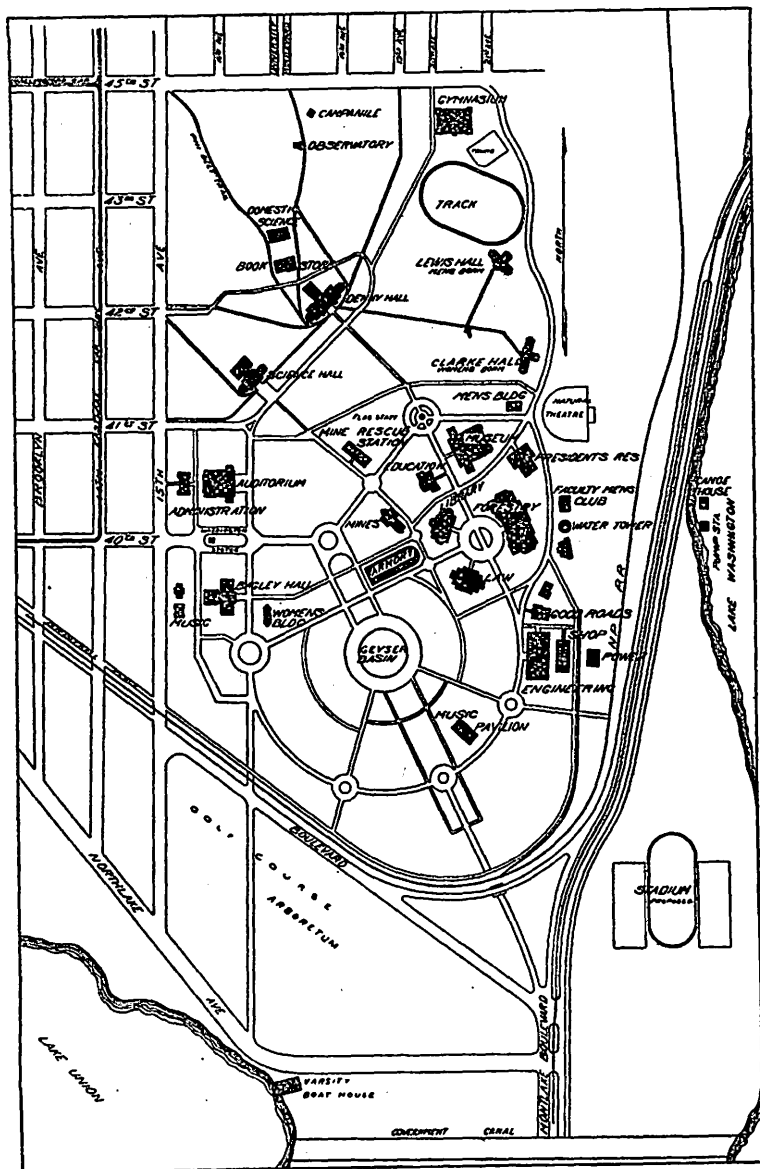


CATALOGUE
OF THE
University of Washington
FOR 1914-1915
AND
ANNOUNCEMENTS
FOR 1915-1916



SEATTLE
WASHINGTON

OLYMPIA.
FRANK M. LAMBORN  PUBLIC PRINTER
1915



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UNIVERSITY CALENDAR

1915-1916

FIRST SEMESTER

Examinations for admission and for exemption from College

English

.....Thursday, Friday and Saturday, September 9, 10, 11

Registration days....Monday and Tuesday, September 13 and 14

Instruction begins.....Wednesday, September 15

President's annual address.....Friday, September 17, 10 a. m.

Women's Assembly.....Friday, September 24, 11 a. m.

Assembly of the Associated Students.....

.....Wednesday, September 29, 9 a. m.

Thanksgiving vacation..... { Wednesday, November 24, 6 p. m.
to Monday, November 29, 8 a. m.

Assembly of the Associated Students.....

.....Wednesday, December 8, 1 p. m.

Christmas vacation..... { Friday, December 17, 6 p. m.
to Monday, January 3, 8 a. m.

Semester examinations { Monday, Tuesday, Wednesday, Thurs-
day, Friday, January 24, 25, 26, 27, 28

SECOND SEMESTER

Registration days.....

.....Monday and Tuesday, January 31 and February 1

Instruction begins.....Wednesday, February 2

Women's Assembly.....Friday, February 4, 11 a. m.

Washington's birthday (holiday).....Tuesday, February 22

Spring vacation..... { Friday, March 31, 6 p. m.
to Monday, April 10, 8 a. m.

Assembly of the Associated Students.....

.....Thursday, April 13, 9 a. m.

Campus day.....Friday, April 28

Junior day.....Saturday, May 6

Memorial day (holiday).....Tuesday, May 30

Semester examinations.....June 5, 6, 7, 8, 9, 10

Baccalaureate Sunday.....June 11

Class day and President's reception.....Monday, June 12

Alumni day.....Tuesday, June 13

Commencement.....Wednesday, June 14

THE BOARD OF REGENTS

OSCAR A. FECHTER, President.....North Yakima
Term ends March, 1916.

ELDRIDGE WHEELER.....Montesano
Term ends March, 1915.

JOHN A. REA.....Tacoma
Term ends March, 1916.

CHARLES E. GACHES,.....Mount Vernon
Term ends March, 1917.

WILLIAM A. SHANNON.....Seattle
Term ends March, 1917.

WINLOCK W. MILLER.....Seattle
Term ends March, 1920.

WILLIAM T. PERKINS.....Seattle
Term ends March, 1920.

WILLIAM MARKHAM, *Secretary to the Board.*

ADMINISTRATIVE OFFICERS

THE UNIVERSITY

HENRY LANDES, A. M., Acting President, Administration Building.
HERBERT THOMAS CONDON, LL. B., Bursar, Administration Building.

EDWARD NOBLE STONE, A. M., Registrar and Recorder, Administration Building.

EDWIN BICKNELL STEVENS, A. M., Secretary to the President, Administration Building.

ISABELLA AUSTIN, A. B., Dean of Women, Denny Hall.

THE COLLEGES AND SCHOOLS

ARTHUR SEWALL HAGGETT, PH. D., Dean of the College of Liberal Arts, Administration Building and Denny Hall.

ALMON HOMER FULLER, M. S., C. E., Dean of the College of Engineering, Engineering Building.

MILNOR ROBERTS, A. B., Dean of the College of Mines, Mines Building.

CHARLES WILLIS JOHNSON, PH. C., PH. D., Dean of the College of Pharmacy, Bagley Hall.

JOHN THOMAS CONDON, LL. M., Dean of the School of Law, Law Building.

HUGO WINKENWERDER, M. F., Dean of the College of Forestry, Good Roads Building.

J. ALLEN SMITH, PH. D., Dean of the Graduate School, Denny Hall.

THEODORE CHRISTIAN FRYE, PH. D., Acting Dean of the College of Science, Science Hall.

FREDERICK ELMER BOLTON, PH. D., Dean of the College of Education, Education Building.

IRVING MACKEY GLEN, A. M., Dean of the College of Fine Arts, Meany Hall.

THE EXTENSION DIVISION

EDWIN AUGUSTUS START, A. M., Director, Administration Building.

THE LIBRARY

WILLIAM ELMER HENRY, A. M., Librarian, Library Building.

FACULTY AND OTHER OFFICERS*

HENRY LANDES, A. M., Acting President and Professor of Geology and Mineralogy.

A. B., Indiana University, 1892; A. B., Harvard University, 1892; A. M., 1893; Assistant U. S. Geological Survey, 1891 and 1893; Assistant to State Geologist, New Jersey, 1892-94; Principal of Rockland (Me.) High School, 1894-95; Professor of Geology and Mineralogy, University of Washington, 1895-; State Geologist, 1901-; Dean of the College of Science, 1913-; Acting President, January 1914-.

ORSON BENNETT JOHNSON, LL. B., Professor Emeritus of Zoology. LL. B., Union College Law School, 1869; Professor of Natural Science, University of Washington, 1882-92; Professor of Biology, *ibid.*, 1892-96; Curator of Museum, 1896; Professor Emeritus of Zoology, 1910-.

EDMOND STEPHEN MEANY, M. L., Professor of History.

B. S., University of Washington, 1885; M. S., 1899; M. L., University of Wisconsin, 1901; Member of Washington Legislature, 1891 and 1893; Secretary of the Board of Regents, University of Washington, 1894-97; Registrar and Lecturer on Northwest History and Forestry, 1895-97; Professor of History, 1897-.

J. ALLEN SMITH, PH. D., Professor of Political and Social Science. and Dean of the Graduate School.

A. B., University of Missouri, 1886; LL. B., 1887; Ph. D., University of Michigan, 1894; Attorney-at-Law, Kansas City, 1887-92; Professor of Economics and Sociology, Marietta College, 1895-97; Professor of Political and Social Science, University of Washington, 1897; Dean of the Graduate School, 1909-.

CAROLINE HAVEN OBER, Professor of Spanish.

Student, Wheaton Seminary, Norton, Mass., 1882-86; Massachusetts Normal School, Salem, 1888-89; Teacher, Public School, Fallsade, Nevada, 1886-87; Instructor in Modern Languages, Bozeman Academy, Montana, 1887-88; Regent and Vice-Directress, Government Normal Schools, Argentine Republic, 1889-93; Instructor in Spanish, San Diego High School, California, 1896-97; Professor of Romanic Languages, University of Washington, 1897-1903; Absent on Leave in China, 1912-1913; Professor of Spanish, 1903-.

* The faculty list is arranged in six groups—professors, associate professors, assistant professors, instructors, lecturers, teaching fellows. In each group the names occur in the order of academic seniority.

ALMON HOMER FULLER, M. S., C. E., Professor of Civil Engineering and Dean of the College of Engineering.

C. E., Lafayette College, 1897; M. C. E., Cornell University, 1898; M. S., Lafayette College, 1900; Mem. Am. Soc. C. E.; Fellow in Civil Engineering, Cornell University, 1897-98; Professor of Civil Engineering, University of Washington, since 1898; In Practical Work, 1900-01 and 1912-13; Dean of College of Engineering, 1899-.

JOHN THOMAS CONDON, LL. M., Professor of Law, and Dean of the School of Law.

Student, University of Washington, 1875-79; LL. B., University of Michigan, 1891; LL. M., Northwestern University, 1892; Assistant, in charge of Evidence; Northwestern University, 1891-92; Member of Seattle Bar since 1892; Professor of Law and Dean of School of Law, University of Washington, 1899-.

HORACE G. BYERS, PH. D., Professor of Chemistry.

A. B., and B. S., Westminster College, 1895; A. M., 1898; Ph. D., Johns Hopkins University, 1899; University of Leipzig, 1907-08; Professor of Chemistry, Tarkio College, 1895-96; Instructor in Physics, Westminster College, 1896-97; Instructor in Chemistry, Maryland University, 1898-99; Instructor in Chemistry, University of Chicago, (Summer Session) 1902-1903-1904; Professor of Chemistry, University of Washington, 1899-.

TREVOR KINCAID, A. M., Professor of Zoology.

B. S., University of Washington, 1899; A. M., 1901; Instructor in Biology, University of Washington, 1895-99; Assistant, American Fur Seal Commission, 1897; Acting Professor of Entomology, Oregon Agricultural College, 1897-98; Entomologist, Harriman Alaska Expedition, 1899; Austin Scholar, Harvard University, 1905-6; Assistant Professor of Biology, University of Washington, 1899-1901; Professor of Zoology, 1901-.

FREDERICK MORGAN PADEFORD, PH. D., Professor of English.

A. B., Colby College, 1896; A. M., 1899; Ph. D., Yale University, 1899; Scholar in English, Yale University, 1896-98; Fellow, 1898-99; Professor of English, University of Idaho, 1899-1901; Research Work at British Museum, 1905-06; Professor of English Language and Literature, University of Washington, 1901-.

MILNOR ROBERTS, A. B., Professor of Mining Engineering and Metallurgy and Dean of the College of Mines.

A. B., Stanford University, 1899; Instructor in Mineralogy, Stanford University, 1899-1900; Professor of Mining Engineering and Metallurgy, and Dean of the College of Mines, University of Washington, 1901-.

ARTHUR SEWALL HAGGETT, PH. D., Professor of Greek and Dean of the College of Liberal Arts.

A. B., Bowdoin College, 1893; A. M., 1894; Ph. D., Johns Hopkins University, 1897; Student, University of Berlin and American School at Athens, 1897-98; Scholar in Greek, Johns Hopkins University, 1895-96; Fellow in Greek, 1896-97; Instructor in Greek, Bangor, (Maine) High School, 1898-99; Instructor in Greek and Latin, Worcester Academy, 1899-1901; Assistant Professor of Greek and Latin, University of Washington, 1901-02; Professor of Greek Language and Literature, 1902; Dean of the College of Arts and Science, 1911-1913; Dean of the College of Liberal Arts, 1913.

FREDERICK ARTHUR OSBORN, PH. D., Professor of Physics and Director of Physics Laboratories.

Ph. B., University of Michigan, 1896; Ph. D., 1907; Graduate Student, University of Michigan, 1900-1902, and 1906-7; Assistant in Physics, Saginaw High School, 1890-91; Instructor in Physics, Ann Arbor High School, 1893-96; Professor of Physics, Olivet College, 1896-1902; Professor of Physics and Director of Physics Laboratories, University of Washington, 1902.

WILLIAM SAVERY, PH. D., Professor of Philosophy.

A. B., Brown University, 1896; A. M., Harvard University, 1897; Ph. D., 1899; Assistant in Ethics, Harvard University, 1896-97; James Walker Fellow (travelling), Harvard University, 1897-98; Student in University of Berlin, 1897-98; Morgan Fellow, Harvard University, 1898-99; Assistant in History of Philosophy, Harvard University and Radcliffe College, 1899-1900; Professor of Psychology and Philosophy, Fairmount College, Kansas, 1900-1902; Professor of Philosophy, University of Washington, 1902.

DAVID THOMSON, A. B., Professor of Latin.

A. B., University of Toronto, 1892; Classical Master in the High School, Orillia, Ontario, 1893-99; Fellow in Latin, University of Chicago, 1899-1901; Assistant in Latin, University of Chicago, 1901-02; Student, University of Munich, 1908-09; Professor of Latin, University of Washington, 1902.

CHARLES WILLIS JOHNSON, PH. C., PH. D., Professor of Pharmaceutical Chemistry, and Dean of the College of Pharmacy.

Ph. C., University of Michigan, 1896; B. S., University of Michigan, 1900; Ph. D., University of Michigan, 1903; Practical Pharmacist, Detroit, Michigan, 1896-98; Assistant Instructor in Chemistry, University of Michigan, 1898-01; Instructor in Chemistry, University of Iowa, 1901-02; Assistant Professor in Chemistry, University of Washington, 1903-04; Chemist, State Dairy and Food Commission, 1909-13; State Chemist, 1913; Professor of Pharmaceutical Chemistry, and Dean of the School of Pharmacy, University of Washington, 1904.

PIERRE JOSEPH FREIN, PH. D., Professor of French.

A. B., Williams College, 1892; Ph. D., Johns Hopkins University, 1899; Instructor in Modern Languages, Holbrook Military School (New York), 1892-93; Instructor in French and Greek, Oahu College (Honolulu), 1893-95; Student in Europe and Johns Hopkins University, 1895-99; Fellow in Romanic Languages, Johns Hopkins University, 1898-99; Instructor (1889-1900) and Assistant Professor (1900-03) of Romanic Languages, Leland Stanford, Jr., University; Professor of French, University of Washington, 1903-.

THEODORE CHRISTIAN FRYE, PH. D., Professor of Botany, and Acting Dean of the College of Science.

B. S., University of Illinois, 1894; Ph. D., University of Chicago, 1902 Principal of High School, Monticello, Ill., 1894-96; Superintendent of City Schools, Batavia, Ill., 1897-1900; Graduate Student, University of Chicago, 1896-97, 1900-02; Fellow in Botany, 1901-02; Professor of Biology, Morningside College, Iowa, 1902-03; Professor of Botany, University of Washington, 1903-14; Acting Dean, College of Science, 1914-.

ROBERT EDOUARD MORITZ, PH. D., PH. N. D., Professor of Mathematics and Astronomy.

B. S., Hastings College, 1892; Ph. M., University of Chicago, 1896; Ph. D., University of Nebraska, 1901; Ph. N. D., Universitaet Strassburg, 1902; Student in Goettingen and Paris, 1902; Instructor in Mathematics, Hastings College, 1893-4; Professor, 1894-8; Instructor in Mathematics, University of Nebraska, 1898-1901; Adjunct Professor, 1902-3; Assistant Professor, 1903-4; Professor of Mathematics and Astronomy, University of Washington, 1904-.

CARL EDWARD MAGNUSSON, PH. D., E. E., Professor of Electrical Engineering.

B. E. E., University of Minnesota, 1896; M. S., 1897; E. E., 1905; Scholar in Physics, University of Minnesota, 1895-1897; Graduate Student, University of Wisconsin, 1898-1900; Ph. D., 1900; Fellow in Physics, University of Wisconsin, 1899-1900; Professor of Physics, University of New Mexico, and School of Mines, 1901-04; absent on leave, with the General Electric Co., Schenectady, N. Y., 1911-1912; Fellow A. I. E. E.; Professor of Electrical Engineering, University of Washington, 1904-.

HARVEY LANTZ, A. M., LL. B., Professor of Law.

Ph. B., De Pauw University, 1888; A. M., 1891; LL. B., Kent Law School, 1893; Superintendent of Schools, Spencer, Ind., 1888-91; Admitted to Bar Supreme Court of Illinois, 1893; Practiced law, Chicago, Ill., 1896-1905; Admitted to Bar, United States Supreme Court, 1905; Professor of Law, University of Washington, 1905-.

EVERETT OWEN EASTWOOD, C. E., A. M., Professor of Mechanical Engineering.

C. E., University of Virginia, 1896; A. B., 1897; A. M., 1899; B. S., Massachusetts Institute of Technology, 1902; Fellow, Astronomy, University of Virginia, 1897-1900; Practical Work, Bureau of Construction and Repair, Navy Department, Washington, D. C., 1902-03; with the Fore River Ship Building Company, Quincy, Mass., 1903-04; Instructor in Mechanical Engineering, in charge of Marine Engineering and Naval Architecture, Lehigh University, 1904-05; Professor of Mechanical Engineering, University of Washington, 1905-.

FREDERICK WILLIAM MEISNEST, PH. D., Professor of German.

