for the use of the Law School and contains the standard digests, text-books, and cyclopedias; the reports and statute books of Idaho, California, Washington, Montana, and other western states; the reports of the Supreme Court of the United States; the leading sets of selected cases; and miscellaneous legal publications. In short, it is such a library as would be found in a well equipped office, with the addition of such works as are adapted to general legal instruction.

Moscow is the county seat of Latah County, Idaho, and is also the seat of the United States District Court for the Northern Division of the State. Students will therefore have ample opportunity to observe the actual workings of the courts.

COURSE OF STUDY

The course of study covers three years, divided into two semesters of eighteen weeks each. The class room work for the first two years occupies fifteen hours per week, the unit of instruction and credit being one hour per week per semster, with an additional credit for attendance at Practice Court, whenever required, as explained below, thus making a total of sixteen credits for each semester. The class-room work for the Third year, which includes the Practice Court work, occupies sixteen hours per week also, with a total of sixteen credits per semester. The following table gives the arrangement of the courses:

FIRST YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
1 History and System of the Common Law	3	2 Criminal Law	3
3 Contracts I	4	4 Contracts II	2
5 Torts I	2	6 Torts II	2
7 Persons	1	8 Agency	2
9 Property I	2	10 Property II	3
11 American Constitutional History I	3	12 American Constitutional History II	3
Attendance at Practice Court	1	Attendance at Practice Court	1
Total	16	Total	16

SECOND YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
21 Property III	3	22 Property IV	3
23 Negotiable Instruments	3	24 Sales	3
25 Partnership	3	26 Equity	3
27 Evidence I	3	28 Evidence II	3
29 Common Law Pleading	3	30 Code Pleading	3
Attendance at Practice Court	1	Attendance at Practice Court	1
Total	16	Total	16

THIRD YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Credits	Course	Credits
41 Property V	3	42 Property VI	3
43 Corporations	3	44 Damages	2
45 Municipal Corporations	2	46 Public Service Companies	2
47 Mining Law	2	48 Irrigation	2
49 Drafting Legal Instruments	1	50 Trusts	2
51 Constitutional Law I	2	52 Constitutional Law II	2
53 Practice I	3	54 Practice II	3
Total	16	Total	16

Until such time as the size of the classes makes the system impracticable, the work of the second and third years, with the exception of the courses in Evidence, Common Law Pleading, Code Pleading, Constitutional Law, Mining Law, Irrigation, and the courses in Practice, will be given interchangeably in alternate years; second-year courses will be given in 1914-15 and alternate years thereafter. Third-year courses will be given in 1915-16 and alternate years thereafter. The courses in Evidence, Common Law Pleading, Code Pleading, Constitutional Law, Mining Law, Irrigation, Drafting of Legal Instruments and Conveyancing, and the courses in Practice will be given every year, except that the Course in Mining Law will not be given during 1914-15, as, owing to a change in courses, the third-year men of that year already will have taken it. Beginning with the academic year 1915-16, courses 11 and 12, American Constitutional History, will be discontinued as courses in the College of Law, since credits in them or their equivalent will have been scheduled among the prerequisites for admission. Other courses in Law then will be substituted for them.

Court attendance will be required of all first- and second-year men. This means that each man will be required to respond to writs and processes of the Practice Court, in the same manner as in a regular court, and must appear and serve or offer a good and sufficient excuse when such demand is made upon him. One credit will be allowed for such attendance in each semester of the first two years.

MILITARY SCIENCE AND TACTICS

Until the academic year 1915-16 all first-year law students will be required to take work in Military Science and Tactics, under the same conditions and at the same hours which apply to students in other departments of the University.

The requirements, if any, in this respect, beginning with the academic year 1915-16 will be published later, as they have not yet been determined.

DESCRIPTION OF COURSES

For purposes of description, the foregoing courses, grouped according to number, are as follows:

1 HISTORY AND SYSTEM OF THE COMMON LAW
3 credits **First semester**

History and System of the Common Law—a general survey of the legal systems of English-speaking countries; rise and development of the Common Law; Courts, their organization and jurisdiction; the foundations of legal liability; legal authorities and their use. Pound's *History and System of the Common Law* (2nd Edition). Professor AYERS

2 CRIMINAL LAW *3 credits* Second semester

The general principles of the law of crimes; study of specific crimes; essentials of criminal procedure. Fisher's *Selected Cases on Criminal Law; Idaho Penal Code,* and illustrative Idaho cases. Professor GILL

3 CONTRACTS I *4 credits* First semester

Formation of simple contracts: offer and acceptance, reality of consent; consideration; legality of object; statute of frauds; construction and operation. Hopkins' *Cases on Contracts.* Professor GILL

4 CONTRACTS II *2 credits* Second semester

Discharge of contracts; modes of enforcement; actions and remedies; what law governs; quasi contracts. Hopkins' *Cases on Contracts.* Professor GILL

5-6 TORTS I and II *2 credits* Each semester

The general principles of delictual liability, specific torts, negligence, nuisance, master and servant, quasi-torts. Simpson's *Cases.* Professor GILL

7 PERSONS *2 credits* First semester

Natural persons; aliens, infants, insane persons, married women, convicts, their powers and disabilities; husband and wife, parent and child, and guardian and ward. Woodruff's *Cases on Domestic Relations.* Professor AYERS

8 AGENCY *2 credits* Second semester

The law of principal and agent, formation of the relation; liabilities of the parties inter se and to third persons; termination of agency. Wambaugh's *Cases.* Professor WILSON

9 PROPERTY I *2 credits* First semester

Nature and classes of property, real, personal, and chattels real; corporeal and incorporeal property. Personal property, acquisition of rights; possession, bailment, liens. Gray's *Cases on Property, Vol. 1, Parts 1 and 2,* and selected cases.

Professor WILSON

10 PROPERTY II *3 credits* Second semester

Real property: the feudal system; tenures; estates; rule in Shelly's case; rights of enjoyment, fixtures and improvements, earth and minerals; vegetable products, profits a prendre, easements, covenants, and restrictions. Gray's *Cases, Vols. 1 and 2;* Tiffany's *Real Property, Vol. 1.* Professor WILSON

11-12 AMERICAN CONSTITUTIONAL HISTORY

3 credits Each semester

A study of the principal constitutional questions that have arisen in the course of our national life. A connected account is also given of the political, industrial, and social history of our nation. Professor HULME

After the academic year, 1914-15 credits in this course or its equivalent will be required as one of the prerequisites for admission to the College of Law, and will be omitted from the regular College of Law Curriculum. See heading "Additional Requirements as a Prerequisite for Admission after 1914-15," this Bulletin, page 204.

21 PROPERTY III *3 credits* First semester

Real Property:—A review of early English land tenure; the rule in Shelley's Case; Constitutional estates; revisions and remainders; executory devises; the rule against perpetuities; restraints on alienation; cross limitations; vesting of legacies; determination of classes; future uses; future interests in personal property; Tiffany's *Real Property, Vol. 1;* Kirchwey's *Readings;* Gray's *Cases; Vol. V,* and selected cases. Professor WILSON

22 PROPERTY IV *3 credits* Second semester

Real Property: Transfer of rights inter vivos, titles, abstracts, conveyancing, record and priorities. Gray's *Cases, Vol. 3*; Tiffany's *Real Property, Vol. 2, Part. V.* Professor WILSON

23 NEGOTIABLE INSTRUMENTS *3 credits* First semester

The law of bills, notes and checks at Common Law and under negotiable instruments law. Ames' *Cases on Bills and Notes,* and Brannan's *Negotiable Instruments Law.*

Professor GILL

24 SALES *3 credits* Second semester

The contract of sale, including the Seventeenth Section of the Statute of Frauds; conditions, warranties, remedies and damages. Williston's *Cases.* Professor GILL

25 PARTNERSHIP *3 credits* First semester

Formation, rights and relations of partners inter se and towards third persons, dissolution; survivorship. Mechem's *Cases on Partnership.* Professor WILSON

26 EQUITY *3 credits* Second semester

Historical development, rights and remedies, procedure, relative to common law and Code. Maitland's *Lectures on Equity,* Ames' *Cases.* Professor WILSON

27-28 EVIDENCE I AND II *3 credits* Each semester

Study and analysis of the probation value of different kinds of evidence, practice in jury argument based upon evidence reported in actual cases. Discussion of these arguments and of the cases themselves. Wigmore's *Principles of Judicial Proof.* Origin, history and logical nature of judicial evidence; witnesses, competency, duties and privileges; principal rules of evidence. *Practical exercises.* Wigmore's *Cases on Evidence,* 2nd Edition.

Professor AYERS

29 COMMON LAW PLEADING *3 credits* First semester

Procedure and Pleading at the Common Law, and under later Statutory Modifications. Analysis of the logical basis of Common Law Pleading in its relation to orderly legal procedure and as a foundation for Code Pleading. Ames *Cases on Pleading,* 2nd Edition. Professor AYERS

30 CODE PLEADING *3 credits* Second semester

Pleading under the Code; formal and substantial requirements of statement; complaint, answer, and demurrer; motions

and amendments. Sunderland's *Cases on Code Pleading,* and selected cases. Practical exercises. Professor AYERS

41 PROPERTY V *3 credits* First semester

Real Property: Liens, mortgages, equitable and statutory liens. Wyman's *Cases on Mortgages.* Professor WILSON

42 PROPERTY VI *3 credits* Second semester

Title to property, real and personal, by will and intestate succession; probate and administrative law. Gray's *Cases, Vol. 4;* Tiffany's *Real Property, Part 5; Idaho Probate Code.*
Professor WILSON

43 CORPORATIONS *3 credits* First semester

Organization, management, powers of corporations; rights of stockholders; duties and liabilities of officers and directors. A theoretical and practical course in corporation law. In addition to the study of text and cases, the students will be formed into groups, each of which will organize, conduct, and wind up a corporation. Warren's *Cases on Private Corporations.*
Professor GILL

44 DAMAGES *2 credits* Second semester

The law of damages. *Case book to be selected.*

45 MUNICIPAL CORPORATIONS *2 credits* First semester

Governmental functions, powers and restrictions, liabilities for torts, bond issues and property rights. Smith's *Cases.*
Professor GILL

46 CARRIERS AND PUBLIC SERVICE CORPORATIONS *2 credits* Second semester

The law of carriers and public service corporations; their obligations to the public, and the mode of their enforcement at suit of the person injured. Case book to be selected.
Professor GILL

47 MINING LAW *2 credits* First semester

Statutes of 1866 and 1872; possessory rights prior to location; location; mineral character; prior appropriation; lode and

placer claims; tunnel and mill sites; extra-lateral rights; assessment work; adverse claims; patent. Costigan's *Cases.*

Professor WILSON

The course in Mining Law will be omitted in 1914-15.