B. S., University of Wisconsin, 1893; Ph. D., 1904; Graduate of the State Normal School, Milwaukee, Wis., 1889; Principal of High Schools, Montello, Wis., 1889-91; Green Bay, Wis., 1893-94; Boscobel, Wis., 1894-96; Instructor in German, University of Wisconsin, 1897-1906; Student, University of Leipzig, Germany, 1901-02; Professor of German, University of Washington, 1906-.

WILLIAM ELMER HENRY, A. M., Librarian and Director of the Department of Library Economy.

A. B., Indiana University, 1891; A. M., 1892; Instructor in English, Indiana University, 1891-93; Graduate Student, Chicago University, 1893-95; Fellow in English, 1894-95; Professor of English, Franklin College, 1895-97; State Librarian of Indiana, 1897-1906; Librarian, University of Washington, 1906-; Director Department Library Economy, 1911-.

DAVID CONNOLLY HALL, Sc. M., M. D., Director of Physical Education.

Ph. B., Brown University, 1901; Sc. M., University of Chicago, 1903; M. D., Rush Medical College, University of Chicago, 1907; Acting Physical Director and Graduate Student, Wesleyan University, Connecticut, 1901-02; Physical Director and Instructor in Physiology and Pharmacology, University of Oklahoma, 1902-08; Medical School on leave of absence, 1906-07; Director of Physical Education, University of Washington, 1908-.

ISABELLA AUSTIN, A. B., Dean of Women.

A. B., University of Minnesota, 1895; Graduate, State Normal School, Winona, Minnesota, 1897; Minneapolis Public Schools, 1897-99; Critic Teacher, State Normal School, Winona, Minnesota, 1899-1902, 1905-06; Graduate Scholar, Teachers' College, Columbia University, 1902-03; Critic Teacher, Speyer School, Teachers' College, Columbia University, 1903-05; Critic Teacher, Michigan State Normal College, 1907-08; Supervisor, Primary Grades, Tacoma Public Schools, 1908-09; Dean of Women, University of Washington, 1909-.

HERBERT HENRY GOWEN, D. D., F. R. G. S., F. R. S. A., Professor of Oriental History, Literature and Institutions.

Member Society of Arts, London; Oriental Scholar, St. Augustine's College, Canterbury, 1883-6; First Class Oxford and Cambridge Prelim., 1886; Rector Trinity Parish Church, Seattle, 1897-1914; D. D., Whitman College, 1912; Professorial Lecturer on Oriental History, Literature and Institutions, University of Washington, 1909-14; Professor, 1914-.

OLIVER HUNTINGTON RICHARDSON, PH. D., Professor of European History.

A. B., Yale University, 1889; A. M., Ph. D., Heidelberg (Germany), 1897; Foote Scholar, Yale University, 1889; Instructor in History and Political Economy, Colorado College, 1889-90; European Travel and Study, 1890-92; Professor of History, Drury College, 1892-97; Research Work in Germany, 1895-97; Assistant Professor of History, Yale University, 1897-1909; Professor of European History, University of Washington, 1909-.

IVAN WILBUR GOODNER, LL. B., Professor of Law.

Admitted to Bar, Territory of Dakota, 1885; Clerk of Supreme Court of South Dakota, 1889-1896; LL. B., University of Nebraska, College of Law, 1897; City Attorney, Pierre, South Dakota, 1898-9; State's Attorney, Hughes County, S. D., 1899-1905; Admitted to Bar, United States Supreme Court, 1901; Attorney-at-Law, Seattle, Wash., 1908; Lecturer in Law, University of Washington, 1910-12; Professor of Law, 1912-.

WALTER GREENWOOD BEACH, A. M., Professor of Social Science.

A. B., Marietta College, 1888; A. B., Harvard, 1891; A. M., Harvard, 1892; Instructor, Marietta College, 1888-90; Instructor, Oberlin College, 1892-93; Professor, Marietta College, 1893-98; Graduate Student Stanford University, 1898-99; Assistant Professor, Economics, Washington State College, 1899-1905; Professor and Head of the Department of Economic Science and History, Washington State College, 1905-10; Professor of Social Science, University of Washington, 1910-.

IRVING MACKEY GLEN, M. A., Professor of Music and Dean of the College of Fine Arts.

Graduate, California State Normal School (San Jose), 1890; Graduate, California School of Elocution and Oratory, 1889; Graduate, Elwood School of Music, 1890; B. A., University of Oregon, 1894; M. A., 1897; Graduate Student, Johns Hopkins University, 1894-96; Professor of English and Latin, McMinnville College, 1897; Professor of Oratory, University of Oregon, 1897-99; Professor of English Language and Literature, 1899-1911; Dean of the School of Music, 1901-11; Professor of Music, University of Washington, 1911-; Dean of the College of Fine Arts, 1915-.

EDWIN AUGUSTUS START, A. M., Director of University Extension Division.

A. B., Tufts College, 1884; A. M., Harvard University, 1893; Journalism, 1885-92; in charge Department of History, Tufts College, 1892-1900; Graduate Student, Harvard University, 1892-93; 1894-95; Editor Modern European History Section, New International Encyclopaedia, 1900-2; Secretary Massachusetts Forestry Association, 1900-09; Executive Secretary American Forestry Association and Editor American Forestry, 1900-11; Director of University Extension Division, University of Washington, 1912-.

CHARLES CHURCH MORE, M. S., C. E., Professor of Civil Engineering.

C. E., Lafayette College, 1898; M. C. E., Cornell University, 1899; M. S., Lafayette College, 1901; Graduate Scholar in Civil Engineering, Cornell University, 1898-99; six and one-half years' practice in bridge and construction work with the following: Pencoyd Iron Works and American Bridge Co., Pencoyd, Penn.; D. H. Burnham & Co., Archts., Chicago, T. L. Condon, C. E., Chicago; Turner Construction Company, New York; U. S. Engineer Dept., Fort Worden, Wash.; C., M. & St. P. Ry. Co., of Washington, Seattle; Acting Professor of Civil Engineering, University of Washington, 1900-01; Assistant Professor, 1904-06; Associate Professor, 1907-12; Professor, 1912-.

HENRY KREITZER BENSON, PH. D., Professor of Industrial Chemistry.

A. B., Franklin and Marshall College, 1899; A. M., 1902; Ph. D., Columbia University, 1907; Superintendent of Schools, Kent, Washington, 1900-03; Graduate Student, Johns Hopkins University, 1903-04; Fellow in Chemistry, Columbia University, 1906-07; Assistant Professor of Chemistry, University of Washington, 1904-09; Acting Professor of Chemistry, 1907-08; Associate Professor, 1909-12; Professor of Industrial Chemistry, 1912-.

JOHN WEINZIRL, PH. D., Professor of Bacteriology.

B. S., University of Wisconsin, 1896; M. S., 1899; Ph. D., 1906; Assistant Professor of Biology, University of New Mexico, 1897-1900; Professor of Biology and Chemistry, *ibid.*, 1900-07; Fellow in Biology in University of Wisconsin, 1905-06; Assistant Professor of Bacteriology, University of Washington, 1907-9; Associate Professor, 1909-12; Professor, 1912-.

HUGO WINKENWERDER, M. F., Professor of Forestry and Dean of the College of Forestry.

B. S., University of Wisconsin, 1902; M. F., Yale University, 1907; Laboratory Assistant in Botany, University of Wisconsin, 1901-2; Instructor in Botany and Physiography, High School, Sheboygan, Wisconsin, 1902-5; Graduate Student, Yale University, 1905-7; U. S. Forest Service, 1907; Assistant Professor of Forestry, Colorado College, 1908-9; with U. S. Forest Service as Collaborator, 1908-1914; Associate Professor of Forestry, University of Washington, 1909-12; Professor and Dean of the College of Forestry, 1912-.

VERNON LOUIS PARRINGTON, M. A., Professor of English.

A. B., Harvard University, 1893; M. A., College of Emporia, 1895; studied in the British Museum, on leave of absence, 1903-1904; Instructor in English and French, College of Emporia, 1893-97; Instructor in English and Modern Languages, State University of Oklahoma, 1897-98; Professor of English Literature, State University of Oklahoma, 1898-1908; Assistant Professor of English, University of Washington, 1908-12; Professor, 1912-.

FREDERICK ELMER BOLTON, PH. D., Professor of Education and Dean of the College of Education.

Graduate of the State Normal School, Milwaukee, Wis., 1890; B. S., University of Wisconsin, 1893; M. S., 1896; Student, University of Leipzig, Germany, 1896-97; Fellow in Psychology, Clark University, 1897-98; Ph. D., 1898; High School Principal, 1890-91; Principal Grammar School, 1893-1895; Professor of Psychology and Pedagogy, State Normal School, Milwaukee, Wis., 1898-1900; Lecturer in Education, University of Wisconsin, Summer Session, 1899; Assistant Professor of Pedagogy, State University of Iowa, 1900-01; Professor and Head of the Department of Education, 1901-12; Director of the Summer Session, 1902-10; Secretary, 1910-12; Director of the School of Education, 1906-12; Professor of Education, University of Chicago, Summer 1913; Professor of Education, University of Washington, 1912-; Director of Summer Session, 1913-; Dean of the College of Education, University of Washington, 1913-.

EDWIN JOHN VICKNER, PH. D., Professor of the Scandinavian Languages.

A. B., University of Minnesota, 1901; A. M., 1902; Ph. D., 1905; Student, Paris and Berlin, 1902-1903; Professor of German and Spanish, Gustavus Adolphus College, 1903-1912; Student, Leipzig, Brussels, and Scandinavia, 1906-1907; Instructor in French, Summer Session, University of Minnesota, 1908; Student, Paris, Summer 1909; Graduate Student, University of Michigan, Summer Session, 1910; Student, Christiania, Summer, 1912; Professor of Scandinavian Languages, University of Washington, 1912-.

EDWARD EUGENE MCCAMMON, First Lieutenant, Third Infantry, U. S. A., Professor of Military Science and Tactics.

Student, University of Washington, 1899-1900; Student, University of Minnesota, 1900-1901; Appointed from the Army, 1903; Professor of Military Science and Tactics, University of Washington, 1913-.

HERBERT GALEN LULL, PH. D., Professor of Education.

Graduate Michigan State Normal College, 1898; A. B., University of Michigan, 1904; M. A., University of Washington, 1911; M. Pd. (Honorary), Michigan State Normal College, 1912; Ph. D., University of California, 1912; Principal Public School, Carson City, Michigan, 1898-1902; Superintendent of City Schools, Mt. Clemens, Michigan, 1904-05; Supervisor of Training School, Washington State Normal School, Bellingham, Washington, 1905-07; Assistant Professor of Education, University of Washington, 1907-08; Associate Professor of Education, *ibid*, 1908-1913; leave of absence (Acting Assistant Professor of Education, University of California), 1911-12; Professor of Education, 1913.

FRANK GEORGE KANE, A. B., Professor of Journalism.

A. B., University of Michigan, 1908; Reporter, Copy-reader, Sunday Editor, Duluth News Tribune, 1902-03; Reporter, Detroit News, 1904-05; Ann Arbor Correspondent, Detroit News and Chicago Tribune, 1905-08; Reporter, Copy-reader, Editorial Writer, Detroit News, 1908-09; Instructor in Journalism, University of Washington, 1909-10; Editorial Writer, the Detroit News, 1910-13; Professor of Journalism, University of Washington, 1913.

EFFIE ISABEL RAITT, B. S., Professor and Director of the Department of Home Economics.

B. S., Columbia University, 1912; Bachelor's Diploma in Domestic Science, Teachers' College, Columbia University, 1903; Bachelor's Diploma in Household Administration, Teachers' College, Columbia University, 1912; Bachelor's Diploma in Dietetics, Teachers' College, Columbia University, 1912; Dietitian and Steward, Massachusetts State Sanatorium for Tuberculosis, 1903-1904; Dietitian, St. Luke's Hospital, New York City, 1904-1905; House Director of Willard Hall, Northwestern University, 1905-1911; Director of the Department of Home Economics, University of Washington, 1912; Associate Professor, 1913-14; Professor, 1914.

WILLIAM FRANKLIN ALLISON, C. E., Professor of Municipal and Highway Engineering.

B. S., South Dakota State College, 1895; B. S. (C. E.), Purdue University, 1897; C. E., Cornell University, 1904; Member American Society Civil Engineers; Instructor, Civil Engineering, Colorado School of Mines, 1904-05; Professor, in charge of Department of Civil Engineering, Colorado School of Mines, 1905-12; Professor of Hydraulic and Sanitary Engineering, University of Oregon, 1913-14; Consulting Sanitary Engineer, Portland, Oregon, 1912-13; Professor of Municipal and Highway Engineering, University of Washington, 1914.

***ALLEN ROGERS BENHAM, PH. D., Associate Professor of English.**

A. B., University of Minnesota, 1900; A. M., 1901; Ph. D., Yale University, 1905; Assistant in English, University of Minnesota, 1899-1901; Principal of High School, St. James, Minn., 1901-02; University Fellow, Yale University, 1902-05; Assistant Professor of English Literature, University of Washington, 1905-12; Associate Professor, 1912.

FRANK MARION MORRISON, PH. D., Associate Professor of Mathematics.

A. B., University of Michigan, 1892; Ph. D., University of Chicago, 1918; Graduate Student, University of Chicago, 1897-99; 1911-12; Instructor in Mathematics in the High Schools, Elkhart, Indiana, Sloux City, Iowa, Circleville, Ohio, 1892-97; Instructor in Mathematics, Grand Prairie Seminary, Onarga, Illinois, 1899-1900; Professor of Mathematics, Illinois College, 1900-03; Professor of Mathematics, Buchtel College, Akron, Ohio, 1903-05; Assistant Professor of Mathematics, University of Washington, 1905-12; Associate Professor, 1912.

LOREN DOUGLAS MILLIMAN, A. B., Associate Professor of English.

A. B., University of Michigan, 1890; Graduate Student, University of Chicago, 1892-94; Fellow in English, 1893-94; Professor of English, Searcy College, Arkansas, 1890-92; Instructor in English, Olivet College, Michigan, 1894-98; Professor of Rhetoric and English, Ohio University, Athens, Ohio, 1898-1900; Superintendent of City Schools, Cebu, P. I., 1901-03; Professor of English, Hanover College, Indiana, 1903-04; Assistant Professor of English, University of Washington, 1905-12; Associate Professor, 1912.

SAMUEL LATIMER BOOTHROYD, M. S., Associate Professor of Astronomy and Mathematics.

B. S., Colorado Agricultural College, 1893; M. S., 1904; Graduate Assistant and Student of Mathematics and Physics, Colorado University first semester, 1893-4; Graduate Student in Mathematics and Astronomy, Chicago University, 1894-95; Professor of Mathematics and Astronomy, Mount Morris College, Mount Morris, Illinois, 1895-97; Assistant Astronomer at Lowell Observatory, 1897-99; Professor of Mathematics and Astronomy, Bellevue College, Bellevue, Nebraska, 1900-01; Associate Professor of Physics and Irrigation Engineering in charge of Department of Physics, Colorado Agricultural College, 1902-04; Instructor in Descriptive Geometry, Mechanics of Engineering, Geodesy and Astronomy, Cornell University, 1904-08; Graduate Student in Mathematics and Geodesy, Cornell University, 1904-08; Assistant Surveyor on the Alaskan Boundary Survey, Summers, 1905-1909, inclusive; Assistant Professor of Topographic and Geodetic Engineering, Cornell University, 1908-1912; Associate Professor of Astronomy and Mathematics, University of Washington, 1912.

* Absent on leave, 1914-15.

BURT PERSONS KIRKLAND, A. B., Associate Professor of Forestry.

A. B., Cornell University, 1905; Student, Yale University Forest School, 1905-1906; Forest Assistant United States Forest Service, 1906-1908; Forest Supervisor, United States Forest Service, 1908-1912; Associate Professor of Forestry, University of Washington, 1912-.

THOMAS KAY SIDEX, PH. D., Associate Professor of Latin and Greek.

A. B., Victoria College, Toronto University, 1891; Ph. D., University of Chicago, 1900; Classical Master, Iroquois High School, 1892; Teacher of English and Classics, Ottawa Collegiate Institute, 1892-94; Classical Master, Whitby Collegiate Institute, 1894-96; Graduate Student, University of Chicago, 1896; Fellow in Latin, 1897-99; Assistant Professor of Latin, Cornell College, Iowa, 1899-02; Member American School of Classical Studies, Rome, Italy, 1912-13; Assistant Professor of Latin and Greek, University of Washington, 1903-13; Associate Professor, 1913-.

WILLIAM MAURICE DEHN, PH. D., Associate Professor of Physiological Chemistry.

A. B., Hope College, 1893; A. M., 1896; Ph. D., University of Illinois, 1903; Graduate School, University of Chicago, 1898-1900, and Summers of 1895-1900; Instructor, Reed City (Mich.) High School, 1893-94; Professor of Science, Wilton College, Iowa, 1894-97; Science and Athletics, Culver Military Academy, Indiana, 1897-98; Graduate Student and Assistant in Chemistry, University of Illinois, 1900-02; Instructor in Chemistry, University of Illinois, 1902-07; Assistant Professor of Physiological Chemistry, University of Washington, 1907-1913; Associate Professor, 1913-.

EDWARD McMAHON, A. M., Associate Professor of American History.

Ph. B., University of Washington, 1898; A. M., University of Wisconsin, 1907; Principal, Van Asselt (Wash.) Schools, 1898-1901; Graduate Student, University of California, 1901-02; Principal Union Grammar School, Seattle, 1902-03; Head of Department of History, Seattle High School, 1903-06; Graduate Student in History, 1906-08; Fellow in History, 1907-08, University of Wisconsin; Instructor in American History, University of Washington, 1907-09; Assistant Professor, 1909-1913; Associate Professor, 1913-.

STEVENSON SMITH, PH. D., Associate Professor of Orthogenics.

A. B., University of Pennsylvania, 1904; Ph. D., 1909; Graduate Student, Heidelberg, 1905; Assistant in Psychology, Columbia University, 1905-06; Professor of Psychology, Hampden-Sidney College, 1906-11; Professor of Education, Summer Session, Columbia, 1911-1914; Assistant Professor of Orthogenics, University of Washington, 1911-1913; Associate Professor, 1913-.

JACOB NEIBERT BOWMAN, PH. D., Associate Professor of European History.

A. B., Heidelberg University (Tiffin, Ohio), 1896; Ph. D., Heidelberg, (Germany), 1900; Studied at Heidelberg, 1896-98; Leipzig, 1898; Berlin, 1898-99; Heidelberg, 1899-1900; Professor of History, State Normal School, Bellingham, Washington, 1901-06; Assistant Professor of Medieval History, University of California, 1906-12; Assistant Professor of European History, University of Washington, 1912-18; Associate Professor, 1913-.

WILLIAM PIERCE GORSUCH, A. B., Associate Professor in charge of the Department of Public Speaking and Debate.

A. B., Knox College, 1898; Assistant in English, *ibid.*, 1898; Tutor in Public Speaking, 1898-99; Instructor in Public Speaking, Duluth, Minn., High School, 1900; Assistant in Public Speaking, University of Chicago, 1900-02; Associate, *ibid.*, 1902-03; Instructor, *ibid.*, 1903-13; Lecturer in General Literature, Teachers' Assembly, Baguio, Philippine Islands, April-May, 1912; Associate Professor in charge of the Department of Public Speaking and Debate, University of Washington, 1913-.

ARTHUR WILSON LINTON, PH. G., B. S., Associate Professor of Pharmacy.

Ph. G., Highland Park College, 1902; B. S., University of Michigan, 1909; Practical Pharmacist, Bunker Hill, Ill., 1893-1901; Practical Pharmacist, Albion, Nebraska, 1902-06; Frederick Stearns Fellow, University of Michigan, 1908-09; Instructor in Pharmacy, University of Michigan, Summer Session, 1909; Professor of Pharmacy, Valparaiso University, 1909-13; Associate Professor of Pharmacy, University of Washington, 1913-.

GEORGE SAMUEL WILSON, B. S., Associate Professor of Mechanical Engineering.

B. S., University of Nebraska, 1906; Apprentice, Union Pacific Railway Company, 1898-1902; Machinist, same company, Summers of 1903 and 1904; with Westinghouse Machine Company, Summer of 1905; with Fairbanks, Morse & Company, June to September, 1906; Instructor in Mechanical Engineering, University of Washington, 1906-1909; Assistant Professor, 1909-14; Associate Professor, 1914-.

GEORGE WALLACE UMPHREY, PH. D., Associate Professor of Spanish.

A. B., University of Toronto, 1899; A. M., Harvard, 1901; Ph. D., Harvard, 1905; Ontario Normal College, 1899-1900; Graduate School, Harvard, 1900-01; Teacher of French and German, Whitby Collegiate Institute, 1901-03; Fellow of the French Ministry of Public Instruction, Paris, John Harvard Fellow, Study and Travel in Spain, 1903-04; Edward Austin Fellow, Harvard, 1904-05; Instructor and Assistant Professor of Romanic Languages, University of Cincinnati, 1905-11; Teacher of French and Spanish in the Summer School of the University of Tennessee, 1907; Assistant Professor of Spanish, University of Washington, 1911-14; Associate Professor, 1914-.

VANDERVEER CUSTIS, PH. D., Assistant Professor of Economics.

A. B., Harvard University, 1901; A. M., 1902; Ph. D., 1905; Assistant in Economics, 1902-04; holder of Austin Teaching Fellowship in Economics, 1904-05; Assistant Professor of Economics, University of Washington, 1905-.

OTTO PATZER, PH. D., Assistant Professor of French.

B. L., University of Wisconsin, 1898; M. L., 1899; Ph. D., 1907; Student, University of Paris, 1899-1900 and 1913-1914; Assistant in French, University of Wisconsin, 1900-01; Instructor, 1901-07; Assistant Professor of French, University of Washington, 1907-.

EDWIN JAMES SAUNDERS, A. M., Assistant Professor of Geology.

A. B., University of Toronto, 1896; A. M., Harvard University, 1907; Graduate, Ontario Normal College, 1897; Principal Public School, Midland, Ont., 1897-1898; Professor of Geology and Geography, Washington State Normal School, Ellensburg, Wash., 1898-1905 and 1907-1909; Assistant in Physiography and Meteorology, Harvard University and Radcliffe, 1905-1907; Assistant Professor of Geology, University of Washington, 1909-.

JOSEPH KINMONT HART, PH. D., Assistant Professor of Education.

A. B., Franklin College, 1900; University of Chicago, 1900-02; Fellow, 1906-09; Ph. D., 1909; Instructor in Mathematics, Ottumwa, Iowa, High School, 1902-04; Instructor in History, Rock Island, Ill., High School, 1904-06; Professor of Philosophy, Baker University, 1909-10; Assistant Professor of Education, University of Washington, 1910-.

OTILIE GERTRUDE BOETZKES, A. M., Assistant Professor of German.

A. B., University of Washington, 1901; A. M., 1902; Student in Paris, Summer of 1903; Assistant in Modern Languages, University of Washington, 1900-01; Instructor, 1901-03; Assistant Professor of German, 1903-1908; Graduate Student, University of Chicago, 1908-09; Assistant Professor of German, University of Washington, 1910-.

***CHARLES WILLIAM HARRIS, C. E., Assistant Professor of Civil Engineering.**

B. S., in Civil Engineering, University of Washington, 1903; C. E., Cornell University, 1905; Draftsman and Inspector, U. S. Engineering Department, Fort Casey, Washington, 1903-04; Student Cornell University, 1904-05; Practical Work in Railroad and Hydraulic Engineering, in Pennsylvania, Washington, and Alaska, 1905-06; Instructor in Civil Engineering, University of Washington, 1906-10; Assistant Professor, 1910-.

* Absent on leave, first semester 1914-15.

GEORGE IRVING GAVETT, B. S. (C. E.), Assistant Professor of Mathematics.

B. S., (C. E.), University of Michigan, 1893; Graduate Student in Mathematics, Leland Stanford, Jr., University, 1905; Graduate Student in Mathematics and Civil Engineering, Cornell University, 1905-07; Teacher of Mathematics and Science, Spring Arbor Seminary, Spring Arbor, Michigan, 1897-99; Professor of Mathematics, Fairmount College, Wichita, Kansas, 1899-1904; Instructor in Applied Mathematics, Leland Stanford, Jr., University, 1904-05; Instructor in Civil Engineering, Cornell University, 1905-07; Instructor in Mathematics, University of Washington, 1907-11; Assistant Professor, 1911-.

HANS JACOB HOFF, PH. D., Assistant Professor of German.

A. B., Bethany College (Kansas), 1901; Ph. D., University of Illinois, 1908; Instructor in German, University of Washington, 1908-11; Assistant Professor, 1911-.

ROBERT EVSTAFIEFF ROSE, PH. D., Assistant Professor of Chemistry.

Ph. D., University of Leipzig, 1903; Assistant in Chemistry, University of St. Andrews, Scotland, 1903-05; Lecturer and Demonstrator in Chemistry, University College, Nottingham, England, 1905-07; Acting Professor of Chemistry, University of Washington, 1907-08; Instructor in Chemistry, University of Washington, 1908-11; Assistant Professor, 1911-.

ROBERT MAX GARRETT, PH. D., Assistant Professor of English.

B. A., University of Idaho, 1902; M. A., University of Washington, 1903; Ph. D., University of Munich, 1909; Student Assistant in Latin, Preparatory School, University of Idaho, 1901-02; Assistant in English, University of Washington, 1902-04; Instructor in University of Washington Summer School, 1904; Teacher of English Literature, Seattle High School, 1904-06; Student, University of Leipzig and Munich, 1906-09; Student in British Museum, Summers, 1907, 1908, 1909, 1911; Instructor in English, University of Washington, 1909-11; Assistant Professor, 1911-.

EDGAR ALLEN LOEW, B. S., E. E., Assistant Professor of Electrical Engineering.

Student, State Normal School, Oshkosh, Wisconsin, 1897-1901; B. S. E. E., University of Wisconsin, 1906; Instructor in Physics, High School, Two Rivers, Wisconsin, 1901-03; Student, University of Wisconsin, 1903-06; Instructor in Electrical Engineering, University of Wisconsin, 1906-09; eighteen months of practical work during school year and summers with the following: Wisconsin Telephone Co., Chicago Telephone Co., D. C. & Wm. B. Jackson, Consulting Engineers, Boston and Chicago; Electrical Engineer, U. S. Reclamation Service, Madison, Wisconsin; Instructor, University of Washington, 1909-11; Assistant Professor, 1911-.

ELIAS TREAT CLARK, M. F., Assistant Professor of Forestry.

Ph. B., Yale University, 1907; M. F., 1908; with U. S. Forest Service, 1908-11; Deputy Forest Supervisor, Snoqualmie National Forest, 1910-11; Logging Engineer, Standard Railway and Timber Co., Spring and Summer, 1911; Assistant Professor of Forestry, University of Washington, 1911.

EDWARD GODFREY COX, PH. D., Assistant Professor of English.

A. B., Wabash College, 1899; A. M., Cornell University, 1901; Ph. D., Cornell University, 1906; Student at the School of Irish Learning, Dublin, Summers of 1906, 1907, 1909; Student at the Celtic Training College, Tourmakeady, Summer of 1907; Instructor in English, Cornell University, 1906-11; Assistant Professor of English, University of Chicago, Summer, 1912; Assistant Professor of English, University of Washington, 1911.

JOSEPH DANIELS, M. S., Assistant Professor of Mining Engineering and Metallurgy.

S. B., Massachusetts Institute of Technology, 1905; M. S., Lehigh University, 1908; Engineer with Dominion Coal Co., Nova Scotia, 1905-06; Instructor in Mining Engineering, Lehigh University, 1907; Assistant Professor, 1908; Associate Professor, 1911; Assistant Professor of Mining Engineering and Metallurgy, University of Washington, 1911.

ELI VICTOR SMITH, PH. D., Assistant Professor of Zoology.

Ph. B., Illinois Wesleyan University, 1907; A. M., University of Washington, 1909; Ph. D., Northwestern University, 1911; Teaching Fellow in Zoology, Northwestern University, 1909-11; Assistant Professor of Zoology, University of Washington, 1911.

HENRY LOUIS BRAKEL, PH. D., Assistant Professor of Physics.

B. A., Olivet College, 1902; A. M., University of Washington, 1905; Ph. D., Cornell University, 1912; Graduate Student, *ibid.*, 1910-12; Instructor in Physics and Chemistry, High School, St. Johns, Michigan, 1902-03; Assistant in Physics, University of Washington, 1903-05; Instructor in Physics, 1905-12; Assistant Professor, 1912.

CHARLES MUNRO STRONG, A. M., Assistant Professor of Spanish.

A. B., University of Missouri, 1897; A. M., 1900; Fellow in German, University of Missouri, 1899-1900; Professor of German, French and Spanish, St. John's Military Academy, Delafield, Wisconsin, 1900-01; Newspaper Work, United States and Cuba, 1902-06; Instructor in Spanish, University of Washington, 1906-February, 1909; Interpreter with Curtis North American Indian History Expedition of the Southwest, February, 1909-February, 1910; Instructor in Spanish, University of Washington, 1910-12; Assistant Professor, 1912.

WILLIAM THEODORE DARBY, A. M., Assistant Professor of English.

A. B., Yale University, 1905; A. M., Columbia University, 1907; Instructor in Williston Seminary, Easthampton, Mass., 1905-06; Instructor in English, University of Washington, 1907-12; Assistant Professor, 1912-.

HARVEY BRUCE DENSMORE, A. B., Assistant Professor of Greek.

A. B., University of Oregon, 1903; Fellow in Latin, University of Oregon, 1903-04; Rhodes Scholar at Oxford University, 1904-07; A. B., Oxford University, 1907; Instructor in Greek, University of Washington, 1907-12; Assistant Professor, 1912-.

CHARLES EDWIN WEAVER, PH. D., Assistant Professor of Geology.

B. S., University of California, 1904; Ph. D., *ibid.*, 1907; Assistant in Petrology, University of California, 1905-06; Assistant U. S. Geological Survey in Alaska, 1906; Instructor in Geology, University of Washington, 1907-12; Assistant Professor, 1912-.

ORVILLE PORTER COCKERILL, A. B., LL. B., Assistant Professor of Law.

A. B., Ohio State University, 1902; LL. B., *ibid.*, 1905; Student, University of Michigan, College of Law, 1903; Instructor in American History and Chemistry, High School, Washington C. H., Ohio, 1902-05; Instructor in Chemistry, East High School, Columbus, Ohio, 1905-09; Admitted to Bar, Supreme Court of Ohio, 1905; Assistant in Moot Court, Ohio State University, College of Law, 1908-09; Attorney-at-Law, Columbus, Ohio, 1906-10; member of firms Cockerill & Ingalls, and Griffith, Bennett, Westfall and Cockerill; Instructor in Law, University of Washington, 1910-12; Assistant Professor, 1912-.

HERMAN GUSTAV ADOLPH BRAUER, PH. D., Chief of the Municipal Research Bureau in the Extension Division.

A. B., Colorado College, 1896; A. M., University of Wisconsin, 1898; Ph. D., University of Wisconsin, 1904; A. M., (Hon.) University of Adelaide, South Australia, 1906; Librarian, Colorado College, 1895-08; Instructor in French, University of Wisconsin, 1898-1903; Instructor in Commercial Law, University of Wisconsin, 1903-05; Secretary, Bowron Bros. & Co., Ltd., Christchurch, New Zealand, 1907-11; Bureau of Municipal Research, University of Washington, 1912-.

***CLARENCE RAYMOND COREY, E. M., Assistant Professor of Mining and Metallurgy.**

E. M., Montana State School of Mines, 1905; Instructor in Surveying, Montana State School of Mines, Summer School, 1905; Mining Engineering and Metallurgical Practice, Sumpter, Oregon, 1905-06; on Geological Survey in Montana, 1906; U. S. Deputy Mineral Surveyor for Montana; Instructor in Surveying and Metallurgy, Montana State School of Mines, 1906-07; Assayer, U. S. Assay Office, Seattle, Wash., Summers of 1908 and 1909; Instructor in Mining and Metallurgy, University of Washington, 1907-13; Assistant Professor, 1913-.

* Absent on leave, 1914-15.

***ALLEN FULLER CARPENTER, A. M., Assistant Professor of Mathematics.**

A. B., Hastings College, 1901; A. M., University of Nebraska, 1909; Instructor in Mathematics, Hastings College, 1901-04; Professor 1904-09; Instructor in Mathematics, Intercollegiate Summer School, University of Nebraska, 1906-07; Instructor in Mathematics, University of Nebraska, 1908-09; Instructor in Mathematics, University of Washington, 1909-13; Assistant Professor, 1913-.

GEORGE BURTON RIGG, PH. D., Assistant Professor of Botany.

B. S., University of Iowa, 1896; B. D., 1899; A. M., University of Washington, 1909; Ph. D., Chicago, 1914; Graduate Student, University of Chicago, Summers 1906, 1907, 1912, and winter, spring and summer quarters, 1914; Teacher of Science, Woodbine Normal School, Woodbine, Iowa, 1898-1907; Teacher of Botany and Zoology, Lincoln High School, Seattle, 1907-1909; Special Agent U. S. Department of Agriculture in kelp investigation on Puget Sound, 1911-1912; Scientist in charge of party in kelp investigation in Western Alaska, 1913; Instructor in Botany, University of Washington, 1909-1913; Assistant Professor, 1913-.

DAVID ALLEN ANDERSON, PH. D., Assistant Professor of Education.

A. B., University of Iowa, 1908; A. M., 1910; Ph. D., 1912; Graduate Student, University of Iowa, 1909-12; Graduate Assistant in Education, 1909-10, 1911-12; Senior Fellow, in Europe, studying particularly the school system of Norway, 1910-11; President and Professor of Education and Psychology, Graceland College, Iowa, 1908-09; Instructor in Education, University of Iowa, Summer Session, 1911; Professor and Acting Head of the Department of Education and Psychology, State Normal School, Moorehead, Minnesota, Summer Session, 1912; Professor of Education and Psychology, State Normal School, La Crosse, Wisconsin, 1912-13; Assistant Professor of Education, University of Washington, 1913-.

ERNEST GEORGE ATKIN, A. M., Assistant Professor of French.

A. B., Cornell University, 1904; A. M., Harvard University, 1911; Graduate Student, Cornell University, 1904-05; Instructor in French and German, Centenary Collegiate Institute, New Jersey, 1905-06; Student in France and Spain as Fellow in Romanic Languages of Cornell University, 1906-07; Instructor in Romanic Languages (1907-10) and Graduate Student (1908-10) Leland Stanford, Jr., University; Graduate Student (1910-12) and Instructor in French and Spanish (1911-12), Harvard University; Instructor in Romanic Languages, University of California, 1912-13; Assistant Professor of French, University of Washington, 1913-.

* Absent on leave, 1914-15.

ABRAHAM BERGLUND, PH. D., Assistant Professor of Economics.

A. B., University of Chicago, 1904; Ph. D., Columbia University, 1907; Instructor in Economics, Washington State College, 1907-09; Bureau of Corporations, Washington, D. C., 1909-13; Assistant Professor of Economics, University of Washington, 1913-.

GRACE GOLDENA DENNY, A. B., Assistant Professor of Domestic Art.

A. B., University of Nebraska, 1907; Graduate Student, Teachers' College, Columbia University, 1909-11; Assistant, Domestic Art, University of Nebraska, 1907-08; Instructor in Domestic Art, University of Nebraska, 1908-09; Instructor in Domestic Art, University of Wisconsin, 1911-12; Assistant in Domestic Art, Teachers College, Summer, 1912-13; Assistant Professor of Domestic Art, University of Washington, 1913-.

HORACE JAMES MACINTIRE, M. M. E., Assistant Professor of Mechanical Engineering.

S. B., Massachusetts Institute of Technology, 1905; M. M. E., Harvard University, 1911; Assistant Instructor, Massachusetts Institute of Technology, 1905-07; Mechanical Engineer, National Lead Co., 1907-09; Instructor in Machine Design, Pratt Institute Evening School, 1907-08; Instructor, Harvard University, 1909-10; Hilton Scholar, Harvard University, 1910-11; Instructor, Carnegie Institute of Technology, 1911-13; Three months summer work since 1905 in the following firms: Drafting Department, George Blake Pump Works; Time-keeper, Aberthaw Construction Co.; Designer and Erector, York Manufacturing Co.; Designer and Erector, Westinghouse Machine Co.; Assistant Professor of Mechanical Engineering, University of Washington, 1913-.

GINO ARTURO RATTI, PH. D., Assistant Professor of French.

A. B., Middlebury College, 1907; A. M., Middlebury College, 1909; Docteur de l'Université de Grenoble, 1911; Principal of High School, Pittsford, Vt., 1907-09; Instructor in French, Northwestern University, 1911-13; In charge of French and Italian, Summer Session, Middlebury College, 1912; Instructor in French, Summer Session, Northwestern University, 1913; Acting Assistant Professor of French, University of Washington, 1913-14; Assistant Professor, 1914-.