48 IRRIGATION *2 credits* Second semester

History of irrigation in the United States, Federal Statutes of 1866 and 1872; "Desert Land Act;" development of California and Colorado doctrines and relation to the law of Idaho and the other states in the Northwest and the arid and semi-arid regions of the United States; appropriation of water and its incidents, means and accessories for conveying and holding water; state and federal control, irrigation companies, property and titles, contracts, sales, conveyances, remedies, eminent domain, taxation, *Idaho Code.* Development of the "Possessory" and the "Beneficial Use" doctrines. Pound's *Outlines of a Course on Irrigation.* Wiel's *Water Rights in the Western States, 3rd Edition. Selected Cases.* Professor AYERS

49 DRAFTING LEGAL INSTRUMENTS AND CONVEYANCING *1 credit* First semester

Practical exercises in drafting of all forms in use in Idaho of deeds, wills and various forms of contracts; examination of abstracts of tith, under the personal supervision of the instuctor.

Professor AYERS

50 TRUSTS *2 credits* Second semester

Creation, construction and operation, liabilities of trustees and relation to cestui que trust; with reference to allied subjects. Ames' *Cases on Trust, 2nd Edition.* Professor AYERS

51 CONSTITUTIONAL LAW I *2 credits* First semester

Constitutional Law: Federal and State constitutions; adoption, operation, amendment and construction; relation between national governments, states, and territories, guaranty of republican government, constitutional comity between the states, admission of new states; distribution of powers, federal and state legislatures, powers, functions, and spheres of operation, and limitations thereon; the executive; federal and state judiciary, orbits of jurisdiction; constitutional checks and balances. Black's *Constitutional Law;* McClain's *Cases.* Professor WILSON

52 CONSTITUTIONAL LAW II *2 credits* Second semester

The taxation and commerce clauses of the Federal Constitution, outlines of the state tax system; the bill of rights; the first ten and fourteen amendments of the constitution of the United States, and the similar provisions of the state constitutions. Black's *Constitutional Law; Idaho Revenue Act;* and Selected Cases. Professor WILSON

53-54 PRACTICE I AND II *3 credits* Each semester

Practice: (a) Theory of an action; choice of remedy; ascertainment of parties; drafting the pleadings; issuance of process; obtainment of provisional remedy; preparation for trial. First eight weeks of fall semester. (b) Four terms of District Court will be held, convening, respectively, in December, January, February, and March. Students will be required to prosecute and defend one case each term. (c) Appellate practice. A term of the Supreme Court will be held in May; each student will be required to appeal, and defend on appeal, one case in this court, in which appropriate transcripts and briefs must be prepared and filed. Mr. MOORE

The following lecture courses are offered during the term of each student's residence by the person designated and will cover the phases of law indicated by their titles. Judge MacLane, First Dean of the College of Law, *Public Land Law, Legal History and Jurisprudence.* Judge McCutcheon, Second Dean of the College of Law, *The Sources and Historical Development of Idaho Law.* Judge Ailshie, *Legal Ethics, Conflict of Laws.* Judge Dietrich, *Federal Practice.* James E. Babb, Esq., *Eminent Domain.* Also it is hoped that Doctor Patterson may give a course of lectures on the Psychology of Evidence.

METHOD OF INSTRUCTION

The foundation of the work in the College of Law is the "Case System," which includes not merely the study of law from cases actually decided by the courts, but also active discussion and criticism in the class room under the guidance of the instructors, supplemented wherever necessary, by explanations and lectures. This system is generally recognized now as the best method of giving thorough instruction in the Common Law.

In addition, much attention is given to practice, not only in the courses in Practice in the Practice Court, but also by instruction in

the preparation of pleadings and other court papers, in the introduction of evidence, in the addressing of court and jury, in the preparation of briefs, the drafting of legal instruments, and the organization of corporations. The greatest pains are taken with the students, both individually and collectively, and the students are encouraged to hand on, under the suggestion of and guidance by the faculty, to lower classmen in the Law School, the assistance which they themselves received from members of the faculty. Precaution is taken that the upper-classmen shall not be "crutches" to those below them, but that nevertheless they shall enlarge their conceptions by developing in themselves the spirit of helpfulness and shall clarify their understandings by themselves assisting others to legal knowledge. In addition to the opportunities furnished for practical work in the Practice Court and in the various courses as described, still another is given in a law club which has been founded, modeled on the plan of the famous Law Clubs of the Harvard Law School for practice in the preparation of court pleadings and briefs and arguments of law points. Other law clubs will be formed as fast as the needs of the growing school require them. Every effort is made to imbue the entire body of faculty and students with the feeling of mutual helpfulness, solidarity, and loyalty. It is believed that by this method the largest and farthest reaching results are obtained.

COURSES IN OTHER DEPARTMENTS

Law students may, with the approval of the faculty, take such courses in other departments of the University as they are able to carry without conflicting with their legal studies. No additional fee is required for such courses. Students are especially advised to take work in History, Political Science, English, Public Speaking and Argumentation.

SIX-YEAR COLLEGE AND LAW COURSES

Students in the College of Letters and Sciences may combine work in that college with work in the Law School, and complete the requirements of both the B.A. (or B.S.) and LL.B. degree in six years. A student desiring to pursue such a course must, upon entering the senior class in college, file with the law faculty a notice of his intention and pay the regular law school tuition. He must then complete law courses 1, 2, 3, 4, 5, 6, 7 and 9 and must also elect History 11 and 12, (being the equivalent of Law 11 and 12). This combination will afford a total of twenty-five credits, which

with two credits of Court attendance during the Senior year in the College of Letters and Sciences will give a total of twenty-seven credits, which will be allowed towards both degrees, leaving a deficiency of five credits in the first year's law work, which may be made up in the following years. Substitutions from the group of courses offered in the following paragraph may be allowed, when for some reason the student is unable to take the course as outlined in this paragraph.

FREE LAW COURSES

The following law courses, and no others, are open free of charge to Junior and Senior students in the other Colleges of the University: Law 1, 3, 4, 8, 9, 10, for Engineering students 47, when given, and for Engineering and Agricultural students, 48. No student will be permitted to elect to exceed eight credit-hours under the provisions of this paragraph, and no student will receive any credit towards a law degree, or certificate for use in another law school, for courses so taken, without complying with the requirements of the preceding paragraph. Students electing law under this paragraph are assumed to do so for purposes of a general education and culture, or to aid them in some other vocation, and not as professional courses.

GRADES AND SCHOLARSHIP

Students are required to do satisfactory daily work and to pass written examinations in the various courses. For the present the general university system of grading is used. Those whose work appears deficient may be conditioned if they give promise of marked improvement, otherwise the course in which the failure is recorded must be repeated. Examinations to remove conditions must be taken by the opening of the fall semester in the succeeding year. Students must obtain at least ten credits in the work of each semester, and twenty-two credits in the work of the year, in order to continue with the class.

PRIZES

Hon. Samuel H. Hays, of Boise, has offered two prizes, each to be given in the years 1913-14 and 1914-15, as follows:

Benjamin on Contracts to the law students, in any course in which practice is had in drafting contracts, showing the greatest skill, neatness, and general proficiency in the drafting of contracts

in each year for which the prize is offered. Also Jury's "Adjudicated Forms of Pleading and Practice" to the law student showing the greatest proficiency in Pleading. This prize will be open for competition by students taking courses in Pleading, both Common Law and Code, and those drafting pleadings in the Practice Court and in the Law Club.

GRADUATION AND DEGREES

Matriculated students who have obtained eighty-nine credits as prescribed by the above courses, or equivalents from other schools, and who have spent three years in the study of law in residence at standard law schools, the last year at least being spent in this school, will receive the degree of Bachelor of Laws (LL.B) from the University.

Special students whose work is satisfactory and who complete the whole or any part of the course will receive a certificate stating the work done. Students in other colleges of the University who elect law studies will receive appropriate credits toward their degrees under the regulations prescribed by the several Colleges.

CATALOGS AND INFORMATION

University or law catalogs, and special information concerning the Law School or the general University, may be had by addressing either "The Bursar," or "Idaho Law School," Moscow, Idaho. Letters so addressed will receive prompt attention by the proper office, and will not be confused with private mail as personally addressed letters might be, especially in the summer during the absence of individual professors from Moscow.