JOEL MARCUS JOHANSON, A. B., Assistant Professor of English.

A. B., University of Washington, 1904; Rhodes Scholar, Oxford, England, 1904-07; Instructor in German, University of Washington, 1907-09; Instructor in English, 1910-14; Assistant Professor, 1914-.

JOHN WILLIAM MILLER, B. S. (C. E.), Assistant Professor of Civil Engineering.

B. S., Civil Engineering, University of Nebraska, 1905; five years' engineering experience in Railroad Work in the Middle West with the Chicago, Burlington & Quincy Railroad, and the Chicago & Northwestern Railroad, 1902-07; Testing Engineer, Cushman Motor Co., Lincoln Nebraska, 1908; Division Engineer, Chicago, Burlington & Quincy Railroad, Jan.-Sept., 1909; Instructor in Civil Engineering, University of Washington, 1909-14; Assistant Professor, 1914-.

FRED WASHINGTON KENNEDY, Assistant Professor and Director of the Journalism Laboratories.

ERNST OTTO ECKELMAN, PH. D., Assistant Professor of German.

A. B., Northwestern University (Watertown, Wis.), 1897; B. L., University of Wisconsin, 1898; Ph. D., University of Heidelberg, 1906; Teacher of German and Greek, Carroll College, 1898-1900; Scholar in German Philology, University of Wisconsin, 1900-01; Fellow, 1901-02; Ottendorf Memorial Fellow, New York University, 1902-03; Winter Semester, University of Munich; Summer Semester, University of Prague; Instructor in German, Smith College, 1903-05; Instructor in German, Dartmouth College, 1906-08; Instructor in German, University of Illinois, 1908-09; Student, University of Chicago, Summer Quarters, 1908 and 1909; Student, Cambridge, Mass., 1909-11; Instructor in German, University of Washington, 1911-14; Assistant Professor, 1914-.

CHARLES LOUIS HELMLINGE, B. PH., Assistant Professor of French.

B. Ph., Wallace College (Ohio), 1911; Teacher, Cincinnati School of Languages, 1898-1902; Teacher, Woodward High School, Cincinnati, 1902-03; Teacher, Cincinnati University School, 1903-09, 1910-11; Student, University of Madrid, 1909-10; Instructor, Columbia University, Summer, 1914; Instructor in French, University of Washington, 1911-14; Assistant Professor, 1914-.

JOHN WILLIAM HOTSON, PH. D., Assistant Professor of Botany.

A. B., McMaster University, 1901; A. M., 1902; Ph. D., Harvard University, 1918; Graduate Student, University of Chicago, 1902 (summer and fall), Cornell University, 1903 (winter), Teachers' College, Columbia University, 1903 (spring), Clark University, 1903 (summer); Lecturer in Botany, Ontario Agricultural College, Guelph, 1903-04; Principal, MacDonald Consolidated Schools, Guelph, 1904-06; Graduate Student, University of Chicago, 1906-07; Austen Teaching Fellow in Botany, Harvard University, 1907-08; Assistant Professor of Botany, Pomona College, 1908-10; Graduate Student, Harvard University, 1910-11; Instructor in Botany, University of Washington, 1911-14; Assistant Professor, 1914-.

THERESA SCHMID MCMAHON, PH. D., Assistant Professor of Political and Social Science.

A. B., University of Washington, 1899; A. M., 1901; Ph. D., University of Wisconsin, 1909; Teacher in Public Schools of Washington, 1899-1901; Graduate Student in University of California, 1901-1902; Fellow in Sociology, 1907-1908, University of Wisconsin; Statistician, United Charities, Chicago, 1909-1910; Resident at Hull House, Chicago, summer 1909; Graduate Assistant in Political Science, University of Washington, 1911; Instructor in Political and Social Science, 1911-14; Assistant Professor, 1914.

LEWIS IRVING NEIKIRK, PH. D., Assistant Professor of Mathematics.

B. S., University of Colorado, 1898; M. S., 1901; Ph. D., University of Pennsylvania, 1903; Fellow in Mathematics, University of Pennsylvania, 1901-03; Research Fellow in Mathematics, 1903-05; Instructor in Mathematics, University of Illinois, 1905-11; Instructor in Mathematics, University of Washington, 1911-14; Assistant Professor, 1914.

FRED WAYNE CATLETT, A. M., LL. B., Assistant Professor of Law.

A. B., Harvard University, 1904; A. M., Harvard, 1905; LL. B., Harvard, 1907; Assistant in Government (Harvard), 1905-07; Lecturer in Municipal Government, Harvard University, 1912-13; Secretary to the Mayor of Seattle, 1911-12; Member of Bar of Massachusetts and Washington. In active practice of law in Seattle, since 1907, with exception of two periods mentioned; Assistant Professor of Law, University of Washington, 1914.

HAROLD EUGENE CULVER, PH. M., Assistant Professor of Geology.

Ph. B., University of Wisconsin, 1910; Ph. M., 1911; Geologist in Iron Exploration, Vermillion Land Co., 1910; Fellow in Geology, University of Chicago, 1911-12; Oliver Iron Mining Co., 1911-12; Instructor in Geology, University of Washington, 1912-13; with the State Geological Survey, 1913-14; Assistant Professor of Geology, University of Washington, 1914.

FRANCES DICKEY, A. M., Assistant Professor of Music.

Graduate, Iowa State Teachers' College, 1901; B. S., Columbia University, 1912; A. M., 1913; Supervisor of Music in the Public Schools, Iowa, 1901-08; Instructor, Public School Music, Iowa State Teachers' College, 1908-10; Assistant Professor, 1910-11; Student, Columbia University, 1911-13; In charge of Department of Music, Winthrop College, Rock Hill, South Carolina, Summer Session, 1912; In charge of Department of Music, State Normal School, Kent, Ohio, 1913-14; Assistant Professor of Music, University of Washington, 1914.

CARL FRELINGHUYSEN GOULD, A. B., Assistant Professor of Architecture.

A. B., Harvard, 1898; Member of the Society of Beaux Arts Architects, New York; Ecoledes Beaux Arts, Paris, 1899-1903; Practicing Architect, New York, 1904-1907; Seattle, 1908; Lecturer on Architecture, University of Washington, 1914-1915; Assistant Professor of Architecture, 1915-.

MARY FREDERICKA RAUSCH, B. S., Assistant Professor of Home Economics in the Extension Division.

B. S., Colorado State College, 1908; Director of Extension Division (Home Economics), Iowa State College, 1906-07; Head of Home Economics Department, Colorado State College, 1907-10; Study and Investigation in Europe, 1910-13; In charge of Home Economics, New Rochelle, New York High School, 1913-14; Assistant Professor of Home Economics, University of Washington, 1914-.

HARRY EDWIN SMITH, PH. D., Assistant Professor of Economics.

A. B., De Pauw University, 1906; Ph. D., Cornell University, 1912; Instructor in Economics, De Pauw University, 1905-08; President White Fellow in Political and Social Science, Cornell University, 1908-09; Assistant in Political Science, 1909-11; President White Fellow, 1911-12; Instructor in Economics, Cornell University, 1912-14; Assistant Professor of Economics, University of Washington, 1914-.

LEE A WHITE, A. M., Assistant Professor of Journalism.

A. B., University of Michigan, 1910; A. M., 1911; Reporter, Assistant Sunday Editor, Assistant Telegraph Editor, Editor of extra editions, Detroit News, 1911-14; Special Lecturer on Journalism, University of Michigan, 1912-14; Assistant Professor of Journalism, University of Washington, 1914-.

WALTER EDMUND SQUIRE, M. G., A. A. G. O., Assistant Professor of Music.

Graduate in Music, Northwestern University, 1906; Associate American Guild of Organists, 1907; Student, Victor Heinze and Waldemar Lutschg (Berlin), Alex. Gullmant and Charles M. Widor, (Paris), 1908-1911; Assistant to the Musical Director, University of Washington, 1912-.

MORITZ ROSEN, Assistant Professor of Music.

Graduate, Warsaw Conservatory, Russia.

ALBERT FRANZ VENINO, Assistant Professor of Music.

Student at the New York College; Pupil of the Stuttgart Conservatory of Music; Pupil of Leschetizky.

FRANK EDWARD JOHNSON, E. E., Instructor in Electrical Engineering.

E. E., University of Minnesota, 1900; Teacher in Public Schools, Minnesota, 1893-96; Construction Work, Fort Wayne Electrical Works Company, Appleton, Minnesota; River Falls, Wisconsin; Chadron, Nebraska, 1900-03; Superintendent of The Douglas Electric Light and Power Co., Douglas, Wyo., 1903-05; Instructor in Electrical Engineering, University of Washington, 1905-.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

Practical work as Pattern Maker with Warner and Swasey, Cleveland, Ohio; Chicago Ornamental Iron Works, Chicago, Ill., Card Electric Co., Mansfield, Ohio; Grant Machine Tool Works, Cleveland, Ohio; Humphrey Manufacturing Co., Mansfield, Ohio; C. H. Allmond & Co., Seattle, Washington; Instructor in Woodwork, University of Washington, 1906-.

SANDY MORROW KANE, Instructor in Metalwork.

Seven years' apprenticeship in iron and brass molding, machine shop, and forging, Kane and Sons, Ireland; Foreman of shop four years, Kane and Sons, Ireland; Practical Machinist, Eagle Iron Works, Des Moines, Iowa, 1881-83; Foreman of machine shops, Des Moines Mfg. and Supply Co., Des Moines, Iowa, 1883-87; Master Mechanic, Golden Reward Gold Milling & Mining Co., Deadwood, S. D., 1897-1903; Moran Bros. Co., Seattle, Wash., 1903-06; Practical Machinist, U. S. Navy Yard, Bremerton, Wash., 1906-07; Instructor in Metalwork, University of Washington, 1907.

WALTER BELL WHITTLESEY, A. M., Instructor in French.

A. B., University of Washington, 1907; A. M., 1909; Graduate Assistant in French, University of Washington, 1907-09; Instructor in French, University of Washington, 1909-.

FRANK STEVENS HALL, Assistant Curator.

Student, University of Michigan, 1902-05; Assistant in Museum, University of Michigan, 1905-07; in charge of arrangement of Museum, University of Cincinnati, 1907; Assistant Curator, University Museum, University of Michigan, 1907-09; spring and summer 1908 spent in special study of Museum administration at the Smithsonian Institution and National Museum at Washington, Philadelphia Academy of Natural Sciences, American Museum of Natural History at New York, and at other eastern museums; Assistant Curator, University of Washington, State Museum, 1909-.

JESSIE BEE MERRICK, B. S., Director of Physical Training for Women.

Ph. B., University of Wisconsin, 1904; B. S., Columbia University, 1907; Graduate Student, University of Wisconsin, 1905-06; Summer Session, 1905; Scholarship, Teachers' College, Columbia University, 1906-07; Student Assistant in Physical Education, Teachers' College, Columbia University, 1906-07; Athletic Director, Girl's Camp, Summer, 1907; Assistant, Physical Training for Women, University of Wisconsin, 1907-08; Instructor, Physical Training for Women, University of Wisconsin, 1908-09; Director, Physical Training for Women, University of Washington, 1909-.

NEWELL WHEELER SAWYER, A. M., Instructor in English.

Ph. B., Dickinson College, 1908; M. A., University of Pennsylvania, 1909; Graduate Assistant in English, University of Washington, 1910-11; Instructor, 1911.

VICTOR LOVITT OAKES CHITTICK, A. M., Instructor in English.

A. B., Acadia University, 1905; A. M., 1906; A. M., Harvard University, 1908; Graduate Student on part time, Columbia University, 1908-10; English Fellow, Columbia University, 1910-11; English Master, King's Collegiate School, Windsor, N. S., 1905-07; Teacher, Ethical Culture School, New York City, 1908-10; Assistant, Columbia University, Summer, 1911; Instructor in English, University of Washington, 1911-.

RALPH HASWELL LUTZ, PH. D., Instructor in History.

A. B., Leland Stanford, Jr., University, 1906; LL. B., University of Washington, 1907; A. M., Ph. D., University of Heidelberg, 1910; Graduate Student, University of California, Summer Semester, 1906; Student, University of Bonn and University of Heidelberg, 1907-10; Instructor in History, University of Washington, 1911-.

CHARLES EDWARD NEWTON, E. M., Instructor in Civil Engineering.

B. S., Michigan College of Mines, 1906; E. M., 1907; Instructor in Mining Engineering, Michigan College of Mines, 1907-08; Practical Work in Mining Engineering in Colorado, Arizona and Mexico, 1908-11; Instructor in Civil Engineering, University of Washington, 1911-.

HJALMAR LAURITS OSTERUD, A. M., Instructor in Zoology.

A. B., University of Washington, 1909; A. M., 1910; Graduate Student, Columbia University, 1910-11; Instructor in Zoology, University of Washington, 1911-.

ATTILIO FILIPPO SBEDICO, PH. D., Instructor in French and Italian.

Licenza Liceale, 1903; A. M., University of Pennsylvania, 1907; Ph. D., 1909; Scholar, 1905-09; and Travelling Fellow in French, University of Pennsylvania, 1906-07; Instructor in the University of Pennsylvania, Summer School, 1908-10; Instructor in Romanic Languages, University of Illinois, 1909-11; Instructor in French and Italian, University of Washington, 1911-.

HARLAN LEO TRUMBULL, PH. D., Instructor in Chemistry.

A. B., University of Washington, 1907; A. M., *ibid.*, 1908; Ph. D., University of Chicago, 1911; Fellow in Chemistry, University of Chicago, 1908-11; Instructor in Chemistry, University of Washington, 1911-.

HENRY SLATER WILCOX, A. M., Instructor in Psychology.

B. S., Trinity College (Hartford), 1908; A. M., Harvard University, 1911; H. E. Russell Travelling Fellow, Trinity College, 1908-10; Fellow by Courtesy and Student, Johns Hopkins University 1908-09; Student, University of Leipzig, 1909-10; Student, University of Berlin, Summer Semester, 1910; Toucey Scholar, Harvard University, 1910-11; Instructor in Psychology, University of Washington, 1911-.

SAMUEL HERBERT ANDERSON, PH. D., Instructor in Physics.

A. B., Park College, 1902; A. M., 1903; Ph. D., University of Illinois, 1912; Graduate Student, Park College, 1902-08; University of Chicago, Summer Quarters, 1908, '09, '10; Fellow in Physics, University of Illinois, 1910-12; Instructor, Park College, 1902-08; Salt Lake Collegiate Institute, 1903-05; Professor of Physics and Chemistry, Albany College, 1905-07; Head of Science Department and Instructor in Physics, Occidental Academy, 1907-09; Assistant Professor of Physics, Occidental College, 1909-10; Instructor in Physics, University of Washington, 1912-.

GERTRUDE CRUDEN, B. S., Instructor in Domestic Art.

A. B., Smith College, 1907; B. S., Columbia University, 1912; Diploma Household Arts Education, Teachers' College, Columbia University, 1912; Student, Teachers' College, Columbia University, 1908-1909, 1911-1912, Summer 1913; Instructor in Domestic Art, University of Washington, 1912-.

LESLIE FORREST CURTIS, B. S., Instructor in Electrical Engineering.

B. S., Tufts College, 1910; Student Engineer, Testing Department, General Electric Co., 1910-1912; Designing Engineer, Railway Motor Department, General Electric Co., Schenectady, N. Y., 1912; Instructor in Electrical Engineering, University of Washington, 1912-.

CURT JOHN DUCASSE, PH. D., Instructor in Philosophy.

A. B., University of Washington, 1908; A. M., 1909; Ph. D., Harvard University, 1912; Undergraduate Assistant, University of Washington, 1907-1908; Graduate Assistant, 1908-1909; Instructor in Philosophy and Psychology, 1909-1910; University Scholar, Harvard University, 1910-1911; Assistant in Philosophy and Psychology, Harvard University, 1911-1912; Instructor in Philosophy, University of Washington, 1912-.

RUDOLPH HERBERT ERNST, A. M., Instructor in German.

A. B., Northwestern College (Watertown, Wis.), 1904; A. M., Harvard University, 1911; Student, Theological Seminary (Wauwatosa, Wis.), 1905-1907; Student, University of Rostock, 1908-1909; Student, University of Leipzig, 1909-10; Student, Harvard University, 1910-1912; Instructor in English and German, Northwestern College, 1904-1905, 1907-1908; Thayer Fellow (Harvard), 1911-1912; Instructor in German, University of Washington, 1912-.

LEO JONES, A. B., Chief of the Bureau of Debate and Discussion.

A. B., University of Washington, 1912; Student, Columbia University Law School, 1909-1910; Instructor in English, High School, Palouse, Washington, 1910-11; Practiced Law, Seattle, 1911-1912; Instructor in Public Speaking and Debate, University of Washington, 1912-1913; Chief of the Bureau of Debate and Discussion, 1913-.

THOMAS WITHERS, C. E., Instructor in English.

Graduate of Virginia Military Institute, 1869; C. E., *ibid.*, 1870; Assistant Professor, Virginia Military Institute, 1871; Formerly Engineer in Charge of Salisbury Railroad, Coal and Iron Mines, Pennsylvania, also of Denver, South Park & Pacific Railroad; Late Chief Assistant Engineer, Kansas Pacific Railroad; Chief of U. S. Mineral Surveys for District of Colorado; Mining Engineer at Leadville, Kokomo and Cripple Creek, Colorado, and Goldfield, Nevada; Instructor in English, University of Washington, 1912-.

ERIC TEMPLE BELL, Ph. D., Instructor in Mathematics.

A. B., Leland Stanford, Jr., University, 1904; A. M., University of Washington, 1908; Ph. D., Columbia University, 1912; Graduate Assistant, University of Washington, 1907-08; Teacher of Mathematics and Sciences, Siskiyou County High School, California, 1909-11; Graduate Student, Columbia University, 1911-12; Instructor in Mathematics, 1912-.

FLOYD THOMAS VORIS, A. M., Instructor in Physics.

B. S., Highland Park, 1892; M. S., 1895; A. M., Columbia, 1902; Professor of Physics and Chemistry, Buena Vista College, 1898-1904; Graduate Student, Columbia, 1901-02; Instructor, Macalester College and Graduate Student, University of Minnesota, 1904-05; Professor of Physics and Geology, Whitworth College, 1906-11; Research Student, University of Washington, 1911-12; Instructor in Physics, University of Washington, 1912.

CHARLES CULBERTSON MAY, B. S. (C. E.), Instructor in Civil Engineering.