VI. SUMMER SESSION

MELVIN AMOS BRANNON, PH.D., PRESIDENT

PHILIP HENDRICK SOULEN, M.A., DIRECTOR OF THE SUMMER SESSION, *and Professor of Education*

JAY GLOVER ELDRIDGE, PH.D., *Professor of the German Language and Literature, and Dean of the University Faculty*

WILLIAM SANDS MORLEY, A.M., SC.D., *Professor of Mathematics and Philosophy*

EDWARD MASLIN HULME, A.M., *Professor of History*

HENRIETTA EVANGELINE MOORE, PH.D., *Professor of English Literature*

HAROLD LUCIUS AXTELL, PH.D., *Professor of Greek and Latin*

CARL LEOPOLD VON ENDE, PH.D., *Professor of Chemistry*

JOHN FREDERICK NICHOLSON, M.S., *Professor of Bacteriology*

EDWARD JOHN IDDINGS, B.S.(AGR.), *Professor of Animal Husbandry*

CHARLES EDWARD TEMPLE, M.A., *Professor of Botany*

PETER POWELL PETERSON, PH.D., *Professor of Soils*

CLARENCE CORNELIUS VINCENT, M.S.(AGR.), *Professor of Horticulture*

FRANK LESLIE KENNARD, B.S., *Professor of Agronomy*

MARTIN FULLER ANGELL, PH.D., *Professor of Physics*

JERRY EDWARD WODSEDALEK, PH.D., *Professor of Zoology and Entomology*

EUGENE HAMILTON STORER, *Professor of Vocal Culture, Choral Work, and Public School Music*

PERMEAL JANE FRENCH, *Instructor in Reading Methods, and Dean of Women*

SHIRLEY GALE PATTERSON, PH.D., *Professor of Romance Languages*

ELMER VERNE ELLINGTON, B.S.(AGR.), *Associate Professor of Dairying*

GUSTAV EDWARD FREVERT, B.S.A., *Associate Professor of Dairying*

WILLIAM ALEXANDER ROBINSON, PH.D., *Associate Professor of Political Science and Economics*

MARY BELLE SWEET, B.L.S., *Instructor in Library Science, and Librarian*

JOHN ANTON KOSTALEK, PH.D., *Assistant Professor of Chemistry*

CAROLINE CHRISTINE ISAACSON, A.B., *Assistant Professor of German*

BENJAMIN HARRISON LEHMAN, A.B., *Assistant Professor of English*

ISABEL MARY STEPHENS, B.S., *Assistant Professor of Physical Education*

MINNIE MARGARET BRASHEAR, A.B., *Assistant Professor of English*

FLOYD WHITNEY GAIL, M.A., *Assistant Professor of Botany*

RUTH BREWER, *Assistant Librarian*

GEORGE HALL, *Instructor in Machine Shop Practice and Wood Working*

HORACE ASA HOLADAY, B.A., *Instructor in Chemistry*

CORA IRENE LEIBY, B.S.(D.E.), *Instructor in Home Economics*

PREN MOORE, *Instructor in Poultry Husbandry*

AMY KELLY, B.S., *Instructor in Manual Arts*

The Third Summer Session of the University will open on June 15th and close on July 25th, 1914. Registration days are June 13 and 15. Students are urged to register on Saturday, the first registration day if possible.

Admission

No entrance examinations will be required for admission to The Summer Session. Requirements for admission to courses for which University credit is expected are the same as for admission to the regular sessions of the year. (See p. 48). Teachers holding county or state certificates may be admitted to such courses as their scholarship and experience justify.

Classification of Courses

The courses may be classified as follows:—(1) graduate courses, (2) undergraduate credit courses, (3) undergraduate non-credits, (4) teachers certificate credit courses.

Credits

Nearly all courses offered during the summer entitle one to college credit. A subject requiring one hour recitation daily for the six weeks is valued at two credits. Six credits, one-third of a reglar semester's work, is the maximum allowed to any student. Three laboratory hours are regarded as equivalent to the work of one recitation period.

Facilities

The entire University plant, including laboratories, library, gardens, gymnasiums, baths, the new athletic field, women's dormitory, and the entire equivalent of the College of Agriculture, is placed at the disposal of the Summer Session.

Faculty

The teaching staff, numbering about thirty-five, will be selected almost exclusively from the regular University faculties. A selected number of specialists will be included as instructors and lecturers.

Expenses

Tuition is free to all summer students. A registration fee of $5.00 is required, which covers admission to all courses. Board and room rates are very reasonable. Very few books, outside those supplied by the library, will be needed. The total expense may be kept as low as thirty or forty dollars.

Teachers' Credit Courses

Teachers holding county certificates, may, in accordance with Idaho school laws, renew or raise their certificates by securing Summer Session credits in two subjects. Nearly every department offering summer work has arranged for one or more courses especially adapted to the needs of teachers. These courses emphasize not only the academic features but stress the methods of teaching such subjects.

Recreation

In addition to the opportunities offered for recreation on the University tennis courts, gardens, and athletic field, Moscow will hold its second annual Chautauqua during July and the University will offer several special lectures and concerts. Week-end picnics and nature-study excursions to Moscow Mountain are arranged.

Reduced Rates

All railroads entering Moscow and connecting lines have authorized a one and one-third round-trip rate on the certificate plan. Selling dates are June 11-17.

Courses and Credits

The following courses are already scheduled for the Summer Session. Some additions will be made.

Agriculture		
Farm Enemies	Professor Vincent	1 credit
School and Home Gardens	Professor Vincent	1
Farm Animals	Professor Iddings	1
Poultry	Mr. Moore	1
Soils and Crops	Professors Peterson and Kennard	2
Dairying	Professors Ellington and Frevert	2
Rural Hygiene	Professor Nicholson	1
Methods in Agriculture	Mr. ————	2
Botany		
Teachers' course in General Botany	Professor Gail	4 credits
Field Botany	Professor Gail	2
Plant Physiology	Professor Temple	3
Plant Pathology	Professor Temple	3
Chemistry		
Qualitative Analysis	Professor Kostalek	2 credits
Quantitative Analysis	Professor von Ende	2
Teaching of Chemistry in Secondary Schools	Professor von Ende	2
Thesis and Research	Professor von Ende	
Industrial Chemistry or Chemistry of Digestion	Professor Kostalek	
Foods and Food Adulteration	Mr. Holaday	
Organic Chemistry	Mr. Holaday	4 credits
Education		
School Administration	————	2 credits
History of Education	————	2
Educational Psychology	————	2
Principles of Teaching	Professor Soulen	2
School Management	————	2

English		
American Literature or Contemporary Writers	Professor Moore	2 credits
Teaching of English	Professor Moore	2
English Composition	Professor Lehman	2
Carlyle and Ruskin	Professor Lehman	2
English Literature	Professor Brashear	2
English Composition	Professor Brashear	2
French		
Elementary French	Professor Patterson	1½ credits
German		
Elementary German	Mrs. Isaacson	4 credits
Composition and Conversation	Mrs. Isaacson	2
Advanced Grammar	Mrs. Isaacson	2
History		
American Constitutional History	Professor Hulme	2 credits
The Teaching of History in High Schools	Professor Hulme	1
Home Economics		
Home Economics	Miss Kelly	1 credit
Cookery A—Teachers	Miss Kelly	
Cookery B—Teachers	Miss Kelly	
Elementary Sewing, or Advanced Sewing	Miss Leiby	2
Sewing—Teachers' Course	Miss Leiby	2
Latin		
Latin C—Cicero's Orations, or Latin D—Vergil's Aeneid	Professor Axtell	
Latin 11—Teachers' Course	Professor Axtell	2 credits
Library		
Cataloging of School Libraries	Miss Sweet	
Children's Reading	Miss Sweet	

Manual Art		
Mechanical Drawing	Mr. Hall	1 credit
Manual Training	Mr. Hall	1
Elementary Woodwork	Mr. Hall	1
Advanced Woodwork	Mr. Hall	1
Home Economics—Hand-work	Miss Kelly	1
Mathematics		
Algebra	Professor Morley	Entrance credit
Geometry	Professor Morley	" "
Physical Education		
Playground Games	Miss Stephens	1 credit
Folk dancing	Miss Stephens	1
Physics		
Teacher's Course	Professor Angell	2 credits
Mechanics	Professor Angell	2
Electricity and Magnetism	Professor Angell	2
Radioactivity	Professor Angell	2
Public Speaking		
The Teaching of Reading	Miss French	2 credits
Public speaking	Miss French	1
Spanish		
Elementary Spanish	Professor Patterson	2 credits
Economics		
Comparative Government	Professor Robinson	
Sociology	Professor Robinson	
Zoology		
General Zoology	Professor Wodsedalek	2 credits
Heredity and Eugenics	Professor Wodsedalek	2

DEGREES CONFERRED IN JUNE, 1913

Commencement Address

Prof. FRANCIS W. SHEPARDSON, PH.D., LL.D.
University of Chicago

Subject—"Ideals of Service"

BACCALAUREATE DEGREES

College of Letters and Sciences

BACHELOR OF ARTS

Anne Ruth Annett
Edna Bigelow
Winifred Caroline Brown
Jessie Irene Coram
Edna Eve Campbell
John DeWitt Davis
George Donart
Ralph Baxter Foster
Chester Carl Minden
Anetta Cordula Mow
Baxter Merrill Mow
Franklin Thorpe Osborn
Marguerite Gwinn Schick
Charles Roy Stillinger
Ursel Edith Strohecker

BACHELOR OF SCIENCE

Clyde Francis Cornwall
Burton Ellsworth Davis
Martin Lewis
Charles Edward Watts

BACHELOR OF MUSIC

Rosa Strohbehn

BACHELOR OF SCIENCE IN HOME ECONOMICS

Iva Emmett
Edna Elmira Larsen
Althea Helen Ott
Kathryn Margaret Smith

BACHELOR OF SCIENCE IN FORESTRY

Arlie Delos Decker
Charles Henry Herman

College of Agriculture

BACHELOR OF SCIENCE IN AGRICULTURE

Leland Irving Case
William Pratt Funsten
Claude Jacques Hayden
B.S., South Carolina Agricultural College, 1912
Herman Claude Heard
Carl Edward Johnson
Albert Weidel Buch Kjősness
B.A., Spokane College, 1910
John Raymond Maughan
Leon Henry Seymour
Edwin Martin Strate

College of Engineering

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Ray Dean Armstrong
Ray Donald Bistline
Louie Theodore Jessup
Carl Gustave Paulsen
Enoch Perkins

BACHELOR OF SCIENCE IN MINING ENGINEERING

Hallard Washington Foester

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Suen Sze Fung
Graduate, Nan Yang University, 1911

College of Law

BACHELOR OF LAWS

Horace Lorenzo Chamberlain
Grover James Duffey
John Irvin Griner
Lester Hoobler
Robert Dwight Leeper
Parker Vincent Lucas
Proctor Knott Perkins
Louis George Peterson
B.A., University of Idaho, 1904
Charles Allen Rice
Theodore Abel Swanson
Herbert Walter Whitten
Cartee Wood

Advanced Degree

MASTER OF SCIENCE IN AGRICULTURE

Irwin John Bibby
B.S.A., South Dakota Agricultural College, 1912
Dairying

HONOR LIST, AUGUST, 1913

For the conditions upon which honors are awarded, see pages 55-56. Names are arranged in alphabetical order in each group. Only students carrying at least twelve credits each semester are eligible for the Honor List.

FINAL HONORS, CLASS OF 1912

HIGHEST HONORS

Ralph Baxter Foster, B.A., *Valley Falls, Kan.*
Baxter Merrill Mow, B.A., *Weiser*
Franklin Thorpe Osborn, B.A., *Hailey*

HIGH HONORS

Carl Edward Johnson, B.S.(Agr.), *Idaho Falls*
Robert Dwight Leeper, LL.B., *Coeur d'Alene*
Charles Edward Watts, B.S., *Juliaetta*

HONORS

Edna Bigelow, B.A., *Payette*
Edna Eve Campbell, B.A., *Spokane, Wash.*
Horace Alonzo Chamberlain, LL.B., *Modesto, Calif.*
Jessie Irene Coram, B.A., *Grangeville*
Iva Emmett, B.S.(H.Ec.), *Kellogg*
Hallard Washington Foester, B.S.(Mng.E.), *Nampa*
John Raymond Maughan, B.S.(Agr.), *Preston*
Louis George Peterson, LL.B., *Moscow*
Marguerite Gwinn Schick, B.A., *Moscow*
Leon Henry Seymour, B.S.(Agr.), *Cleveland, Ohio*
Charles Roy Stillinger, B.A., *Moscow*
Rosa Strohbehn, B.M., *Payette*

FOURTH-YEAR HONORS, CLASS OF 1913

CLASS A

Leland Irving Case, *Minneapolis, Minn.*
Arlie Delos Decker, *Moscow*
Iva Emmett, *Kellogg*
Ralph Foster, *Valley Falls, Kan.*

Charles Henry Herman, *Moscow*
Carl Edward Johnson, *Idaho Falls*
Robert Dwight Leeper, *Coeur d'Alene*
Chester Carl Minden, *Moscow*
Baxter Merrill Mow, *Weiser*
Frank Thorpe Osborn, *Hailey*
Charles Roy Stillinger, *Moscow*
Ursel Edith Strohecker, *Garfield, Wash.*
Suen Sze Fung, *Foochow City, China*
Charles Edward Watts, *Juliaetta*

CLASS B

Edna Bigelow, *Payette*
Clyde Francis Cornwall, *Moscow*
Hallard Washington Foester, *Nampa*
Herman Claude Heard, *Moscow*
Lester Hoobler, *Clarkston, Wash.*
Albert Weidel Buch Kjőseness, *Spokane, Wash.*
Edna Elmira Larsen, *Boise*
Parker Vincent Lucas, *Roseberry*
Anetta Cordula Mow, *Weiser*
Louis George Peterson, *Moscow*
Leon Henry Seymour, *Cleveland, Ohio*
Kathryn Margaret Smith, *Potlatch*
Edwin Martin Strate, *North Yakima, Wash.*
Rosa Strohbehn, *Payette*
Claude Jacques Hayden, *Cope, S. Car.*

THIRD-YEAR HONORS, CLASS OF 1914

CLASS A

Nettie Mae Bauer, *Boise*
George Jackson Downing, *Spirit Lake*
Lillian Eskesen, *Akron, Ohio*
Vernon Porter Fawcett, *Palouse, Wash.*
Harold H. Hughart, *Pocatello*
Gladys Marie Lessinger, *South Boise*
Carl Pierce Lewis, *Moscow*
Dottie Ella May Murray, *Mullan*
Margaret Neuman, *Sandpoint*
Stephen Alvin Regan, *Boise*
Chester Fowler Smith, *Caldwell*

Edward Elmer Smith, *Valley*
Harry Boone Soulen, *Moscow*
Josephine May Wayman, *Emmett*

CLASS B

Carl D. Garby, *Lewiston*
Elizabeth Hays, *Boise*
Samuel James Jensen, *Moscow*
Andrew McIntosh, *Grinnell, Iowa*
Lawrence Guy Mason, *Spangle, Wash.*
Minnie Minden, *Moscow*
William Arthur Murray, *Mullan*
Mary Hazard Petcina, *Coeur d'Alene*
Susan Sinclair, *Moscow*
George Theron Warren, *Weiser*
Helen Hardman White, *Moscow*

SECOND-YEAR HONORS, CLASS OF 1915

CLASS A

Mark Anderson, *Pocatello*
Mary Elizabeth Burke, *Moscow*
Audrey Carr, *Moscow*
Gladys Marie Collins, *Wardner*
Ezra James Fjeldsted, *Preston*
Seth Temple Freer, *Blue Earth, Minn.*
Ira Archie Hawley, *Moscow*
Maude Himes, *Sandpoint*
George Reynolds Isaman, *Lewiston*
Albert Leroy Johnson, *Idaho Falls*
Robert Jens Leth, *Buhl*
Marvin Manly Monroe, *Buhl*
Ella Letitia Olesen, *Moscow*
Joseph Martin Pond, *Thatcher*
Henrietta Louisa Safford, *Moscow*
Elizabeth Helen Soulen, *Moscow*
Dorothy Martin Taylor, *Boise*
Ruth Virgie Warner, *Moscow*
Nina Evelyn Woesner, *Boise*
Homer Smith Youngs, *Twin Falls*

CLASS B

Ernest Alvin Emanuel Beckman, *Troy*
Carl Martin Eklof, *Lorenzo*
Dorothy Grace Ellis, *Wardner*
Herbert Elmer Lattig, *Payette*
Lesetta Mae Lubken, *Boise*
Ellen McCrossin, *Emmett*
Alice Evelyn Meeks, *Viola*
Julius Edward Nordby, *Genesee*
Hester Smith Pettijohn, *Walla Walla, Wash.*
Helen Pitcairn, *Twin Falls*
Laurence Fielding Stone, *Boise*
Wilfred William Waters, *Nezperce*
Harriett Evangeline Wildenthaler, *Lewiston*

FIRST-YEAR HONORS, CLASS OF 1916

CLASS A

Alice Verna Andrew, *Coeur d'Alene*
Agnes Louise Bailey, *Grand View*
Christine Ferne Berry, *Rathdrum*
Julian Deigh Boyd, *Payette*
Rollo Vincent Crater, *Twin Falls*
Rose Amy Curtis, *Boise*
Anna Gertrude Denecke, *Richfield*
Pauline Constance Ford, *Moscow*
*Daniel W. Gibbons, *Cottonwood*
Esther Alice Hartley, *Emmett*
Clarence Frithiof Johnson, *Idaho Falls*
Valborg, Margrethe Kjösness, *Spokane, Wash.*
Claude Bayles Mickelwait, *Twin Falls*
Helen Marie Patten, *Moscow*
Jessie Columbia Starr, *Kimberly*
Bertha Birdie Sylvester, *Rathdrum*
Alta May Taylor, *Moscow*
Nancy Ellen Watts, *Mountainhome*

CLASS B

William Henry Booth, *Nezperce*
Mary Caroline Brown, *Kellogg*

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*Unclassed student.

Donald Kirk David, *Moscow*
Constance Gyde, *Wallace*
Elijah Rodes Hawkins, *Bonners Ferry*
Jessie Ruth Hill, *Palouse, Wash.*
William Marion Jackson, *Aberdeen*
James Ralph Kelly, *Gooding*
Robert Ronald Miller, *Burke*
Ruth Grace Motie, *Spokane, Wash.*
George Paul Sullivan, *Lewiston*
Mary Vesser, *Coeur d'Alene*
Marjorie Beatrice Zumhof, *Moscow*

UNIVERSITY ALUMNI

OFFICERS OF THE ALUMNI ASSOCIATION, 1913-1914

President ..... W. H. Mason, '12, *Deary*
First Vice-President ..... Miles F. Reed, '01, *Pocatello*
Second Vice-President..Chas. H. Armstrong, '00, *Wenatchee, Wash.*
Third Vice-President ..... Jesse L. Rains, '01, *Lewiston*
Secretary ..... Mabel E. Price, '03, *Moscow*
Treasurer ..... Earl David, '04, *Moscow*

EXECUTIVE COMMITTEE

G. L. Larson, '07, *Moscow* C. Roy Stillinger, '13, *Weiser*
Ruth Broman, '09, *Moscow*

TRIENNIAL ALUMNI DIRECTORY

It is planned to issue the Alumni Directory hereafter as a special bulletin once in every three years. Graduates are requested to report corrections in their occupations and addresses at any time to Dean J. G. Eldridge.

LIST OF STUDENTS

COLLEGE

GRADUATE STUDENTS

NAME	COURSE	RESIDENCE
Bessee, Clinton Fiske B.S.(C.E.), University of Idaho, 1912	Civil Engineering	Moscow
Decker, Arlie Delos B.S.(For.), University of Idaho, 1913	Forestry	Moscow
Edmundson, Wilbur Clifford B.S.(Agr.), University of Idaho, 1911	Agriculture	Moscow
Graves, George Wadsworth B.S., Colorado Agricultural College, 1911	Agriculture	Fort Collins,Colo.
Griffith, John George B.S., State University of Iowa, 1901	Science	Moscow
Knox, John Samuel B.S.(Agr.), Clemson Agricultural College, 1912	Agriculture	Westminster, S. C.
Lamson, Robert Austin B.S.(Agr.), University of Wisconsin, 1913	Agriculture	Moscow

Graduate Students, 7

SENIORS (Class of 1914)

NAME	COURSE	RESIDENCE
Adams, Russell Green	Law	Silver City
Allen, Launa Marguerite	Science	Boise
Annett, Charles	Mining	Boise
Anthony, Florence Gladys	Science	Moscow
Bauer, Nettie Mae	Arts	Boise
Bigham, Zella	Science	Kendrick
Black, Carey Reign	Civil	Moscow
Braham, Joseph Marion	Chemical	Spokane, Wash.
Buffington, Donald Maxwell	Law	Mabton, Wash.
Dartt, Lorena Elizabeth	Arts	Palouse, Wash.
Dotson, Frank B.	Law	Burley
Downing, George Jackson	Agriculture	Spirit Lake
Doyle, Thomas Price	Civil	Moscow
Favre, Clarence Eugene	Forestry	Cambridge
Fawcett, Myrle Maurene	Science	Palouse, Wash.