B. S. (C. E.), University of Washington, 1910; Inspector of Paving, Pasadena, California, 1911; Construction Foreman, Barber Asphalt Paving Company, Owensmouth, California, 1912; Construction Foreman, Dome Lake Reservoir Co., Sheridan, Wyoming, Summers 1907-1908; Instructor in Civil Engineering, University of Washington, 1912-.

EDWIN LEONARD STRANDBERG, B. S. (C. E.), Instructor in Civil Engineering.

B. S. (C. E.), University of Washington, 1912; Draftsman, Bridge and Building Department, C. M. & P. S. Ry., 1910-11; Appraisal Work, Seattle Electric Company, Summer 1911; Draftsman, Engineering Department, C. M. & P. S. Ry., Summer, 1912; Instructor in Civil Engineering, University of Washington, 1912-.

NATHAN ALTSHILLER, Sc. D., Instructor in Mathematics.

Candidat en Sciences Physiques et Mathematiques, University of Ghent, 1909; Docteur en Sciences Physiques et Mathematiques, University of Ghent, 1911; Graduate Student and Instructor in Mathematics, Extension Department, Columbia University, 1911-13; Instructor in Mathematics, University of Washington, 1913-.

JAMES EDGAR BELL, Ph. D., Instructor in Chemistry.

B. S., University of Chicago, 1905; Ph. D., University of Illinois, 1913; Instructor in Chemistry and Physics, Ottawa, Illinois, High School, 1905-08; Graduate Student, 1908-10 and Fellow, 1909-10, University of Chicago; Instructor in Chemistry, University of Washington, 1910; Graduate Student, University of Illinois, 1911-13; Instructor in Chemistry, University of Washington, 1913-.

SERENO BURTON CLARK, Ph. D., Instructor in Latin and Greek.

Graduate, Michigan State Normal School, Ypsilanti, 1895; B. Pd. 1901; A. B., University of Michigan, 1901; Ph. D., Harvard University, 1907; M. Pd. (Honorary), Michigan State Normal College, 1912, Instructor in Greek and Latin, Benton Harbor, Michigan, High School, 1896-98; Instructor in Greek and Latin, Michigan State Normal School, 1899-1901; Instructor in Greek and Latin, Marquette, Michigan, High School, 1901-04; Instructor in Latin and Greek, Western Reserve University, 1907-08; Instructor in Latin and Greek, Michigan State Normal College, 1908-09; Acting Assistant Professor of Latin, Cornell University, 1909-10; Instructor in Latin, University of California, 1910-13; Instructor in Latin and Greek, University of Washington, 1913-.

IRENE HUNT DAVIS, A. B., Instructor in Chemistry.

A. B., University of Washington, 1903; Instructor, Bellingham High School, 1903-08; Graduate Student, University of Washington, 1912-13; Instructor in Chemistry, University of Washington, 1913-.

BROR LEONARD GRONDAL, M. S. F., Instructor in Forestry.

A. B., Bethany College, Kansas, 1910; M. S. F., University of Washington, 1913; Graduate Student, University of Washington, 1910-13; Graduate Assistant in Forestry, 1911-12; Chemist, Pacific Creosoting Company, 1912; Expert in Wood Preservation, Robert W. Hunt & Co., Engineers, 1912-13; Instructor in Forestry, University of Washington, 1913-.

JOSEPH BARLOW HARRISON, A. B., Instructor in English in the Extension Division.

A. B., University of Washington, 1910; A. B., Oxford University, 1913; Rhodes Scholar at Oxford University, 1910-13; Instructor in English, University of Washington, 1913-.

GEORGE MILTON JANES, PH. D., Instructor in Political and Social Science.

B. Litt., Dartmouth College, 1901; S. T. B., Harvard University, 1902; A. B., Middlebury College, 1903; A. M., Harvard University, 1910; Ph. D., Johns Hopkins University, 1913; Graduate Student, Harvard University, 1906-10; Fellow in Political Economy, Johns Hopkins University, 1911-12; Assistant in Political Economy, Johns Hopkins University, 1912-13; Instructor in Political and Social Science, University of Washington, 1913-.

ETHEL DOROTHY JOHNSON, A. B., Instructor in Physical Education.

A. B., University of Nebraska, 1913; Instructor in Physical Training, University of Washington, 1913-.

WILLIAM LA FOLLETTE, A. B., Instructor in Public Speaking and Debate.

A. B., DePauw University, 1912; Instructor in Mathematics and Public Speaking, Lebanon High School, 1912-13; Instructor in Public Speaking and Debate, University of Washington, 1913-.

ELIZABETH ROTHERMEL, A. M., Instructor in Home Economics.

A. B., University of California, 1899; A. M., Columbia University, 1913; Master's Diploma in Education, Teachers' College, 1913; Graduate Student, University of California, 1899-1900; Teacher of Latin and English, San Jacinto and Santa Paula High Schools, California, 1900-02; Student, University of California, Summer Session, 1911; Student, Columbia University, 1911-13; Scholarship, Teachers' College, 1912-13; Instructor in Home Economics, University of Washington, 1913-.

LLOYD LEROY SMAIL, PH. D., Instructor in Mathematics.

A. B., University of Washington, 1911; A. M., University of Washington, 1912; Ph. D., Columbia University, 1913; Denny Fellow, University of Washington, 1911-12; Fellow in Mathematics, Columbia University, 1912-13; Instructor in Mathematics, University of Washington, 1913-.

GRACE LOOMIS TERBY, B. Mus., Instructor in Music.

Graduate, B. Mus. (Knox), Knox Conservatory of Music, 1895; Student, Kariton, Hackett, Madame Magnus, 1895-97; Instructor in Music, Knox Conservatory, 1897-1901; First Assistant to Mary Woods Chase, Chicago, 1903-05; Director of Music, Bethany College (Kansas), and Soprano at Cathedral (Bishop Millspauh's Church), 1905-07; Director of Music, State Normal School, Lewiston, Idaho, 1910-13; Instructor in Music, University of Washington, 1913-.

CONRAD TRESSMANN, PH. D., Instructor in German.

A. B., University of Minnesota, 1906; Ph. D., University of Pennsylvania, 1913; Principal of Waverly Public School, Waverly, Minnesota, 1906-08; Student in Germany, 1908-10; Berlin, Winter Semester, 1908-09; Heidelberg, Summer Semester, 1909; Munich, Winter and Summer Semesters, 1909-10; Student and Graduate Assistant in German, University of Pennsylvania, 1910-1913; Instructor in German, University of Pennsylvania, Summer Sessions, 1911, 1912, 1913; Instructor in German, University of Washington, 1913-.

FRANK MELVILLE WARNER, B. S. (M. E.), Instructor in Engineering Drawing.

B. S., in M. E., University of Wisconsin, 1907; Instructor in Engineering Drawing, University of Wisconsin, 1907-08; Assistant Professor of Engineering, Washington State College, 1908-10; Engaged in private drafting business in Spokane, 1910-13; Instructor in Engineering Drawing, University of Washington, 1913-.

LUTHER EWING WEAR, PH. D., Instructor in Mathematics.

A. B., Cumberland University, 1902; Ph. D., Johns Hopkins University, 1913; Instructor, Lebanon College for Young Ladies, 1902-03; Instructor, High School, Texas, 1903-04; Professor of Mathematics, Trinity University (Texas), 1904-08; Dean of the Faculty, *ibid.*, 1907-08; Harvard Engineering Camp, Summer of 1905; Graduate Student and Fellow by Courtesy, Johns Hopkins University, 1908-09; Head of the Department of Mathematics, Houston (Texas) High School, 1909-10; Graduate Student, Johns Hopkins University, 1910-13; University Scholar, 1910-11; Fellow in Mathematics, 1912-13; Instructor in Mathematics, University of Washington, 1913-.

FRANCES EDITH HINDMAN, PH. C., M. S., Instructor in Pharmacy and Assistant State Chemist and Bacteriologist.

Ph. C., University of Washington, 1910; B. S., University of Washington, 1912; M. S., 1914; Assistant in Pharmacy, University of Washington, 1911-12; Graduate Assistant in Pharmacy, University of Washington, 1912-13; Instructor in Pharmacy and Assistant State Chemist and Bacteriologist, University of Washington, 1913-.

HIRAM BOARDMAN CONIBEAR, Supervisor of Aquatics.

Graduate, Chautauqua School of Physical Training and Athletics, 1901; Trainer of Athletics, University of Chicago, 1897-1901; Assistant Director of Athletics and Physical Training and Coach of Track, University of Illinois, 1901-02; Director of Physical Training and Athletics, University of Montana, 1903-04; Trainer of Athletes, University of Chicago, 1905; Assistant Director of Physical Training and Coach of Track and Crew, University of Washington, 1907-08; Coach of Rowing, *ibid.*, 1909-11; Supervisor of Aquatics, University of Washington, 1912-.

HUGH ELMER AGNEW, A. B., Instructor in Journalism.

Graduated from Michigan State Normal College, 1898; A. B., University of Michigan, 1902; Superintendent of Portland, Michigan, schools, 1898-1901; Superintendent of Howell, Michigan, schools, 1902-03; Owner and editor Dowagiac, (Michigan) Republican and Manager of the Fuller Book Bindery, 1903-08; Manager of the Chamberlin Printing Company and printer of trade journals "Home" and "Service," 1908-11; Manager, Canton (Illinois) Daily Ledger, 1911-13; Instructor in Journalism, University of Washington, 1913.

CLEMENT AKERMAN, A. M., Instructor in Economics.

A. B., University of Georgia, 1898; A. M., Harvard, 1914; Student at Berlin, 1898-1899, 1902-1904, Tübingen, 1899, Heidelberg, 1904; Acting Instructor in German, University of Georgia, 1900-1901; Instructor in German, University of Texas, 1905-06; Flood Fellow in Economics, University of California, 1906; Graduate Student, Harvard University, 1913-14; Instructor in Economics, University of Washington, 1914.

ELISABETH LOUISE AMERY, B. S., Instructor in Home Economics.

B. S., University of Wisconsin, 1913; Student, Simmons College, Boston, 1909-11; Teacher of Cooking, Elizabeth Peabody Settlement House, Boston, 1910-11; Instructor in Domestic Science, Lead, South Dakota, Public Schools, 1913-14; Instructor in Home Economics, University of Washington, 1914.

CLARK PRESCOTT BISSETT, A. B., Law Lecturer.

A. B., Hobart College, 1896; Student, Minnesota Law School, 1896-98; Legal Practice, 1898-; Law Lecturer, University of Washington, 1914.

DONALD GEORGE CAMPBELL, E. M., Instructor in Metallurgy.

B. S., Whitman College, 1912; A. M., Columbia University, 1913; E. M., Columbia, 1914; Mining and Milling, Atlanta District, Idaho, seasons, 1907-12; Assistant in Chemistry, Whitman College, 1911-12; Assistant Engineer, New York Board of Water Supply, 1914; Instructor in Metallurgy, University of Washington, 1914.

HELEN BALCH CULVER, Instructor in Design.

Graduate, Pratt Institute, 1905; Graduate, Teachers' College, Columbia University, 1909; Teacher, Drawing and Manual Training, Milwaukee, 1905-07; Supervisor, Drawing, New Albany, Indiana, 1907-08; Director of Art, State Normal School, Duluth, Minnesota, 1909-10; Director of Art, State Normal School, Kalamazoo, Michigan, 1910-12; Instructor in Design, University of Washington, 1914.

EVERETT FRANCIS DAHM, A. B., Instructor in Business Administration, Extension Division.

A. B., University of Wisconsin, 1913; Instructor, Commercial Subjects, High School, Elgin, Illinois, 1913-14; Assistant, courses in Commerce, Summer Session, University of Wisconsin, 1914; Instructor in Business Administration, University of Washington, 1914.

WILLIAM ELMHIRST DUCKERING, B. S. (C. E.), Instructor in Civil Engineering.

A. B., University of Washington, 1903; B. S. (C. E.), University of Washington, 1909; Practical Work in Engineering Department of the Oregon Short Line Railroad in Idaho and Wyoming, 1903-08; Assistant Division Engineer, Maintenance of Way, Idaho Division, O. S. L., R. R., 1908-14; Instructor in Civil Engineering, University of Washington, 1914.

CATHERINE WALLACE EASTMAN, Instructor in Physical Education.

Graduate, Department of Physical Training, Wellesley College, 1911; Cambridge Summer Normal School of Classic Dancing, 1912; Assistant Instructor in Physical Training, Carnegie Institute of Technology, 1911-14; Harvard Summer School, 1914; Instructor in Physical Education, University of Washington, 1914.

VICTOR JOHN FARRAR, A. M., Research Assistant in History.

A. B., University of Wisconsin, 1911; A. M., 1912; Graduate Student, 1913-14; Assistant in American History, University of Wisconsin, 1913-14; Research Assistant, University of Washington, 1914.

NATHAN FASTEN, PH. D., Instructor in Zoology.

B. S., College of New York, 1910; Ph. D., University of Wisconsin, 1914; Head of Department of Biology, Marshall College, Huntington, West Virginia, 1910-11; Assistant in Zoology, University of Wisconsin, 1911-14; Research Worker with the U. S. Bureau of Fisheries, Wood's Hole, Massachusetts, summer, 1911; with the Wisconsin Fish Commission as Special Investigator, summers of 1912, 1913, and 1914; Instructor in Zoology, University of Washington, 1914.

ROBERT CHENAULT GIVLER, PH. D., Instructor in Psychology.

A. B., Hamline University, 1906; A. M., Harvard University, 1913; Ph. D., 1914; Teacher in High Schools, 1906-07, 1908-11; James Savage Scholar, Harvard University, 1912-13; James Walker Fellow, *ibid.*, 1913-14; Instructor in Psychology, University of Washington, 1914.

EDWIN RAY GUTHRIE, PH. D., Instructor in Philosophy.

A. B., University of Nebraska, 1907; A. M., 1910; Ph. D., University of Pennsylvania, 1912; Harrison Fellow, University of Pennsylvania, 1910-12; University Research Fellow, 1912-14; Instructor, summer school, 1914; Instructor in Philosophy, University of Washington, 1914.

GEORGE BROWN JACKSON, A. M., Instructor in German.

A. B., Leander Clark College, 1901; A. B., Yale, 1902; A. M., Leander Clark College, 1905; Graduate Student, Yale, second semester, 1903-04; Graduate Student, University of Washington, 1911-14; Head, Department Modern Languages, Blair Academy, New Jersey, 1902-04; Professor of Modern Languages, Memorial University, Mason City, Iowa, 1905-10; Superintendent of Schools, Iowa, 1910-11; Head, Department Modern Languages, Whitworth College, 1911-14; Instructor in German, summer session University of Washington, 1914; Instructor in German, 1914-.

PAUL JEHU KRUSE, A. M., Instructor in Education.

B. A., University of Iowa, 1906; A. M., University of Washington, 1913; Graduate Student, University of Iowa, summers of 1908 and 1909; Graduate Student, Macbride Lakeside Laboratory, Okboji, Iowa, summer, 1912; Graduate Student, University of Washington, 1912-14; Superintendent of Schools, 1908-09, and 1910-12; Instructor in Education, summer sessions, University of Washington, 1913, 1914; Graduate Assistant in Education, 1913-14; Instructor in Education, 1914-.

CHARLES GUSTAVE PAUL KUSCHKE, PH. D., Instructor in Mathematics.

Graduate in Mechanical Engineering, Mittweida (Saxony) Technikum; Ph. D., University of California, 1912; Student, Columbia University, 1906-08; A. M., Columbia, 1908; Instructor in Mathematics, University of California, 1908-13; Instructor in Mathematics, Technikum of Mittweida, 1913-14; Instructor in Mathematics, University of Washington, 1914-.

FRANK JOSEPH LAUBE, A. M., Instructor in Political and Social Science.

A. B., University of Wisconsin, 1899; A. M., University of Washington, 1913; Instructor in History in the High Schools, 1899-1909; Graduate Student, University of Chicago, 1914; Instructor in Political and Social Science, University of Washington, 1914-.

JOSEPH GRATTAN O'BRYAN, A. B., Lecturer of Law.

A. B., Jesuit College, Denver, 1893; student of law, University of Denver, 1893; practiced law in Denver, 1896-99; practiced law in Cripple Creek, Colorado, 1899-1902; Assistant Secretary of Denver City Tramway Company, in charge of legal business, 1902-06; general law practice, Denver, 1906-12; in Seattle, 1912-14; Lecturer of Law, University of Washington, 1914-.

EARL MILLIBON PLATT, B. S., Instructor in Pharmacy.

Ph. C., University of Washington, 1911; B. S., 1914; Graduate Assistant in Pharmacy, 1913-14; Instructor in Pharmacy, 1914-.

RUDOLF RIEDER, A. B., Instructor in German.

A. B., University of Wisconsin, 1910; Graduate Student, Universities of Munich and Leipzig, 1911-13; Assistant in German, University of Wisconsin, 1908-10; Teaching Fellow, Washington University, St. Louis, 1913-14; Instructor in German, University of Washington, 1914-.

HAROLD OGDEN SEXSMITH, Instructor in Architecture.

Armour Institute of Technology, 1910-1913; Student of Architecture and Art, Chicago Art Institute; Practical Work in Architecture in Seattle, 1913-14; Instructor in Architecture, University of Washington, 1914-.

HARRY KELLEY RUBEY, B. S. (C. E.), Instructor in Civil Engineering.

B. S. (C. E.), University of Illinois, 1905; Engineering and Executive Work with Missouri Pacific Railway, 1905-09; same in California, Oregon and Washington, 1909-15; Instructor in Civil Engineering, University of Washington, 1915-.

GERTRUDE ELLIOTT, B. S., Director of the University Commons.

B. S., University of Illinois, 1913; Director of the Lunch Room, Manual Training High School, Indianapolis, 1913-14; Director of the Commons, University of Washington, 1914-.

ADA DEIGHTON HILLING, Instructor in Music.

Graduate, Trinity College of Music, London, 1893.

ANNE VOELKER, Assistant in Music.

Oberlin, Michigan, Pupil of Walter Squire.

ALLETTA GILLETTE, A. M., Extension Instructor in English.

A. B., Smith College, 1907; A. M., University of Washington, 1911; Instructor in English, Morningside College, 1908-1910, 1911-1912; Extension Instructor in English, University of Washington, 1912-.

CHARLES ALEXANDRE GUERARD, B. L., Extension Instructor in French.

B. L., University of France, 1876; Student in Languages and Literature at the Sorbonne, 1879; Professor of Classics, University of Paris, 1880-1905; Twenty-five years in public and private instruction; Officier d'Academie, 1900; Officier d'Instruction Publique, 1905, in America since 1908; Graduate Assistant, University of Washington, 1909-10; Instructor, Stanford University, 1910-11; Extension Instructor, University of Washington, 1912-.