NAME	COURSE	RESIDENCE
Fawcett, Vernon Porter	Agriculture	Palouse, Wash.
Fox, Jeannette Rachel	Arts	Hailey
Garby, Carl D.	Chemical	Lewiston
Giles, Nathan Blaine	Science	Harrington, Wash.
B.S., Valparaiso University, 1905		
Hayden, John Francis	Agriculture	Lewiston
Hays, Elizabeth	Home Econ.	Boise
Hockett, Clara Ransom	Music	Moscow
Jensen, Samuel James	Agriculture	Moscow
Johnson, David Reinhold	Science	Moscow
B.S., Valparaiso University, 1903		
Kelly, Eugene A.	Science	Brookings, S. D.
Kennedy, Merton Grant	Arts	Caldwell
Kinnison, Harvey Banks	Civil	Payette
Knudson, Albert Henry	Mechanical	Coeur d'Alene
Kroh, Stephen Jacob	Science	Moscow
Lessinger, Gladys Marie	Arts	South Boise
Lewis, Carl Pierce	Agriculture	Moscow
Loux, Ernest Ray	Electrical	Pocatello
McAdams, Harry	Law	Corral
McCrossin, Ellen	Science	Emmett
Martin, Othel Henrietta	Arts	Davenport, Wash.
Mason, Howard Ward	Mechanical	New Plymouth
Mason, Lawrence Guy	Science	Spangle, Wash.
Minden, Minnie	Science	Moscow
Mulkey, Marvin Enoch	Mechanical	Baker
Murray, Dottie Ella May	Arts	Mullan
Murray, William Arthur	Electrical	Mullan
Neuman, Margaret	Arts	Sandpoint
Perkins, Ralph Emerson	Civil	Clarkston, Wash.
Perkins, William Clough	Civil	Soldier
Petcina, Mary Hazard	Arts	Coeur d'Alene
Regan, Stephen Alvin	Agriculture	Boise
Robards, Lucile	Arts	Portland, Ore.
Robinson, Fay Childers	Agriculture	Boise
Rudesill, Mabelle	Arts	Spokane, Wash.
Samms, Virgil William	Civil	Pocatello
Scott, George Alexander	Agriculture	Winnebago, Neb.
Scott, Walter Preston	Mining	Boise
Sinclair, Susan	Arts	Moscow

NAME	COURSE	RESIDENCE
Smith, Bert Ferdinand	Mining	Boise
Smith, Chester Fowler	Chemical	Caldwell
Smith, Edward Elmer	Chemical	Valley
Soulen, Harry Boone	Agriculture	Moscow
Sutton, Arthur Otto	Law	Boise
Taylor, Verne Lee	Law	Gooding
Tuttle, Roy Frank	Civil	Cambridge
Warren, George Theron	Arts	Weiser
Wayman, Josephine May	Arts	Emmett
White, Helen Hardman B.S. St. Joseph's, 1903	Arts	Moscow
Woods, Hazel Luella	Science	Moscow
Woolridge, Bert Patrick	Science	Wallace
		Seniors, 65

JUNIORS (Class of 1915)

NAME	COURSE	RESIDENCE
Allen, Vivian Mildred	Arts	Sandpoint
Anthes, Mildred Louise	Science	Pocatello
Beckman, Ernest Alvin Emanuel	Arts	Troy
Beier, Herbert Henry	Agriculture	Council
Brandt, Margaret Lowava	Arts	Nampa
Buffington, Charles Rollin	Civil	Glenwood, Iowa
Burke, Mary Elizabeth	Arts	Moscow
Burns, Robert Owen	Forestry	Payette
Cammack, Francis Ray	Agriculture	Twin Falls
Carithers, Glenna Grace	Arts	Moscow
Carlson, Oscar Fred	Forestry	Spokane, Wash.
Carr, Audrey	Arts	Moscow
Casey, William West	Law	Juneau, Alaska
Christenson, Andrew Martin	Agriculture	Sandpoint
Collins, Gladys Marie	Home Econ.	Wardner
Coram, Edward John	Science	Grangeville
Cozier, Mary Helen	Arts	Moscow
Denning, Stephen Louis	Agriculture	Moscow
DeWitt, Margaret	Arts	Pocatello
Donart, Hugo Elwin	Agriculture	Coeur d'Alene
Edmundson, Zona	Science	Moscow
Eklof, Carl Martin	Agriculture	Lorenzo

NAME	COURSE	RESIDENCE
Ellis, Dorothy Grace	Home Econ.	Wardner
Fjeldsted, Ezra James	Agriculture	Preston
Freer, Seth Temple B.S., Carleton College, 1906	Civil	Blue Earth, Minn.
Fluke, Viola Claire	Arts	Butte, Mont.
Funaki, Yoshinori	Electrical	Kurayoshi, Japan
Gerlough, Robert Jacob	Agriculture	Boise
Gowen, William Wasmer	Law	Caldwell
Gregory, Maude Ida	Science	Newberg, Ore.
Groome, Cleve	Law	Caldwell
Hawley, Ira Archie	Agriculture	Moscow
Hawley, Eugene Estes	Agriculture	Moscow
Horning, Charles Edwin	Law	Kamiah
Humphries, Earle Kenneth	Civil	St. Anthony
Isaman, George Reynolds	Agriculture	Lewiston
Jardine, Arthur Stewart	Law	Great Falls, Mont.
Jensen, Mary Cecil	Home Econ.	Moscow
Johnson, Albert Leroy	Agriculture	Idaho Falls
Johnson, John William	Mining	Marysville
Johnson, Willard Barrow	Agriculture	Luverne, Minn.
Jones, Renaldo Vincent	Forestry	Albion
Klebe, George Lester	Civil	Wallace
Lafrenz, Frank Henry	Agriculture	Coeur d'Alene
Lattig, Herbert Elmer	Agriculture	Payette
Lennox, Margaret Jean	Science	Moscow
Leth, Robert Jens	Agriculture	Twin Falls
Little, Horace Scribner	Civil	Ketowna, B. C.
Lockhart, James Andrew	Agriculture	White, S. D.
Lubken, Lesetta Mae	Arts	Boise
Luck, Margery	Arts	Lardo
McDougall, Isaac Edwin	Law	Boise
McEvers, John Henry	Law	Grangeville
McGregor, Robert Roy	Civil	Boise
Means, Marguerite	Science	Lewiston
Meeks, Alice Evelyn	Science	Viola
Mitchell, Philip Charles	Eletcrical	Coeur d'Alene
Monroe, Marvin Manly	Arts	Buhl
Morse, Marion	Arts	Moscow
Murray, Hattie Silva	Arts	Mullan

NAME	COURSE	RESIDENCE
Nakanishi, Shimaji	Electrical	Aichiken, Japan
Nelson, Elsie Marie B.S., University of Idaho, 1912	Home Econ.	Moscow
Newlin, Peninah	Arts	Boise
Nisbet, Oliver Martin	Science	Genesee
Nordby, Julius Edward	Agriculture	Genesee
Nuffer, Herman Christopher	Civil	Preston
Peterson, Paul Theodore	Law	Idaho Falls
Perkins, John Nelson	Science	Lewiston
Pettijohn, Hester Smith	Science	Walla Walla, Wash.
Philips, John Lloyd	Law	Lewiston
Pitcairn, Helen	Home Econ.	Twin Falls
Pitcairn, Katherine	Home Econ.	Twin Falls
Pond, Joseph Martin	Science	Thatcher
Rea, Cecil Laverne	Science	Albion
Redway, Elizabeth Alice B.A., University of Idaho, 1912	Home Econ.	Boise
Rowley, Emma Birdena	Arts	E. Helena, Mont.
Safford, Henrietta Louisa	Arts	Moscow
Soulen, Elizabeth Helen	Arts	Moscow
Stephenson, Florence May	Science	Nampa
Stevens, Arthur Wellington	Forestry	Spokane, Wash.
Stone, Laurence Fielding	Science	Boise
Sylvester, George See	Law	Rathdrum
Taylor, Dorothy Martin	Home Econ.	Boise
Theriault, Fred William	Science	Avery
Thompson, James Lloyd	Agriculture	Moscow
Tingley, Ray	Civil	Boise
Ward, Charles Stuart	Arts	Lewiston
Warner, Ruth Virgie	Arts	Moscow
Waters, Wilfred William	Agriculture	Nezperce
Wildenthaler, Harriett Evangeline	Science	Lewiston
Youngs, Homer Smith	Forestry	Twin Falls

Juniors, 91

SOPHOMORES (Class of 1916)

NAME	COURSE	RESIDENCE
Albert, David Worth	Agriculture	Payette
Bailey, Agnes Louise	Home Econ.	Grand View

NAME	COURSE	RESIDENCE
Bentley, Kenneth Wells	Chemical	Lewiston
Booth, William Henry	Agriculture	Nezperce
Boyd, Julian Deigh	Chemical	Payette
Breslauer, Mirton Benjamin	Mining	Spokane, Wash.
Brown, Amelia	Home Econ.	Moscow
Brown, Mary Caroline	Home Econ.	Kellogg, Wash.
Brown, Stanley Theodore	Agriculture	Palouse, Wash.
Campbell, Clara Gertrude	Arts	Coeur d'Alene
Carithers, Annis Lillian	Science	Moscow
Carlson, Gustave Albert	Chemical	Spokane, Wash.
Cartee, Ross Beckler	Science	Boise
Clarke, Edna Alice	Science	Moscow
Crater, Rollo Vincent	Arts	Twin Falls
Curtis, Rose Amy	Arts	Boise
David, Donald Kirk	Arts	Moscow
Denecke, Anna Gertrude	Home Econ.	Richfield
Dingle, Thomas Hedley	Mechanical	Coeur d'Alene
Eaves, David Austin	Mining	Lewiston
Edmundson, Alta Taylor	Arts	Moscow
Edmundson, Emma Winnifred	Science	Moscow
Ellington, Lloyd Alvin	Science	Holliday, Mo.
Ford, Pauline Constance	Arts	Moscow
Gerlough, Jean Paul	Arts	Boise
Gregory, Frederick Sherman	Civil	Boise
Gyde, Constance	Arts	Wallace
Hallam, Clyde Milton	Civil	Moscow
Harris, Charles Eli	Science	Troy
Hartley, Esther Alice	Arts	Emmett
Hawkins, Elijah Rodes	Electrical	Bonners Ferry
Holaday, Howard Wesley	Science	Denver, Colo.
Homme, Olav Halversson	Electrical	Treungen, Norway
Horton, Lucy	Arts	Moscow
Huff, Lawrence Edwin	Arts	Cottonwood
Johnson, Clarence Frithiof	Agriculture	Idaho Falls
Jones, Victor Emmanuel	Science	Kellogg
Kambitsch, Antone Joe	Forestry	Genesee
Keane, James Joseph	Science	Genesee
Keane, Theresa Isabel	Science	Moscow
Kelly, James Ralph	Agriculture	Gooding

NAME	COURSE	RESIDENCE
Kipp, Roscoe Conkling	Agriculture	Elliott, Ia.
Kjősness, Valborg Margrethe	Arts	Lewiston
Lauder, Ralph Emerson	Civil	Moscow
Leigh, Muriel Wilson	Science	Spokane, Wash.
Lyon, Alfred Jefferson	Mechanical	Coeur d'Alene
McClenahan, Mary Grizzella	Home Econ.	Boise
McMonigle, Anna Loretta	Home Econ.	Hailey
Melugin, Carl Emery	Arts	Helena, Mont.
Mickelwait, Claude Bayles	Agriculture	Twin Falls
Miller, Robert Ronald	Agriculture	Burke
Montague, Robert Martin	Civil	Genesee
Morris, Leo Francis	Forestry	Weiser
Morrison, Thomas Samuel	Science	Colfax, Wash.
Olson, Bertha Seraphia	Science	Firth
Patten, Helen Marie	Arts	Moscow
Rapp, Frederick Albert	Civil	Juneau, Alaska
Reierson, Richard Steen	Agriculture	Troy
Ross, Precious Sylvia	Arts	Moscow
Sakuma, Jiro	Arts	Saga, Japan
Sander, Dorothy	Home Econ.	Coeur d'Alene
Sato, Joichi	Electrical	Oita, Japan
Schofield, William Robert	Forestry	El Paso, Ill.
Scott, Benson Glenwood	Electrical	Pocatello
Starr, Jessie Columbia	Home Econ.	Kimberly
Sullivan, George Paul	Chemical	Lewiston
Swenson, Constance Marie	Arts	Deary
Sylvester, Bertha Birdie	Arts	Rathdrum
Sylvester, Clarence Albert	Mining	Rathdrum
Taylor, Anita Nellie	Arts	Moscow
Turnbow, Grover Dean	Agriculture	Palouse, Wash.
Varner, Irvin Merle	Agriculture	Roseberry
Vesser, Mary	Home Econ.	Coeur d'Alene
Watts, Nancy Ellen	Home Econ.	Mountainhome
Wenger, Paul Abraham	Agriculture	Aberdeen
Wenz, Dorothea Katherine	Arts	Rathdrum
Wight, Newell S.	Agriculture	Weiser
Wilmot, Anne Eleanor	Arts	Wallace
Yearian, Edwina Nelson	Science	Lemhi
Zumhof, Marjorie Beatrice	Arts	Moscow

Sophomores, 80

FRESHMEN (Class of 1917)*

NAME	COURSE	RESIDENCE
Adams, Harold Jack	Electrical	Boise
Adelmann, Warren Richard	Mechanical	Boise
Alexander, Harold Bayless	Agriculture	Boise
Almquist, Elmer Theodore	Electrical	Moscow
Anderson, Albert I.	Agriculture	Moscow
Anderson, Jessie Selina Ruth	Science	Moscow
Ayers, Harold Simonton	Electrical	Gooding
Barnard, Nathan Newport	Agriculture	Spokane, Wash.
Beck, Esther Lydia	Science	Moscow
Beck, George John	Civil	Moscow
Bedwell, Jesse Leonard	Forestry	Arrowrock
Betty, Marion Patterson	Law	Rupert
Bistline, Francis Marion	Arts	Pocatello
Blomquist, Florence	Science	Moscow
Boekel, Will Albert	Arts	Rathdrum
Bonham, Adath Marie	Arts	Wardner
Bonham, Ola Mae	Arts	Wardner
Bonneville, Lawrence	Law	Coeur d'Alene
Booth, John Martin	Agriculture	Nezperce
Bower, Curtis William	Agriculture	Twin Falls
Bowers, Floyd Harrison	Law	Kennewick, Wash.
Brookhart, Ray Francis	Law	Pocatello
Brown, Mildred Helen	Science	Landore
Buchanan, Olive	Science	Lewiston
Bumgarner, Robert Raymond	Civil	Roseberry
Burke, Harry Axel	Arts	Star
Burton, Ruth Idaho	Science	Moscow
Buzzelle, William Burge	Arts	Moscow
Carley, Almon W.	Science	Boise
Chandler, Charles Asa	Arts	Farmington, Wash.
Chapman, Arthur Bramwell	Science	Colfax, Wash.
Clambey, Mary Louise	Science	Caldwell
Clare, Louella	Science	Cambridge
Colquhoun, Guy Carlton	Science	Coeur d'Alene
Cornelison, Bernice May	Science	Moscow
Cozier, Edna Zalora	Arts	Moscow

*First-year Law, Class of 1916, classed as Freshmen.

NAME	COURSE	RESIDENCE
Creason, Henry Vernon	Law	Star
Crump, Charles	Arts	Payette
Cunningham, Russell	Forestry	Boise
Darling, Grace	Arts	Boise
Davis, Elsie Supplee	Home Econ.	Kamiah
Davis, Genevieve Richina	Science	Roseberry
DeHaven, Ernest	Science	Grangeville
DeKay, Frank George	Law	Blackfoot
Dewald, Henry	Electrical	Coeur d'Alene
Dingle, William Bert	Arts	Coeur d'Alene
Einhouse, John Henry	Science	Kellogg
Ficke, Charles Herman	Agriculture	Payette
Fooks, Herbert Clarence	Law	Salisbury, Md.
Fry, Marvin	Electrical	Ferdinand
Gamble, Margaret Helene	Science	Moscow
Gerlough, Tillman Daniel	Science	Boise
Gilchrist, Sybel Leola	Science	Moscow
Goettge, John Edwin	Electrical	Wardner
Goodman, Reuben Charles	Science	Potlatch
Gould, Irene Neoma	Home Econ.	Caldwell
Gray, Charles Chester	Agriculture	Genesee
Gray, LaVerne Reeves	Electrical	Hailey
Greene, Ralph Edward	Arts	Palouse, Wash.
Gribble, Edna Grace	Home Econ.	Eagle
Groninger, Robert Roy	Agriculture	Port Royal, Pa.
Hamil, David Benjamin	Science	Juliaetta
Hansen, June Theodore	Civil	Pocatello
Harlan, Frances Lucile	Home Econ.	Wardner
Hays, Samuel Dent	Science	Boise
Henley, Mary Cope	Science	Moscow
Holden, Norman	Mining	Payette
Humphrey, Clyde Pearson	Civil	Coeur d'Alene
Hunting, Kenneth	Science	Juliaetta
Hyde, Aden Lionel	Agriculture	Oreana
Ison, Harrison	Science	Blackfoot
Ison, Melvin	Science	Blackfoot
Johnson, Oscar Wilhelm	Agriculture	Idaho Falls
Johnston, Herbert William	Forestry	Boise
Johnstone, Jerome Edward	Agriculture	Wamego, Kan.

NAME	COURSE	RESIDENCE
Jones, Lois Rachel	Arts	Pocatello
Jones, Mary Gwendolyn	Arts	Parkplace, Ore.
King, Frank Augustus	Civil	Boise
Knudson, Oscar	Agriculture	Coeur d'Alene
Kruse, Robert Paul	Mining	Coeur dAlene
Lewis, Charlotte	Home Econ.	Moscow
Linn, Marguerite	Science	Coeur d'Alene
Lommasson, Thomas	Forestry	Colfax, Wash.
Loomis, Flora	Home Econ.	Moscow
Lyon, Arthur Joseph	Arts	Boise
MacDougall, Allan	Civil	Boise
McClanahan, Ross Irvin	Arts	Payette
McColl, William Frazer	Science	Kootenai
McCormick, Clifford	Mining	Jarbidge, Nev.
McDowell, Willard	Science	Indian Valley
Marsh, Frank	Agriculture	Moscow
Marshall, Georgia Jayne	Science	Wallace
Martin, Norma Virginia	Arts	Davenport, Wash.
Martinson, Herbert	Science	Genesee
Martinson, Ruth Mae	Home Econ.	Genesee
Massey, Ennis Leonidus	Science	Kellogg
Merwin, Marjory	Science	Moscow
Miller, Carey Dunlap	Home Econ.	Boise
Mitchell, Vera	Science	Greeley, Colo.
Montandon, Orlando Caesar	Arts	Boise
Moody, Virgil Carlton	Agriculture	Hope
Moore, Gladys Katherine	Home Econ.	Moscow
Morley, Naomi Pearl	Science	Colfax, Wash.
Moss, Roy Ormond	Science	Guthrie Center, Ia.
Moulton, Sewall Jesse	Agriculture	Nampa
Mullin, Anna Elizabeth	Arts	Pocatello
Munson, Oscar Charles	Forestry	Moscow
Nankervis, Donald Russel	Electrical	Moscow
Nielson, Arthur H.	Mining	Pocatello
Noble, Mary Crawshaw	Home Econ.	Payette
Plato, Lester Sheffield	Science	Bonners Ferry
Plughoff, Frank Richard	Mining	Hailey
Porter, Harold David	Agriculture	Lewiston
Povey, Bertha Helen	Home Econ.	Hailey