ALBERT PORTER ADAMS, Bandmaster.

Bandmaster, Second Regiment of Wisconsin National Guard, 1897-1904; Bandmaster, St. John's Military Academy, 1903-14; Teacher, Cornet, Trumpet and French Horn, University of Wisconsin, 1910-1914; Bandmaster, University of Washington, 1914-.

MARIE GASHWEILER, A. B., Assistant in Music.

A. B., Colorado College; Graduate Student, Pedagogy, Columbia University; Theoretical work, Mason in Vienna; Piano, Harold Bauer, Paris; Piano, Malwine Bree and Theodor Leschetizky, Vienna; Teacher of Piano, University of Washington, 1914-.

LECTURERS

1915-1916

CHARLES EVAN FOWLER, M. Am. Soc. C. E., Lecturer on Engineering Contracts and Specifications.

President and Chief Engineer, International Contract Co., President Seattle Park Commission, 1904.

HARVEY L. GLENN, B. S., Lecturer on Bullion Assaying.

Assayer, U. S. Assay Office, Seattle.

GEORGE NELSON SALISBURY, B. S., Lecturer in Meteorology.

United States Weather Bureau Official, since 1883; Washington Section. United States Weather Bureau, since 1894.

FREDERICK POWELL, A. B., Lecturer on Gold Dredging.

Engineer on gold-dredge construction, 1898-1908; Dredge operation at Nome, 1910; Fairbanks, 1913-1914.

ISABELLA AUSTIN, A. B., Lecturer on Education.

Dean of Women, University of Washington.

ROBT. F. McELVENNY, E. M., Lecturer on Copper Smelting and Refining.

Superintendent of Tacoma Smelting Company.

L. A. NELSON, Lecturer on Scaling.**CORNELIUS OSSEWARD, Lecturer on Commercial Pharmacy.**

Ph. G., Columbia University, 1892; Ph. C., Northwestern University, 1895; Member of Washington State Board of Pharmacy; Practical Pharmacist, Cobb Building, Seattle; Lecturer on Commercial Pharmacy, University of Washington, 1914-.

CONRAD ZIMMERMAN, Lecturer on Timber Physics.

TEACHING FELLOWS

DONALD ADAMS, A. B. (Harvard University), English.

FREDERIC WILLIAM ASHTON, A. B. (University of Washington), Chemistry.

LOIS LENORA BAKER, B. S. (Iowa College), Mathematics.

ETHEL BARDELL, A. M. (University of Washington), Botany.

EARL FRANKLIN BURDICK, B. S. (Northwestern University), Chemistry.

DOROTHY FAY, A. B. (Vassar College), English.

KATE LEILA GREGG, A. B. (University of Washington), English.

CHARLES ALEXANDER GUERARD, B. L. (University of France), French.

JOHN HEINES, A. B. (Rutgers College), English.

FERRY HOUGHTEN, A. B. (Olivet College), Physics.

JOHN RUSSELL KING, B. S. (E. E.), (University of Washington), Electrical Engineering

GEORGE A. LINHART, PH. D. (Yale University), German and Chemistry.

MARTIN WILLIAM LISSE, B. S. (Pennsylvania State College), Chemistry.

ELIZABETH MACLEAY, A. B. (University of Washington), English.

DELBERT HARRY NICKSON, B. S. (University of Wisconsin), Bacteriology.

DAVID OHLSON, A. B. (University of Washington), Physics.

VINNIE ARAH PEASE, B. S. (University of Puget Sound), Botany.

WESLEY FREDERIC RENNIE, A. B. (Hillsdale College), English.

EDWARD FRANKLIN RHODENBAUGH, B. S. (Iowa State College), Chemistry.

WINFIELD SCOTT, JR., A. B. (Oberlin College), Chemistry.

FRED HOBSON SUTTON, A. B. (University of Washington), Mathematics.

THOMAS GORDON THOMPSON, A. B. (Clark University), Chemistry.

AUGUSTUS ALLISON WAGNER, A. B. (Pacific University), Chemistry.

ASSISTANTS

CLARENCE JOHN ALBRECHT, A. B., Taxidermist.
FRANK MILTON JONES, B. S., Stockman in Chemistry.
MARTHA REEKIE, A. B., Museum.
MADGE WILKINSON, Clinical Assistant, Gatzert Foundation.

OFFICE ASSISTANTS

LILLIAN BROWN GETTY, President's Office.
GENEVIEVE VAN WINKLE, President's Office.
MAX HIPKOE, Bursar's Office.
WILLIAM BEACH JONES, Bursar's Office.
AIMEE WILSON, Bursar's Office.
CAROLINE TALBOT, Recorder's Office.
VICTOR BOUILLON, Recorder's Office.
AGNES MOBECK, Extension Division.
ETHEL WEISENSEE, Extension Division.
VIOLET DUNGAN, Extension Division.
LYDIA McCUTCHEON, Assistant and Reference Librarian, Extension Division.
HATTIE WESTMORELAND, Recorder's Office.
MIRIAM TRACY, Department of Education.
CORABEL HOLCOMB, Department Stenographer.
OLIVE BARTEE, Military Clerk.
JENNIE CLY GARDNER, Engineering Building.

BUILDINGS AND GROUNDS

EVERETT OWEN EASTWOOD, C. E., Consulting Engineer.
SANDY MORROW KANE, Engineer.
FRANK E. JOHNSON, Electrical Engineer.
FRED BLOOM, Assistant Engineer.
GEORGE LEWIS MOTTER, Head Gardener.

OFFICERS OF THE UNIVERSITY OF WASHINGTON STATION
OF THE UNITED STATES FOREST SERVICE

CONRAD W. ZIMMERMAN, Engineer in Timber Tests, in charge.
CORNELIUS BARBY, Laboratory Assistant.

STATE FOOD AND DRUG WORK

CHARLES WILLIS JOHNSON, PH. C., PH. D., State Chemist.

FRANCES EDITH HINDMAN, M. S., Assistant State Chemist.

FOREST JACKSON GOODRICH, B. S., Assistant, State Food and Drug Analysis.

LIBRARY STAFF

WILLIAM ELMER HENRY, A. M., Librarian.

CHARLES WESLEY SMITH, A. B., B. L. S., Associate Librarian, in charge of Reference.

A. B., University of Illinois, 1903; B. L. S., University of Illinois, 1905; University of Washington Library, 1905-.

EMMA PEARL McDONNELL, A. B., in charge of Periodicals and Northwest History.

A. B., University of Washington, 1902; Wisconsin Summer School for Library Training, 1901 and 1902; University of Washington Library, 1901-.

FLORENCE BAXTER CURRIE, B. L., B. L. S., in charge of the catalogue.

B. L., Milwaukee-Downer College, 1904; B. L. S., University of Illinois, 1906; Assistant Cataloguer, Carnegie Library of Pittsburg, 1906-08; University of Washington Library, 1908.

LOUISE FENIMORE SCHWARTZ, A. B., B. L. S., in charge of circulation.

A. B., Knox College, 1907; B. L. S., University of Illinois, 1914; University of Washington Library, 1914-.

EVELYN MAY BLODGETT, A. B., B. L. S., Library Assistant.

A. B., Vassar College, 1909; Graduate, Pratt Institute Library School, 1911; Assistant in Library, Johns Hopkins 1911; Cataloguer Vermont State Library, 1912-13; University of Washington Library, 1913-.

MARY HUBBARD, A. B., B. L. S., Assistant in Reference Department.

A. B., Western College for Women, 1896; B. L. S., University of Illinois Library School, 1913; University of Washington Library, 1913-.

MABEL ASHLEY, A. B., Loan Desk Assistant.

GLENN JOSEPH FAIRBROOK, LL. B., Law Librarian.

LL. B., University of Washington, 1914; University of Washington Law Library, 1914-.

COMMITTEES OF THE FACULTY

The President is *ex officio* a member of each standing committee.

ADMISSIONS AND REGISTRATION: The Deans of the Colleges and Schools.

APPOINTMENTS: Dean Bolton, Professor Lull and major professors.

ASSEMBLY: Professors Kane, Glen, and Benson.

ATHLETICS: Dean Roberts, Professors Hall, Moritz, Densmore and Dehn.

FRESHMAN COUNSELLORS: Professor Beach, Dean Austin, Professors Parrington, McMahon, Saunders, Rose, Denny, and Mr. Jones.

GRADUATION: Professors Byers, Magnusson, Lantz, Hart, Kirkland and Custis.

HONORS: Professors Padleford, Byers, Savery, Melsnest, and McMahon.

HYGIENE AND SANITATION: Professors Hall, Weinzirl, Allison, Stevenson Smith and Raitt.

PETITIONS: Professors Moritz, Benham, More, Brakel and Dr. Trumbull.

PRE-LAW CURRICULUM: Professors Savery, Beach, Cockerill, Gorsuch, and E. Victor Smith.

PRE-MEDICAL COURSE: Professors Byers, Kincaid, Hall, Weinzirl, and Dean Johnson.

PUBLICATIONS: Professors Henry and Milliman, Mr. Stevens, Professors Kane, Umphrey, and Saunders.

RELATIONS WITH SECONDARY SCHOOLS: Dean Bolton, Dean Haggett, Professors Melsnest, Lull, and Benham.

RULES COMMITTEE: Professors Benham, Goodner, Strong, Dr. E. T. Bell, Mr. Stone.

SCHEDULE: Professors Morrison, Rose, Wilson, Johanson and H. E. Smith.

SPECIAL STUDENTS: Professor Morrison (To act with Deans).

STUDENT AFFAIRS: Professor Thomson, Dean Austin, Professors McMahon, Cockerill and Loew.

SUMMER SESSION: Dean Bolton, Professor Frein, Professor Moritz, and Mr. Condon.

GENERAL INFORMATION

HISTORICAL

The foundation for the establishment of the University of Washington was laid in 1854 when Governor Isaac Ingalls Stevens, in his message to the first legislature, recommended that Congress be memorialized to appropriate land for a university. Two townships were subsequently granted, and in January, 1861, the legislature finally located the Territorial University at Seattle.

On February 22nd (Washington's Birthday) the Reverend Daniel Bagley, John Webster, and Edmund Carr, composing the board of University Commissioners, met and organized for work. Ten acres of land were donated by Hon. Arthur A. Denny, Charles C. Terry and Edward Lander from their adjoining farms, and on May 21, 1861, the cornerstone of the main building was laid and the building completed in specified time.

On November 4th following, the University was opened for students.

GOVERNMENT

Under the constitution and laws of the State of Washington, the government of the University is vested in a Board of Regents, consisting of seven members appointed by the governor by and with the advice and consent of the senate. Each regent is appointed for a term of six years.

ENDOWMENT AND SUPPORT

The University derives its support entirely from the state. As yet the property belonging to the institution as an endowment yields little revenue. The income from this property will some day greatly help to support the University. The property of the University includes:

(1) The two townships of land granted by Congress in 1854. There remains of this old grant some three thousand acres.

(2) The old University site, consisting of the tract of 8.32 acres, donated in 1861 by Arthur Denny and wife; and 1.67 acres donated by C. C. Terry and wife and Edward Lander. This "ten-acre tract" is situated in the very heart of Seattle, and is rapidly enhancing in value.

(3) In addition to the above the University was further endowed by the state on March 14, 1893, by the segregation of 100,000 acres of lands.

BEQUESTS

In the legislative session of 1897 in the Code of Public Instruction is the following provision for University bequests:

"The Board of Regents is authorized to receive such bequests or gratuities as may be granted to said University, and to invest or expend the same according to the terms of said bequests or gratuities. The said board shall adopt proper rules to govern and protect the receipts and expenditures of the proceeds of all fees, bequests, or gratuities, and shall make full report of the same in the customary biennial report to the governor, or more frequently if required by law."

EQUIPMENT

GROUND

The grounds are ample to meet every need of the University. There are three hundred and fifty-five acres, all within the city limits of Seattle, lying between Lakes Union and Washington, with a shore line of over one mile on Lake Washington and about a quarter of a mile on Lake Union.

BUILDINGS

The following is a list of the buildings now in use on the University campus: Administration Building, Meany Hall, Astronomical Observatory, Bagley Hall, Denny Hall, two Dormitories (Lewis Hall for men and Clarke Hall for women), Education Building, Engineering Building, Forestry Building, Forge and Foundry Building, Good Roads Building, Gymnasium, Law Building, Library Building, Mining Building, Gatzert Building, Power Plant, Science Hall, Mines Rescue Training Station, Armory for the Cadet Battalion, Executive residence, Faculty Club House, Student Men's Club, Women's League Building, Engineer's residence, and Electrician's residence.

LIBRARY FACILITIES

The general library contains 67,411 volumes, and receives 502 current magazines. About 6,000 volumes a year are being added.

The Law School library contains more than 10,000 volumes. All books of both libraries are upon open shelves and are easily accessible to all who care to use them.

In addition to the library facilities upon the campus the Seattle Public Library, containing approximately 200,000 volumes, is open free to the University.

THE MUSEUM

By an enactment of the Legislature of the State of Washington in 1899 the museum at the University of Washington was "constituted the State Museum and the depository for the preservation and exhibition of documents and objects possessing an historical value, of material illustrating the fauna, flora, anthro-

pology, mineral wealth, and natural resources of the state, and for all documents and objects whose preservation will be of value to the student of history and the natural sciences."

The nucleus of this museum was formed in the late 70's, when a small ethnological collection was got together by Dr. A. J. Anderson, president of the University, later supplemented by a collection of rare fishes presented by Dr. David Starr Jordan. The real start toward a permanent museum, however, was in the acquisition by the University of the ethnological, zoological and botanical collections, got together by the Young Naturalist's Society of Seattle, which society was formed in 1883. These collections were augmented from time to time by accessions from the World's Fair at Chicago, the Lewis and Clark Exposition at Portland, and the late Alaska-Yukon-Pacific Exposition at Seattle, besides numerous gifts and loans made by private individuals. The Museum is now located in the Forestry Building, which is constructed of 126 main columns of Douglas Fir, from five to six and one-half feet in diameter, and from forty-two to fifty-four feet high, a remarkable exhibit of the timber resources of the Northwest.

The ethnology of the Northwest Coast from the Columbia river north through Arctic Alaska is represented, (1) by the collections made by Lieutenant George T. Emmons, which are very complete in representing the life and history of the Tlingit and Tahltan Indians of Southeastern Alaska, and of the early Indian tribes at the junction of the Thompson and Fraser rivers; (2) by collections made by Messrs. Hachman and König, James T. White, H. D. Harding and E. M. Blackwell, illustrating the life of the Arctic Eskimo; (3) by several collections illustrative of Indian life in the Puget Sound region and on the west coast of Washington, and a large collection of stone implements made by Dr. R. E. Stewart along the Columbia river and in the vicinity of Goldendale, Washington.

The Partello Philippine collection consists of fine old Moro brasses, hats, carvings and implements of warfare. In the Bash Chinese collections are to be found embroideries, carvings, porcelains, etc., which were in use in the old days of the Chinese emperors.

Through the generosity of Mrs. A. M. H. Ellis, the museum recently came into possession of some old Italian laces, mosaics, a

piece of Grecian jewelry of prehistoric design, and a number of textiles.

The zoological collections are numerous and constantly increasing in size. The exhibition series of birds and mammals are arranged in various alcoves together with several groups representing the natural habitat. Marine fauna is represented by a series of mounted fishes of Alaska and the western coast; a collection of Japanese and Puget Sound crustacea mounted by Prof. O. B. Johnson; the P. B. Randolph collections of mollusca from all over the world, together with a miscellaneous collection of corals, sponges, starfishes, etc., of the Puget Sound region. The reserve and study collection contains the O. B. Johnson, L. M. Turner, H. H. Hindshaw, Dr. Clinton T. Cook, George B. Cantwell and Jennie V. Getty collections of bird skins, eggs, and nests.

The geological and mineral collections consist of the John R. Baker collection of minerals, together with a representative collection of Washington and Alaskan ores arranged by districts, and a collection showing the clay products and marbles of the state.

The botanical and forestry collections consist of mounted series of eastern and western Washington flora, and of Alaska; cases of grains and grasses on the straw, of the state and Alaska; an exhibit of fruits of the horticultural section of the state; a comprehensive display of timbers, together with various products. The herbarium of dried flowering plants represents over 8,000 species.

LABORATORIES

The University of Washington has the following laboratories equipped for work in the various departments:

BOTANY LABORATORIES

The botanical and bacteriological laboratories are on the third floor of Science Hall. They occupy about 5,000 feet of floor space divided as follows: Three large laboratories of about 1,200 square feet each; four small laboratories, one for physiology, one for research, one for taxonomy and agriculture, one for a media-room for bacteriology. The laboratories are fitted with the apparatus and conveniences usual for the work.

CHEMISTRY LABORATORIES

The chemistry laboratories are housed in a thoroughly modern fireproof building designed after the most approved models, combining the good features of the best chemistry buildings in the country. There are fully equipped separate laboratories devoted to general chemistry, analytical chemistry, food inspection and analysis, organic chemistry, physiological chemistry, industrial chemistry, and pharmaceutical chemistry. All laboratories are equipped with hoods with forced drafts, water, gas, distilled water and air under pressure. The industrial or chemical engineering laboratories are equipped with the fundamental types of apparatus used in manufacturing processes, such as filter press, hydraulic press, stills, grinding apparatus, heating furnaces, and vacuo drying oven.

CIVIL ENGINEERING LABORATORIES

HYDRAULIC. The high pressure equipment consists of small impulse wheels, nozzels and orifices connected to a header under a pressure of two hundred and sixty-five feet. For low head experiments and pump tests there is a set of tanks and measuring weirs. Larger weirs are placed in streams near the campus, making it possible for regular work to be conducted under ordinary field conditions. Current meters and other auxiliary apparatus are available for both field and laboratory work.

STRUCTURAL MATERIALS. The structural materials testing laboratory contains five universal testing machines with capacities from thirty thousand to two hundred thousand pounds, two impact machines with various hammers ranging in weight from fifty to fifteen hundred pounds, with the necessary auxiliary apparatus for general work.

CEMENT. The equipment for testing hydraulic cement is complete for all the ordinary tests as specified by the American Society of Engineers.

ROAD. The road laboratory is equipped for testing materials used in the construction of roads. The machines for the abrasion and toughness tests are of the standard designs adopted by the American Society for Testing Materials; other machines are similar to those used by the U. S. Office of Public Roads.

SURVEYING. The equipment consists of an ample supply of all the necessary instruments for plane and topographic surveying.