NAME	COURSE	RESIDENCE
Purdy, Harold Sifton	Law	Coeur d'Alene
Rawlings, Margaret Elizabeth	Science	Athol
Rayburn, Charles Frank	Mechanical	Moscow
Reddington, Clara Blanche	Science	Dillon, Mont.
Reynolds, Ralph Sanford	Electrical	Mountainhome
Richardson, Florence Letitia	Arts	Moscow
Richmond, Ethal Blanche	Arts	Fort Lapwai
Robinson, James Elmer	Science	Placerville
Rogers, Ada Evelin	Science	Star
Rose, Anna May	Arts	Wallace
Ross, J. T.	Science	Caldwell
Ruckweed, Fred John	Forestry	Plymouth, Wis.
Safley, Clifford	Science	Tipton, Ia.
Samms, Herbert Emery	Agriculture	Pocatello
Scheffel, Howard Victor	Mining	Rupert
Schick, Alexander Thompson	Civil	Moscow
Schultz, James Merland	Science	Moscow
Sermon, Darwin	Electrical	Rigby
Shaw, Loraine Bell	Arts	Boise
Simmons, Charles James	Science	Grangeville
Simpson, Earl Carleton	Civil	Plains, Mont.
Smith, Leo Ambrose	Arts	Culdesac
Spaulding, Verne Donald	Agriculture	Payette
Stapleton, Mayme Lillian	Arts	Howard Lake, Minn.
Stewart, Clarence Jess	Science	Blackfoot
Sullivan, Fred Basil	Science	Burke
Swan, Hugh Harris	Forestry	Sherburne, N. Y.
Swann, Lois Linden	Home Econ.	Mountainhome
Taylor, Ruth Margaret	Science	Gooding
Thomas, Frank Heinrich	Agriculture	Moscow
Thomas, Penelope Fay	Arts	Coeur d'Alene
Thomas, Walter Francis	Agriculture	Wallace
Tritt, Erma Heagy	Arts	Texline, Tex.
Vincent, Chester Leon	Agriculture	Moscow
Wall, Burd Fanita	Arts	Twin Falls
Wardrobe, Andrew Charles	Science	Genesee
Wardrobe, Jessie Myrtle	Home Econ.	Genesee
Wardrobe, John Henry	Science	Genesee
Waterman, Howard Elwin	Mechanical	Moscow

NAME	COURSE	RESIDENCE
Wehr, Fred Merl	Agriculture	Star
Welker, John Patterson	Electrical	Cambridge
West, James Everett	Law	Lewiston
Wiley, Martin Elizabeth	Science	Waterville, Wash.
Williams, Lesley Edith	Arts	Twin Falls
Wood, Ronald Ellsworth	Agriculture	Payette
Works, Lottie Maud	Home Econ.	Kamiah
Wylie, Oakley McDonald	Science	Eagle
Yates, Donald Herbert	Forestry	Moscow

Freshmen, 162

UNCLASSED

NAME	MAJOR STUDY	RESIDENCE
Adair, Bernadine	Piano	Moscow
Andreassen, Edith	Piano	Moscow
Baken, Palmer	Piano	Moscow
Barnes, Maude E.	Piano	Moscow
Brewer, Mary Amelia	Manual Training	Hall, Ind.
Brigham, John	Voice	Moscow
Buzzelle, George	Piano	Moscow
Byrns, Margaret	Piano	Moscow
Carder, Emma Madaline	Science	Moscow
Carlyle, Helen	Violin	Moscow
Charlton, Mrs. Loudon	Agriculture	New York City
Coleman, Mrs. Sigel	Piano	Moscow
Curtis, Ivy June	Home Econ.	Clarkia
Dahl, Nellie	Arts	Moscow
Davis, Norma Jessie	Manual Training	Evanston, Ill.
Fallquist, Hattie Virginia	Science	Moscow
Fauble, Ruth	Home Econ.	Coeur d'Alene
Fisher, Mrs. Helena R.	Voice	Moscow
Fletcher, Mrs. Helen Hartman	Violin	Moscow
Forteath, Pearl Violet	Music	Rossland, B. C.
Gibbons, Daniel W.	Agriculture	Cottonwood
Gorham, Marie Alma	Manual Training	Moscow
Graves, Mrs. G. W.	Home Econ.	Fort Collins, Colo.
Gray, Ruth Leona	Piano	Moscow
Hart, Daniel David	Science	Boise
Hatfield, Howard	Piano	Moscow
Henderson, Edna	Piano	Moscow

NAME	MAJOR STUDY	RESIDENCE
Hodgins, Bayard	Piano	Moscow
Holaday, Mrs. H. A.	Home Econ.	Moscow
Johnson, George Nathaniel	Voice	Moscow
Jones, Marguerite	Music	Moscow
Kaufmann, Robert	Piano	Moscow
Lambert, Zella	Piano	Moscow
Lamson, Mrs. R. A.	Voice	Madison, Wis.
Lennox, Maude Elizabeth	Violin	Moscow
Luvaas, Morton J.	Piano	Moscow
McBryde, Mrs. Etta	Home Econ.	Moscow
McConnell, Miriam Beatrice	Piano	Moscow
Marsh, Clyde	Mining	Moscow
Marshall, William Davies	Chemical	St. Johns, Mich.
Martin, Louisa	Piano	Moscow
Matthews, Mrs. Marjorie	Music	Moscow
Miller, Mrs. Mark P.	Piano	Moscow
Moore, Mrs. Vina D.	Home Econ.	Moscow
Morse, Annie M.	Violin	Moscow
Morton, Glen Arthur	Arts	Moscow
Olsen, Ella Letitia	Voice	Moscow
Ossmen, Leona	Home Econ.	Lorenzo
Packer, Anna	Home Econ.	Preston
Parsons, Lois	Piano	Moscow
Peterson, Jennie	Piano	Moscow
Pierce, Mrs. Jesse	Home Econ.	Moscow
Pittinger, Raymond Richard	Violin	Nampa
Rogers, Louella	Piano	Star
Schick, Ruth	Education	Moscow
Schmalz, Frederick F.	Forestry	Ogden, Utah
Schwartz, Mrs. O. A.	Home Econ.	Moscow
Sheldon, Birdie	Piano	Moscow
Shields, Mrs. Mary	Home Econ.	Moscow
Skattaboe, Lillian	Home Econ.	Moscow
Smith, Verna Grace	French	Kettle Falls, Wash.
Snead, Hester	Education	Troy
Soulen, Freda Marie	Violin	Moscow
Sterner, Mrs. J. J.	Piano	Moscow
Sterner, J. J.	Violin	Moscow
Stillinger, Otto R.	History	Moscow

NAME	MAJOR STUDY	RESIDENCE
Swann, Dorothy	Piano	Moscow
Tyrrel, Dulcia	Arts	Winchester
Van Meter, Olive	Science	Twin Falls
Warner, Lois	Piano	Moscow
Weber, Emeline	Piano	Moscow
Wheeler, Harry William	Agriculture	Ahsahka
Willis, Belle	Piano	Moscow
Wolf, Ida	French	Tiffin, Ohio

Unclassed Students, 74

SIX-MONTHS DAIRY STUDENTS

NAME	RESIDENCE
Abel, Hugh Boss	Moscow
Condy, Sidney Harry	Rupert
Craig, George Herbert	Denver, Colo.
Cross, Theodore A.	Bucyrus, Mo.
Davis, Loyd Cecil	Buhl
Hughes, Ralph W.	Troy, N. Y.
Loseth, Henry O.	Orofino
Pearson, Axel L.	Moscow
Powell, Birney	Richfield
Wright, Harry S.	Jerome

Six-Months Dairy Students, 10

SCHOOL OF PRACTICAL AGRICULTURE

NAME	YEAR	RESIDENCE
Anderson, Erwing	First	Idaho Falls
Becker, Elmer O.	First	Lowden, Wash.
Berrier, Burt	First	Thorp
Bowman, France Lawrence	First	Thorp
Burkhart, Fredric Leo.	Third	Chicago, Ill.
Bush, Forest Wallace	First	Bonners Ferry
Cochrane, Harvie George	Second	Hempstead, N. Y.
Correll, Reuben Guy	First	Moscow
Crea, William John	First	Cottonwood
Draper, Kenneth	First	Chilly
Driscoll, Jack	First	Moscow
Dunning, J. Weller	First	Homedale
Elder, Benjamin Eugene	First	Barnhart Vale, B. C.

NAME	YEAR	RESIDENCE
Forrey, Howard Vernon	First	Kuna
Fox, George Vincent	Second	Nez Perce
Gorton, John Arner	First	Payette
Griswold, Frank Albert	First	Buhl
Hansen, Earl	First	Moscow
Hardin, Donald	First	Heyburn
Hardin, George Evan	First	Heyburn
Harrington, Otis Edmond	First	Lewiston
Heitshu, Alan L.	First	Portland, Ore.
Hoover, Walter Abraham	Second	Nez Perce
Howe, William Edward	First	Nampa
Johnson, Carl John	Second	Archer
Judd, Lawrence R.	First	Fraser
Kay, Vern	First	Swan Lake
Kidwell, Melvin	Second	Moscow
Kroeger, Charles	Second	Boise
Krom, Joe Frank	Third	Spokane, Wash.
Lockwood, Theodore Wheeler	Second	Hamilton, Mont.
Loseth, John Oliver	Second	Orofino
McCroskey, Joseph M.	Second	Sprague, Wash.
McKeever, Harry Valentine	Second	Kendrick
McMaster, Willard Thompson	Second	Twin Falls
Malin, Ralph Dalton	Third	Hamilton, Mont.
Mariner, Claude Eugene	Third	Hagerman
Mazac, Anthony A.	First	Lewiston
Merrill, Damar	First	Preston
Messinger, Beal	First	Little Camas
Meyer, Carl August	Second	Thorp
Meyer, France Henry	Third	Thorp
Morgan, John W.	First	Eagle
Musser, Lester Risser	Third	Filer
Nelson, Chris Leth	First	Elba, Neb.
Nelson, Lars Oscar	First	Elba, Neb.
Osborn, Floyd Earl	Second	Filer
Palmer, Charles Leroy	First	Dietrich
Parsons, Loren Garrett	First	Twin Falls
Patterson, Horace	First	Crawford
Powell, Russell	Second	Richfield
Rice, Arthur L.	First	Cottonwood

NAME	YEAR	RESIDENCE
Rice, Lester F.	First	Cottonwood
Solberg, Nels	Third	Kamiah
Sponsler, Willis Clinton	Second	Genesee
Story, Weslie Vernon	Third	Valley, Wash.
Stowe, Harry Thomas	Second	Spokane, Wash.
Taxelius, Claude Wilhelm	First	Spokane, Wash.
Taylor, Glen	Second	Buhl
Thometz, George Francis	Third	Twin Falls
Thometz, John Lawrence	Third	Twin Falls
Tobias, Edwin Socrates	Second	Lemhi
Toevs, Jacob C.	First	Aberdeen
Tuttle, Earl Eugene	First	Cambridge
Waterman, Merton Bixby	First	Moscow
Winegardner, Richard Calvin	Third	Leland
Winter, Clarence Eddy	Second	De Lamar
Wood, Frank Elbridge	Third	Boise
Woodworth, LeRoy	First	Moscow
Woolman, Bernard Leverne	Third	Mansfield, Wash.
Wright, Gordon	Second	Coeur d'Alene