ELECTRICAL ENGINEERING LABORATORIES

The dynamo laboratory contains seventeen alternating and thirty-two direct current generators and motors. The machines are of modern design and have a combined capacity of three hundred kilowatts in direct current machines and two hundred and twenty-five kilowatts in alternating current machines. Most of the machines are of five or ten-kilowatt capacity. Power from a storage battery of one hundred and thirty cells is available at a separate switchboard in the dynamo laboratory. The University power house, containing two steam driven units of two hundred and one hundred kilowatts, serves as a commercial laboratory for operating and testing purposes.

Nine smaller rooms are devoted to the following: (a) Instrument making and repairing, (b) grinding room and shop, (c) instrument and stock room, (d) telephone laboratory, (e) electrolysis and special thesis problems, (f) storage battery room, (g) three dark rooms for photometry work. The instrument room contains a large collection of standard indicating and recording ammeters, voltmeters and wattmeters, and a three-element G. E. oscillograph. The photometry rooms are equipped with Matthews integrating and bench photometers, and a Sharp and Miller portable instrument.

FORESTRY LABORATORIES

Dendrology. Individual lockers, compound microscopes, gas and water. An herbarium of fruits, twigs and trunk sections of trees is well under way. An area has been set aside and a beginning has been made toward the establishment of an arboretum.

Lumbering. Field work at logging camps and sawmills. A complete equipment for exercises in logging engineering; for demonstration, collections of lumber, showing grades and defects, planing mill products, saws, axes, cables and other apparatus used in logging and milling. There are mills and camps about Seattle.

Mensuration. Equipment selected to show all principal types of instruments in use. Those particularly adapted to the Northwest provided in quantities sufficient for all practice work by students in cruising, volume, growth and yield studies.

Silviculture. A forest tree nursery is provided on the campus. The forests about Seattle offer wide opportunities for other practical studies and demonstrations.

Timber Physics. The magnificently equipped Government Timber Testing Laboratory, operated in co-operation with the University, is used.

Wood Technology. Same room as Dendrology laboratory. Individual lockers, gas, water, Lietz and B. & L. compound microscope, and all apparatus necessary for sectioning and preparing microscopic sections for the study of woody tissue. Extensive collection of domestic and foreign commercial timbers, including collection of South American and Philippine hardwoods, and microscopic preparation. Research laboratory, equipped with microtome, water baths, drying ovens, balances, camera and apparatus required for photo-micrography, and all apparatus required for the detailed study of woody tissue.

Wood Preservation and Utilization. A modern open tank preservation plant and accessories. All equipment required for commercial testing of wood preservatives. Four large creosoting plants, several smaller treating plants, and plants for the manufacture of paper, veneers, wood pipe, cooperage stock, excelsior, boxes, and numerous other secondary wood products are located in or near Seattle and are available for study.

Assembly Room. Supplied with Lietz lantern for episcopic, diascopic and microscopic projection.

Wood Distillation. A wood distillation plant of commercial size operated in conjunction with the U. S. Forest Service.

GEOLOGY LABORATORIES

The geology laboratories, four in number, are in Science Hall. Two are on the first floor, and consist of large rooms, arranged for general geology, physiography, meteorology, mineralogy, petrography and paleontology. Two laboratories are in the basement, in well-lighted rooms at the southwest end of the building. One of these laboratories is fitted with lathes, diamond saw, and grinding plates run by electric motor for the preparation of rock slides for petrographic study. The other basement laboratory is equipped with large tanks for experimental work in erosion, and with ample facilities for map modeling and the construction of relief maps.

For work in mineralogy and petrography extensive collections of minerals and rocks are supplied; and for paleontological study collections of fossils and casts represent the principal geological formations. In the study of meteorology practical work is done

by the use of a complete set of weather bureau instruments. For the study of earthquake phenomena a Bosch-Omori seismograph has been installed for some years. For general laboratory and lecture work the latest model Bausch & Lomb Balopticon with reflectoscope and polariscope attachments is provided.

MECHANICAL ENGINEERING LABORATORIES

The steam and experimental laboratory is fully equipped with steam apparatus, including engines aggregating 900 H. P., of simple and compound, high speed and Corliss types; steam turbine; jet and surface condensers; injector; centrifugal pump; steam calorimeters; indicators; calibrating appliances; oil testing machine; gas engine; gas producer plant; refrigerating apparatus; compressed air machinery for two stage compression and Westinghouse full train equipment; fuel testing facilities, including Mahler Bomb. Junkers and other calorimeters, with accessories for determining heating value and analysis of solid, liquid and gaseous fuels.

There is a thoroughly modern woodworking shop, machine shop, foundry and forge shop. The wood shop is equipped with benches, lathes, band saws, circular saws, planer, and trimmer. The forge and foundry are equipped with down-draft forges, power hammer, punch and shears, cupola, moulding machines, shakers, rattler, riddles, brass furnace, core oven, and traveling crane. Machine shop is equipped with small and large lathes, drill press, milling machine, planer, shaper, metal saw, grinding machine and complete equipment for bench and vise work.

MINING AND METALLURGY LABORATORIES

The Mines building contains the stamp milling, concentrating and coal washing plant, the mining laboratory, and the assaying and general metallurgy laboratories. The United States Mine Rescue Training Station occupies a separate building nearby. The "smokeroom" fitted with track and car, overcast airway and smudge floors, is the largest of its kind in the country. Several sets of rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work, or emergencies such as asphyxiation, drowning, electric shock, and the like.

PHARMACY AND MATERIA MEDICA LABORATORIES

The rooms devoted to pharmacy and materia medica are located in Bagley Hall. A room accommodating thirty-two stu-

ENTRANCE INFORMATION

LOCATION OF THE UNIVERSITY

The University campus, comprising 355 acres, lies between Fifteenth Avenue Northeast on the western boundary and Lake Washington on the eastern and Forty-fifth Street on the northern and Lake Union on the southern. The campus is best reached from the railway stations and docks by Ravenna or Cowen Park cars. The administration building is reached by leaving the street car at Fortieth Street and Fourteenth Avenue Northeast and walking one block east.

The state legislature in 1895 enacted a law prohibiting the sale of intoxicating liquors within a radius of two miles of the University grounds. This insures a college neighborhood free from the evils of the saloon.

INSTRUCTION OFFERED BY THE UNIVERSITY

The instruction offered by the University may be in a broad way indicated by the names of the colleges and schools as follows: Liberal Arts, Science, Education, Engineering (chemical, civil, electrical and mechanical), Mines (coal and metal mining), Fine Arts, (Music, Drawing, Architecture), Forestry, Pharmacy, Law, and Graduate. While not organized as colleges, definite four-year courses are offered in home economics, journalism, library economy, and commerce. This work is carried on through the regular academic year, September to June. In the summer a six-weeks' session is held in which the work most in demand by teachers of the public schools is given. The Puget Sound Marine Station at Friday Harbor, under a cooperative management, offers facilities for research in marine biology. In addition a large number of courses of instruction are offered through the University Extension Division, the services of which are available at any time.

REGISTRATION

Both old and new students will be registered on the first and second days of each semester, Monday and Tuesday, September 13 and 14, 1915, and January 31 and February 1, 1916.

ENGLISH EXAMINATIONS

Examinations in composition for all freshmen will be held in rooms 40 to 47, Denny Hall, on Thursday, Friday and Saturday preceding registration at 9 and 1 o'clock.

LATE REGISTRATION: In order to enforce promptness in the matter of taking up University work at the opening of the semester a penalty of \$1.00 is imposed for registration after the regular registration days. The same penalty is imposed for changes in election after the beginning of regular class work, except where such changes are made upon the initiative of the student's instructor or class officer. An excuse from the payment of the penalty must in each case be endorsed by the dean of the college in which the student is enrolled.

ADMISSION TO THE UNIVERSITY

GENERAL STATEMENT

All correspondence regarding the admission of students to the residence courses of the University as well as the requirements for graduation should be addressed to the Recorder. Every applicant for admission in September, 1915, is requested to forward his credentials as early in the summer as possible, at the same time indicating the college or school of the University that he intends to enter. Persons interested in the extension courses offered by the University should write to the Director of the Extension Division.

Admission to the residence work of the University is by examination or by certificate, a graduate of an accredited* four year high school only being admitted without examination upon the recommendation of the principal and the presentation of a satisfactory, official certificate. Since the high school diplomas do not give the necessary information, they cannot be accepted for this purpose. The principals of all accredited high schools in the state are furnished with the official blanks, which may also be obtained from the Recorder's office.

Applicants for advanced standing are required to furnish a complete certified statement of both preparatory and college credits together with a letter of honorable dismissal from the institution last attended.

* For list of accredited high schools see page 64.

Credentials for students expecting to enter in September should be received in the Recorder's office before August 15th..

REQUIREMENTS FOR ADMISSION TO THE SEVERAL COLLEGES AND SCHOOLS

The University has constantly endeavored to adapt its courses to the needs of the graduates of our high schools. Freshman standing is granted to graduates of courses in accredited schools that meet the standard set by the State Board of Education. While this will not permit a student to go from any high school course to any university course without a loss of time, the loss is only such as is occasioned by needs of the chosen university course which may not have been met in high school. For instance, a graduate of an English course would be obliged, if he wished to take the classical course in the University to first master the elementary Latin or Greek which is necessary before the advanced study of the literature of those languages is entered upon. Even for such work, however, the student is allowed university credit as far as there may be elective hours available in the selected university course.

The requirements for admission are stated in terms of units. The term *unit* means the equivalent of five recitations per week, in periods of not less than forty-five minutes, in one branch of study, for a school year of not less than thirty-six weeks.

COLLEGE OF LIBERAL ARTS, AND COLLEGE OF EDUCATION

One foreign language.....	2	units
English	3	units
Algebra	1½	units
Plane Geometry.....	1	unit
Physics, Chemistry, Botany, or Zoology....	1	unit
A history.....	1	unit
Or U. S. History (½) and Civics (½).		
{ Foreign language.....	2	additional units
or		
{ Solid Geometry ½ unit and 1 unit in one		
of the sciences listed above.		
Optional subjects (See page 60)....	3½ or 4	units

COLLEGE OF SCIENCE

One foreign language.....	2	units
English	3	units
Algebra	1½	units
Plane and Solid Geometry.....	1½	units

Physics	1	unit
Chemistry, Botany, or Zoology.....	1	unit
A history.....	1	unit
(Or U. S. History ($\frac{1}{2}$) and Civics ($\frac{1}{2}$.)		
Optional subjects (See page 60).....	4	units

NOTE: The requirements for admission to the four-year set course in Home Economics may be met by (1) completion of the Girls' Manual Arts Course prescribed by the State Board of Education, or (2) completion of the requirements for admission to some one group in Liberal Arts or Science.

COLLEGES OF ENGINEERING AND MINES

One foreign language.....	2	units
English	3	units
Algebra	1 $\frac{1}{2}$	units
Plane and Solid Geometry.....	1 $\frac{1}{2}$	units
Physics	1	unit
Chemistry	1	unit
(For the five-year course 1 optional unit may be substituted).		
A history.....	1	unit
Or U. S. History ($\frac{1}{2}$) and Civics ($\frac{1}{2}$).		
Optional subjects (See page 60).....	4	units

COLLEGE OF FINE ARTS (MUSIC, ARCHITECTURE, DRAWING)

The requirements for the College of Fine Arts are the same as for Liberal Arts, with the addition of four years of music, for admission to the curricula in music, and of free-hand drawing for admission to the curriculum in architecture as outlined in the Fine Arts Bulletin.

COLLEGE OF FORESTRY

One foreign language.....	2	units
English	3	units
Algebra	1 $\frac{1}{2}$	units
Plane and Solid Geometry.....	1 $\frac{1}{2}$	units
Physics	1	unit
Botany	1	unit
A history (or U. S. History and Civics)....	1	unit
Optional subjects (See page 7).....	4	units

COLLEGE OF PHARMACY

One foreign language.....	2	units
English	3	units
Algebra	1 $\frac{1}{2}$	units
Plane Geometry.....	1	unit
Physics	1	unit
A history	1	unit
Or U. S. History ($\frac{1}{2}$) and Civics ($\frac{1}{2}$).		
Optional subjects (See page 60).....	4	units

SCHOOL OF LAW

Clear entrance to the College of Liberal Arts or the College of Science, and 68 hours (2 years) of advanced credit in prescribed Freshman and Sophomore courses, are required for admission to the School of Law.

GRADUATE SCHOOL

A bachelor's degree from a university or college of good standing is required for admission to the Graduate School.

LIST OF OPTIONAL SUBJECTS

(With minimum and maximum amounts accepted)

Agriculture or Horticulture.....	$\frac{1}{2}$ or 1 unit
(One unit accepted only when preceded by Botany.)	
Astronomy	$\frac{1}{2}$ unit
Botany	$\frac{1}{2}$ or 1 unit
Chemistry	1 unit
*Commercial Branches.....	$\frac{1}{2}$ to 3 units
Civics	$\frac{1}{2}$ unit
*Domestic Science or Domestic Art (more than one unit accepted only when preceded by Chemistry).....	1 to 3 units
*Drawing, Freehand and Mechanical..	$\frac{1}{2}$ to 2 units
Economics	$\frac{1}{2}$ unit
English, in excess of the 3 units re- quired	$\frac{1}{2}$ or 1 unit
French	1 to 4 units
Geology	$\frac{1}{2}$ or 1 unit
German	1 to 4 units
Greek	1 to 4 units
Higher Arithmetic.....	$\frac{1}{2}$ unit
History	1 to 3 units
Latin	2 to 4 units
*Music	1 unit
Physical Geography.....	$\frac{1}{2}$ or 1 unit
Physiology	$\frac{1}{2}$ or 1 unit
*Shop Work.....	$\frac{1}{2}$ to 2 units
Solid Geometry.....	$\frac{1}{2}$ unit
Spanish	1 to 4 units
Trigonometry	$\frac{1}{2}$ unit
Zoology	$\frac{1}{2}$ or 1 unit

A candidate may also present for entrance any modern foreign language in which he has had a course fairly equivalent to

* The aggregate amount presented in subjects marked with an asterisk may not exceed three units.

a high school course in English, *i. e.*, which he has used as a spoken or written language and of which he has studied the grammar and literature.

Credit for such work is given only on presentation of satisfactory credentials, or on examination.

ADMISSION TO UNIVERSITY STANDING

STUDENT CLASSIFICATION

Students are admitted to the following classifications: (I) to freshman standing, (II) as unclassified students, (III) as special students, (IV) to advanced undergraduate standing, (V) to graduate standing.

I. FRESHMAN STANDING.

ADMISSION ON EXAMINATION

Applicants for admission by examination are required to pass an examination based on a four-year course amounting in the aggregate to fifteen units and covering the requirements of the college that the student wishes to enter.

Entrance examinations and examinations for exemption from College English are held at the University on Thursday, Friday and Saturday preceding the opening of each semester.

The schedule of hours for examinations may be obtained from the Recorder.

ADMISSION ON CERTIFICATE FROM AN ACCREDITED SCHOOL.

Students from accredited high schools, who have been graduated from either the Classical, Scientific, or English Courses prescribed by the State Board of Education (or corresponding approved courses in schools of the first class) will be admitted to full freshman standing in the University; but any discrepancies between the above mentioned courses and the published University entrance requirements (see page 5) must be made up as a part of the student's college prescription for his degree.

II. UNCLASSIFIED STUDENTS

A graduate of an accredited high school who presents any fifteen units in the prescribed list of the State Board of Education will be admitted to the University as an unclassified student. Such a student will be allowed to enroll for those courses only for which he has had adequate preparation. By virtue of his class-

ification he is not a candidate for a degree. He may ultimately become a candidate for a degree by fulfilling as part of his college prescriptions all the requirements for entrance and graduation.

III. SPECIAL STUDENTS

ADMISSION AS A SPECIAL STUDENT

Under certain regulations a student who cannot be admitted to freshman standing or as an unclassified student, may be admitted, classified as a special student, and allowed to take such courses as he may seem capable of undertaking. These regulations are as follows:

1. For admission to any college or school of the University, except the College of Pharmacy, a special student must be at least twenty-one years of age. A special student in the College of Pharmacy must be at least twenty years of age.

2. A student from an accredited high school will not be admitted to this classification if he has been in attendance in the high school the previous year.

3. All available certified credits for previous school work must be submitted to the Recorder and an application blank for admission as a special student filled out, giving, in addition to other information, the kind of work desired, the reasons for desiring such work, and, when no credits can be presented, a detailed statement of any previous educational work and practical experience.

4. A copy of the credits and the application blank (see 3 above), will be forwarded by the Recorder to the proper dean or special student advisor for consideration as to admission. When it seems necessary to assure the applicant's preparation for the particular courses desired, an examination may be required.

Registration as a special student is for one semester only. Re-registration will be refused if the student has not shown satisfactory earnestness and definiteness of purpose, or if his work has not been good.

Persons desiring to be admitted as special students should apply to the Recorder for the necessary application and credential blanks.

IV. ADMISSION TO ADVANCED UNDERGRADUATE STANDING

Students from classes above the first year in other colleges of recognized rank, who present letters of honorable dismissal, may be admitted to the advanced standing for which their training seems to fit them. No advanced credit will be given for work done in institutions whose standing is unknown, except upon examination. Definite advanced standing will not be given until the student has been in residence for at least a semester.

ADMISSION OF NORMAL SCHOOL GRADUATES TO ADVANCED STANDING IN THE COLLEGES OF LIBERAL ARTS, SCIENCE, EDUCATION, AND FINE ARTS.

Graduates of the advanced courses of approved normal schools receive 48 scholastic credits plus 8 in physical training. For graduation they must present the following specific requirements: Ancient foreign language or literature, 6 hours; a modern foreign language, 8 hours; Laboratory Courses in Physics, or Chemistry, or Astronomy, 8 hours; Laboratory Courses in Botany or Geology, or Zoology, 8 hours; Economics, or Sociology, or American Government, 6 hours; Philosophy, 8 hours; major subject 24 hours; elective, 4 hours. On all these points, however (except major), they may have the benefit of the stated exemptions for entrance subjects, and they may also be excused from any prescribed subject for which they have completed a fair equivalent in the normal school, such excuse to be granted only upon the recommendation of the head of the department concerned.

Normal school graduates are requested to forward their high school credentials with those of the normal school.

V. ADMISSION TO GRADUATE STANDING

A bachelor's degree from a college or university of good standing is required for admission to the Graduate School.