School of Practical Agriculture, 71

SCHOOL OF HOME SCIENCE

NAME	YEAR	RESIDENCE
Brown, Alice	First	Moscow
Crea, Mary Ellen	First	Cottonwood
Crea, Rose Elizabeth	First	Cottonwood
Hansen, Agnes	Third	Moscow
Hooker, Johanna	First	Kendrick
Kleth, Mabel	First	Kendrick
Olsen, Frances	First	Moscow

School of Home Science, 7

SUMMER SESSION, 1913

NAME	RESIDENCE
Abrams, Alma	Fraser
Abrams, Earl C.	Fraser
Adams, Miriam	Grangeville

NAME	RESIDENCE
Adkison, Elgren	Grangeville
Allen, Madge	Moscow
Anderson, Anna M.	Troy
Anderson, Hulda	Orofino
Andrew, Veda	Coeur d'Alene
Andrew, Verna	Coeur d'Alene
Augur, Amy Harriet	Middlefield, Conn.
Baker, Bessie Mabry	Baker
Baker, Isaac C.	Harvard
Ball, David W.	Orofino
Bannan, Margaret	Boise
Bean, Beatrice	Montour
Berry, Delcie May	Post Falls
Bigelow, Edna	Moscow
Blackburn, Conway	Albion
Bliss, Mae	Moscow
Blixt, Josephine	Grangeville
Bowden, Helen	Sandpoint
Bowden, Lois	Sandpoint
Bradbury, Ruth	Topeka, Kans.
Brown, Angie	Moscow
Brown, Kearn B.	Grangeville
Brown, Myra E.	Moscow
Buchanan, Bertha A.	Coeur d'Alene
Burkland, Oscar	Deary
Burleigh, Kate S.	Harrison
Byrnes, Carol M.	Moscow
Calkins, James	St. Joe
Campbell, Mrs. Cora B.	Moscow
Carder, Emma Madeline	Moscow
Carder, William	Moscow
Carlyle, Helen	Moscow
Carlyle, Kathlene	Moscow
Chambard, Kittie	Rathdrum
Chapman, Florence	Plummer
Chapman, Marguerite	Plummer
Cheek, Mabel	Sandpoint
Chesley, Fannie	Moscow
Chesley, Tillie	Moscow

NAME	RESIDENCE
Clark, Jessie	Moscow
Collins, Edna	Moscow
Collins, Kenneth	Moscow
Colson, Sadie Beatrice	Elk River, Minn.
Colthrop, Frank R.	Mountainhome
Cordery, Lucile	Denver, Colo.
Cornelison, Bernice M.	Moscow
Cornwall, Vesta	Moscow
Cozier, Edna	Moscow
Crosby, Flossie Belle	Redfield, Kans.
Cullivan, Elizabeth K.	Belvue, Kans.
Cummings, Julia	Moscow
Davis, Genevieve R.	Roseberry
Daubenspeck, Margaret	White Bird
Daubenspeck. Marion	White Bird
Decker, Ida Belle	Moscow
Deierling, Irene E.	Grangeville
Donnan, Dora	Weiser
Drury, Mabel	Moscow
Eastland, Margaret	Russell, Kans.
Edwards, Mary	Vollmer
Elliott, Lenora	Moscow
Fairbanks, Harriet M.	Waterloo, Ia.
Farr, Minnie J.	Coeur d'Alene
Finnigan, William	La Valle, Wis.
Forbes, Mattie Raymie	Lewiston
Frizzle, Mrs. Mary	Troy
Gamble, Margaret Helen	Elk River
Gavin, Raymond C.	Moscow
Gibson, Ollie E.	St. Joe
Gibson, R. Ellyn	St. Joe
Gilchrist, Sybel	Moscow
Glover, Elare	Jordan Valley, Ore.
Glover, Violet	Jordan Valley, Ore.
Graham, Thos. Archibald	Sandpoint
Grice, Mabel	Avon
Haight, Mrs. Gertrude M.	Kellogg
Hall, Orill	Montainhome
Hall, Ruth	Potlatch

NAME	RESIDENCE
Hall, Suma	Potlatch
Hallowell, Catherine A. M.	Gilmore
Hammond, Grace	Troy, N. Y.
Hansen, Alvida	Coeur d'Alene
Hensen, Cora	Moscow
Hewgley, May	Lewiston
Higgins, Lucy J.	Boise
Holaday, Mrs. H. A.	Moscow
Holaday, Horace A.	Moscow
Horn, Lyda E.	Rosalia, Wash.
Horton, Lucy	Moscow
Iddings, Nora	Peru, Ind.
Illingworth, Frank W.	Boise
Jensen, Nella	Moscow
Johnson, Alice	Moscow
Johnson, Emma	Troy
Johnson, Sara	Moscow
Kadletz, Olive	Salmon
Keane, Katherine	Moscow
Kroh, Mabel	Moscow
LaFountain, Myrtle	Bonners Ferry
Lame, Charlie C.	Lookout
Le Baron, Carrie C.	Cavendish
Lewis, Martin	Moscow
Long, Edith	Ferdinand
Lundquist, Florence	Potlatch
Lunn, Henry A.	Wrencoe
McColl, William Frazer	Kootenai
McCrossin, Ellen	Emmett
McGregor, William D.	Troy
McGrew, Fannie M.	Mount Idaho
McLaughlin, J. Stanton	Sandpoint
Marshall, Hazel	Gibbs
Martin, Othel	Davenport, Wash.
Mason, Bernice M.	New Plymouth
Mauck, Zura E.	Latah, Wash.
Mayne, Florence	Sandpoint
Merritt, Olive	Valley
Merwin, Marjory	Moscow

NAME	RESIDENCE
Minden, Chester	Moscow
Mitchell, Anna S.	Mullan
Mitchell, Carrie E.	Moscow
Mitchell, Grace	Plummer
Mitchell, Neva	Moscow
Moore, Vina D.	Moscow
Moss, Roy Ormond	Roseberry
Mueller, Dollye D.	Kamiah
Mueller, Metta M.	Kamiah
Murphy, Irene	Coeur d'Alene
Murray, Dottie	Mullan
Myers, Cryselda	Palouse, Wash.
Nelson, Lulu A.	Plummer
Newlon, Mrs. Edna	New Meadows
Nichol, Helen D.	Kamiah
Nisbet, Maggie J.	Genesee
Nylander, Elvina V.	Coeur d'Alene
O'Brien, Grace	Bonners Ferry
O'Brien, Teresa	Bonners Ferry
Parsons, Irene E.	Grangeville
Pelton, Gladys	Lenore
Pelton, Lois	Lenore
Pierson, Matilda	Priest River
Pierson, Victoria	Priest River
Potter, Johnathan	Winchester
Querry, Clara	Boise
Quinn, Mary	Horseshoe Bend
Rae, Linda	Moscow
Raettig, Meta B.	Boise
Randall, Otis	Moscow
Reeder, J. Charles	Moscow
Renshaw, Anna B.	Kamiah
Rippeteau, Corrinne	Rathdrum
Robards, Lucile	Portland, Ore.
Robertson, Corinne	Coeur d'Alene
Robinson, Beatrice I.	Salubria
Rodgers, Nellie L.	Cambridge
Ross, Precious	Moscow
Ruhl, William Edgar	Princeton

NAME	RESIDENCE
Sanford, Maud V.	Post Falls
Sanderson, Albert	Midvale
Sanderson, Mrs. Mary	Midvale
Sargent, Mrs. Lois	Moscow
Schick, Marguerite	Moscow
Schlerth, Mamie	Genesee
Scott, Josephine M.	St. Maries
Shain, Inez	Kamiah
Simpson, Maia	Moscow
Smith, Lee	Newport, Wash.
Smith, Minnie Jameson	Moscow
Smith, Olive	St. Maries
Smith, Mrs. Priscilla	Athol
Smith, Roy D.	Moscow
Smith, Virgil	Winona
Space, Mollie	Coeur d'Alene
Spencer, Bessie S.	Bloomington, Ill.
Sponsler, Nettie	Moscow
Stantial, Flora Arma	Grangeville
Stephenson, Florence May	Nampa
Stewart, Sadie	Coeur d'Alene
Sullivan, George P.	Lewiston
Sundell, Emma	Moscow
Tarkington, Alice	Spokane, Wash.
Terry, Beatrice	Kamiah
Thomas, Chalice	Princeton
Thomas, Lelia	Rathdrum
Thomas, Verna	Rathdrum
Thornber, Jessie B.	Brookings, S. Dak.
Tindall, Myrtle V.	Cambridge
Warner, Ruth	Moscow
Wasmund, Grace	Grangeville
Wells, Mrs. Amos	Dudley
West, Alice	Moscow
Wetmer, Faith E.	Palouse, Wash.
White, Vera	Moscow
Whitwell, Laura	Salmon
Wilson, Metta	Montour
Woods, Ella	Boise

NAME	RESIDENCE
Wright, Anna E.	Troy
Youngs, Arma	St. Maries
Zapp, Edith	Boise

Summer Session, 201

SUMMARY OF STUDENTS

College of Letters and Sciences:		
Graduate Students	2	
B.A., 86 (Unclassed, 5)	91	
B.S., 94 (Unclassed, 10)	104	
Music (B.M., 1; Unclassed, 41)	42	
Home Economics [B.S.(H.Ec.), 32; Unclassed, 12]	44	
Forestry [B.S.(For.), 17; Unclassed, 1]	18	301
College of Agriculture:		
Graduate Students	4	
Four-Year Courses, 66 (Unclassed, 3)	69	
Six-Months Dairy	10	
School of Practical Agriculture	78	161
College of Engineering:		
Graduate Students	1	
Civil Engineering	28	
Mining Engineering [B.S.(Mng.E.), 13; Unclassed, 1]	14	
Electrical Engineering	20	
Mechanical Engineering	8	
Chemical Engineering [B.S.(Chem.E.), 8; Unclassed, 1]	9	80
College of Law:		
Third Year	6	
Second Year	10	
First Year	9	25
Total Students under collegiate instruction		567
Attendance at the Summer Session, 1913		201
Total Attendance		768
Deduct Duplicates (Summer Session)		21
Total students in all departments		747

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