LIST OF ACCREDITED SCHOOLS

I. PUBLIC HIGH SCHOOLS

Aberdeen	Everett	Orting
Anacortes	Fairfield	Outlook
Arlington	Ferndale	Palouse
Asotin	Friday Harbor	Pasco
Auburn	Garfield	Pomeroy
Bellingham	Goldendale	Port Angeles
Whatcom	Grandview	Port Townsend
Fairhaven	Granger	Prescott
Blaine	Granite Falls	Prosser
Bothell	Harrington	Pullman
Bremerton (U. H.)	Hillyard	Puyallup
Buckley	Hoquiam	Raymond
Burlington	Kalama	Reardan
Burton (U. H.)	Kelso	Renton
Camas	Kennewick	Republic
Cashmere	Kent	Richland
Castle Rock	Kirkland	Ridgefield
Centralia	Kittitas	Ritzville
Chehalis	La Conner	Rosalia
Chelan	Latah	Roslyn
Cheney	Leavenworth	Seattle
Chewelah	Lebam	Ballard
Clarkston	Lind	Broadway
Cle Elum	Lynden	Franklin
Colfax	Mabton	Lincoln
Colville	Malden	Queen Anne
Conconully	Marysville	West Seattle
Coupeville	Monroe	Sedro Woolley
Creston	Montesano	Selah
Davenport	Mount Vernon	Shelton
Dayton	Newport	Snohomish
Deer Park	Nooksack	South Bend
Eatonville	North Yakima	Spokane
Edmonds	Oakesdale	Lewis and Clark
Ellensburg	Odessa	North Central
Elma	Okanogan	Sprague
Endicott	Olympia	Stanwood
Enumclaw	Omak	Stevenson

Sultan (U. H.)	Twisp	Wenatchee
Sumas	Vancouver	White Salmon
Sumner	Vashon	Wilbur
Sunnyside	Waitsburg	Winslow
Tacoma	Walla Walla	Winlock
Tekoa	Wapato	Woodland
Tenino	Washougal	
Toppenish	Waterville	

II. OTHER SECONDARY SCHOOLS

Adelpia College, Seattle (Academic Department)
 Anne Wright Seminary, Tacoma
 Brunot Hall, Spokane
 Holy Names Academy, Seattle
 Holy Names Academy, Spokane
 Seattle Seminary, Seattle
 St. Helen's Hall, Portland, Oregon
 St. Nicholas School, Seattle
 St. Paul's Academy, Walla Walla
 College of Puget Sound, Tacoma (Preparatory Department)
 Walla Walla College Academy, Walla Walla
 Whitworth College Academy, Spokane

EXEMPTIONS ALLOWED FOR CERTAIN ENTRANCE UNITS

In the colleges of Liberal Arts and Science a student may be exempted from taking certain of the studies required for his degree on the following conditions:

a. If he presents for entrance 4 units of ancient language, he will not be held for the 6 credits* required in ancient language and literature.

b. If he presents for entrance 4 units of modern language, he will not be held for the 8 credits required in modern foreign language.

c. If he presents for entrance $3\frac{1}{2}$ units of mathematics, namely, $1\frac{1}{2}$ units of algebra, 1 unit of plane geometry, $\frac{1}{2}$ unit of solid geometry and $\frac{1}{2}$ unit of trigonometry, he will not be held for the 4 credits required in mathematics.

* A credit is the unit by which work in the University is measured, and represents one recitation per week for one semester.

d. If he presents for entrance 3 units of science, namely, one unit physics, one unit chemistry and one unit of any other science, he will not be held for the 8 credits required in physical science.

e. If he presents for entrance 3 units of science, namely, one unit of biological science, one unit of physics and one unit of any other science, he will not be held for the 8 credits required in biological science.

f. If he presents for entrance 3 units of history, he will not be held for the 8 credits required in history.

A student cannot obtain exemption from both *d* and *e*.

DEGREES

The curricula leading to baccalaureate degrees in the College of Liberal Arts, the College of Science, the College of Engineering, the College of Mines, and the College of Forestry, the College of Education, and the College of Fine Arts, are arranged to cover a period of four years. The curriculum in the College of Pharmacy covers two years, and an advanced curriculum takes two years longer. To complete the curriculum in the School of Law three years are required, based on two years of regular college work. The courses leading to the master's degree require not less than one year, based on four years of undergraduate work.

In the College of Liberal Arts is given the degree of bachelor of arts (A. B.); in the College of Science, bachelor of science (B. S.); in the College of Engineering, bachelor of science (B. S.); in the College of Mines, bachelor of science (B. S.); in the College of Forestry, bachelor of science in forestry (B. S. F.); in the College of Pharmacy, pharmaceutical chemist (Ph. C.), and bachelor of science (B. S.); and in the School of Law, bachelor of laws (LL. B.); in the College of Education, bachelor of education (B. Ed.); in the College of Fine Arts, bachelor of music (B. Mus.); and bachelor of architecture (B. Arch.). Specific requirements for the different degrees may be found in the statements of the respective colleges.

GRADUATE DEGREES

Courses adapted to the needs of students who wish to earn the M. A. degree are offered in nearly all departments of the colleges of Liberal Arts and Science. In three departments, Chemistry, English, and Botany, courses are offered leading to the Ph. D. degree. Courses leading to the degree of M. S. are offered in the

College of Engineering, the College of Mines, the College of Forestry and the College of Pharmacy. For further information concerning the requirements for graduate degrees, see the bulletin of the Graduate School.

It is not the policy of the University at the present time to grant honorary degrees.

DEGREE WITH HONORS

A degree with honors may be conferred upon a student who, upon recommendation of the honors committee and upon vote of the faculty, may be declared worthy of unusual distinction.

Early in May each head of a department shall bring to the attention of the committee on honors such seniors majoring in his department as he thinks may be eligible for honors.

A student is not allowed to take honors in more than one subject.

THE UNIVERSITY NORMAL DIPLOMAS

The University is authorized by law to issue teachers' diplomas, valid in all public schools of the state. Candidates for these diplomas should register in the Department of Education as early as possible after the beginning of the sophomore year, and should consult with the department from time to time as to their work for the diploma and their preparation for teaching. For more definite information see Bulletin of the College of Education.

GENERAL SCHOLASTIC REGULATIONS

STUDIES

At the beginning of each semester, the student arranges his schedule of studies with the advice and assistance of his class officer. A regular course consists of sixteen hours of recitations per week.

All women students are required to take three hours of gymnasium work per week throughout the first and second years, eight credits in physical culture being required of women for a degree.

A course of two years in military training is required. All able-bodied male students except those from foreign countries, not intending to become naturalized, must take the course which by regulation of the University is required during the first and second year.

Neither the requirement of physical culture for women, nor that of military science for men applies to any student entering as a junior or senior, providing the student has fulfilled the requirements in these subjects laid down by the institution from which he comes. The deans, together with the physical director, or commandant, as the case may be, have authority to allow a student to substitute the proper corresponding amount of scholastic work for gymnasium or military science when it seems advisable. Substitutions to be valid must be signed by the dean concerned and the physical director or commandant, and must be filed in the office of the Recorder.

REGULATIONS FOR WITHDRAWAL

1. Before October 15 or March 1 of the respective semester, a student may withdraw from a given class with the written consent of his class adviser.

2. Before November 15 or April 1 of the respective semester, a student may withdraw from a given class with the written consent of his class adviser and instructor.

3. After November 15 or April 1 of the respective semester, a student may withdraw from a given class with the written consent of his class adviser and instructor; provided, however, that if his work has not been satisfactory to the instructor, the instructor must give the student an "E" on the semester grade. It is further provided, that if any withdrawal will reduce the student's hours below twelve, such withdrawal cannot be made till the dean gives his written approval.

4. Any student who registers for a given course must ultimately complete that course, or if that be impossible, must complete the same number of hours in some other subject approved by the dean of the college concerned, in addition to the total number of hours otherwise required for graduation. (Students who may be properly withdrawn with the consent of the class adviser alone shall not be affected by this rule, but it shall not exempt any student from the necessity of completing his required courses.)

SCHOLARSHIP STANDING

(a) Any student who, in any semester, is reported as doing unsatisfactory work in more than one-half of his registered hours will be dropped from the University for the remainder of that semester and for the following semester.

A student who has been dropped twice for scholastic delinquencies is ineligible for re-registration in the University at any future time, except by special permission of the Board of Deans.

(b) Any student who, in any semester, is reported as doing unsatisfactory work in more than one-quarter of his registered hours will be placed on probation for the remainder of that semester and for the following semester. During the full probationary period the student must pass in twelve hours; or in all his hours, if he is registered for less than twelve.

Monthly reports are made to the Recorder, by all instructors, of students whose work for the preceding four weeks has been unsatisfactory.

EXAMINATIONS

The regular semester examinations are held twice each year. Examinations for the first semester are held the last week of the first semester, while those for the second semester are held during the week prior to Commencement week.

In the College of Liberal Arts, the College of Science, the College of Education, and the College of Fine Arts, the examinations held at the end of the first semester are of year courses merely qualifying (except for students of other colleges or schools of the University, who are taking courses in the College of Liberal Arts and the College of Science); i. e., students failing to pass them are not allowed to take the year examinations, which are given in June and cover the work of both semesters.

In addition to the regular year examinations in other subjects, senior students in the College of Liberal Arts, the College of Science, the College of Education, and the College of Fine Arts, are required to take examinations in all the work of their major subject and in all the subjects in their group which they have taken in their junior and senior years.

SYSTEM OF GRADES

1. The following is the system of grades*:

A.....	Honor	
B.....		} Intermediate
C.....		
D.....		
E.....	Failed	
I.....	Incomplete	

* These grades correspond approximately to the old marking scheme as follows: A, 100-96; B, 95-86; C, 85-76; D, 75-70; E, 70-0.

(An incomplete is given only in case the student has been in attendance and done satisfactory work to a time within two weeks of the close of the semester.)

2. Candidates for the bachelor's degrees in the colleges of Liberal Arts, Science and Education and the College of Fine Arts must receive grades of A, B, or C in three-fourths of the credits required for their respective degrees. This rule became operative in June, 1913, and does not apply to grades given before the year 1910-11.

FRATERNITY PLEDGING

No fraternity or sorority shall pledge any person for membership who is not regularly registered in this University.

No student shall be initiated into a fraternity or sorority until he or she has earned 12 scholastic credits or provisional credits at this University. Work taken to remove entrance deficiencies is not counted as part of the 12 credits.

EXPENSES

TUITION

By an act of the Legislature approved by the Governor March 15, 1915, students of the University of Washington are required to pay certain matriculation and tuition fees as follows:

(a) A fee of \$10.00 to be paid by each student upon matriculation. This fee is collected once for all from each student who has not enrolled at a previous regular session of the University.

(b) A tuition of \$10.00 a semester to be paid by each student of the University.

(c) An additional tuition fee of \$12.50 a semester to be paid by each student in Law.

(d) A tuition fee of \$10.00 to be paid by each student in the following special courses: The Short Course in Forestry, the Short Course in Mining, the Summer Session, and the Marine Station. A student in any of these special courses of the University is not required to pay a matriculation fee.

RETURN OF TUITION FEES

The matriculation fee is not returnable to the student in whole or in part. Tuition fees are not returnable except in case of sickness or causes entirely beyond the control of the

student. No portion of the fees will be returned for voluntary or enforced withdrawal after sixty days from the date of registration of the student. Students withdrawing under discipline forfeit all rights to the return of any portion of the fees. In no case will more than one-half the fee be refunded.

FREE SCHOLARSHIPS

After one semester's residence at the University free scholarships may be granted to a certain number of students who are practically dependent upon their own resources and who have shown a marked capacity for University work. The appointment to a free scholarship releases the student from the payment of the general tuition charge of ten dollars a semester, but does not affect his obligation with reference to other fees. The number of free scholarships granted in any semester will not exceed ten per cent of the total attendance.

ASSOCIATED STUDENTS FEE.

The Associated Students Fee of five dollars is paid by every student on entering the University. See page 77.

LABORATORY DEPOSITS.

The actual amount of material that a student may use during a laboratory course cannot always be stated in advance. The student's deposit therefore, as announced in the catalogue, and made at the Bursar's office, is an amount which is expected to cover the value of the material that will be consumed; this includes the expense involved in the actual repair—not replacement—of the scientific apparatus used by the student. In case these charges overrun this amount it becomes necessary for the student to make a further deposit. At the end of the semester the student receives a rebate order from the department concerned, which informs the Bursar as to the amount consumed and a refund is paid accordingly.

The following are the laboratory deposits for each semester in force in the various laboratory courses, arranged by departments:

ASTRONOMY, 1—2—\$1.00.

BACTERIOLOGY, 110—\$2.50; 103, 104, 105, 106, 108, 111, 112, 115, 116, 119, 120,—\$5.00.

BOTANY, 1, 2, 5, 6, 9, 10, 11, 12, 13, 14, 16, 17, 20, 23, 24, 25, 26, 33, 41, 42, 43, 44, 50, 51, 52, 53, 54, 61, 62,—\$3.00; Botany 1s,—\$1.00.

CHEMISTRY, 1—2, 1a—2a, 1b—2b, 1c—2c, 1d, 3—4, 3c, 5—6, 7—8, 8b, 9, 10—11, 12, 13, 14, 15, 16, 18, 19, 20—21, 20a, 22, 23, 24, 25, 26, 29—30,—\$10.00; 1s,—\$5.00 (with Geology 1s,—\$1.00); (Course 1f, see Pharmacy).

CIVIL ENGINEERING, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 65,—\$3.00.

ELECTRICAL ENGINEERING, 27, 32, 41,—\$2.00; 2, 5, 10, 15,—\$3.00; 4, 22, 24,—\$4.00.

FORESTRY, 1, 4, 19,—\$1.00; 5, 6, 7, 7a, 7b, 18,—\$2.00.

GEOLOGY, 1, 2, 1a, 1b, 1c, 1d, 1s, 3, 4, 5, 8,—\$1.00; 9, 13, 16, 17, B,—\$2.00.

GYMNASIUM, \$1.00 for the year, locker and apparatus; paid by all taking Physical Education 1, 2, 3, 4, 5, 6, 7, 8, and 15.

HOME ECONOMICS, 5, 9—10, 11—12, 18, 25, 26, 29,—\$1.00; 8,—\$1.50; 19, 20, 22,—\$2.00; A, B, 14, 15,—\$3.00; 2, 3, 4,—\$4.00.

JOURNALISM, 1—2, 3—4, 5—6, 7, 10, 11—12, 13—14, 17—18, 21—22, 23—24, 25, 26, 27—28, 29—30,—\$2.00.

MECHANICAL ENGINEERING, 1, 2, 3, 4, 5, 6, 7, 8, 9, 40, 41, 42, 43, 45,—\$2.00.

MINES, Mining Engineering, 1, 3,—\$3.00; 2, 20,—\$5.00; Metallurgy, 1,—\$15.00; 2, 7, 8, 12,—\$10.00; 3, 5, 6,—\$5.00; 9, 10,—\$3.00. Short Session C,—\$15.00; D,—\$5.00.

PHARMACY, 5—6,—\$5.00; 15, 16, 17, 19,—\$5.00 or \$10.00 (according to hours); 1, 1a, 2a, 2, 9—10, 11—12, 13—14,—\$10.00; Chemistry 1f, 2f,—\$15.00.

PSYCHOLOGY, 34, 46,—\$1.00; 31, 33,—\$2.00.

PHYSICS, 1, 2, 3, 3a, 4, 4a, 5, 6, 6a, 7, 8, 9, 18, 20, 21, 42,—\$2.50; 1b, 2b, 5a,—\$6.00 for the year.

ZOOLOGY, 1—2, 1a, 3—4, 5, 6, 7, 8, 10, 11, 12, 13,—\$2.00; 1s,—\$1.00 (with Botany 1s,—\$1.00); 17—18, 19—20, 21—22, to be arranged.

SICK BENEFIT FUND

SICK BENEFIT, \$1.00 for the year, paid by all students whose homes are away from Seattle.

BOARD AND ROOM

(a) In the university dormitories the room rent (\$12.00 a semester) is payable in advance and no rooms will be reserved unless paid for by August 15th. The rooms are furnished with necessary articles of plain furniture, but the student is expected to supply his own bed linen, bedding, mattress, towels, and rugs. A new mattress to fit beds can be obtained at the dormitories for \$2.00.

The price of board is seventeen dollars and a half (\$17.50), payable monthly as the bills are rendered.

A deposit of \$17.50 (one month's board bill) is required in advance of all who board at the dining hall. This amount is exclusive of the board bill for the first month, and is applied on the bill for the last month of the college year.

All remittances should be made payable to the University of Washington, and addressed to the Bursar of the University.

(b) Outside the dormitory, in the past, the expense of board and lodging with private families has ranged from twenty-three to thirty dollars per month.

In the judgment of the University, it is deemed advisable that men and women room in different houses and that women room only in houses which furnish a first floor reception room for the entertainment of men callers. All first-year women are required to communicate with the Dean of Women before securing rooms.

CADET UNIFORM

The uniform with which the members of the cadet corps are required to provide themselves costs about eighteen dollars. The amount necessary to cover this cost is deposited with the Bursar of the University. The uniform is designed to be worn in place of civilian dress.

DIPLOMA FEE.

The fee charged to graduates is five dollars for each one receiving a baccalaureate or higher degree, or a diploma in pharmacy, and three dollars for each one receiving a teacher's diploma.

STUDENT HELP

Many students who have found it necessary to support themselves while at the University have been enabled to do so by securing occupation of various sorts. There is an employment

bureau conducted by the Y. M. C. A. to secure work for men who have to make their own expenses. There is also a faculty committee which lends its assistance in securing aid for such students. The Dean of Women renders a similar service for women.

Students who expect to earn a portion of their support are advised not to register for a full schedule of studies.

As indicated above every effort is made on the part of the officials of the University to aid students in their efforts to secure employment, but it is not deemed advisable, unless in exceptional cases, for any one to register unless he has in hand or in immediate prospect sufficient funds to maintain him for the first few months.

DEAN OF WOMEN

The Dean of Women is always ready to help or advise any woman student who may need assistance. She will supply lists of approved boarding and lodging places, correspond with parents or guardians who desire to make inquiry concerning their daughters or wards, and take an interest in all the woman's organizations.

FELLOWSHIPS AND SCHOLARSHIPS

GRADUATE FELLOWSHIPS

By the will of Sarah Loretta Denny the sum of \$25,000 was bequeathed to this University for the establishment of University fellowships. The income from this fund is at present \$1,250.00, and affords three graduate fellowships of equal amount, which will be awarded by May 1st of each year by the graduate faculty.

UNIVERSITY TEACHING FELLOWSHIPS

The University each year provides for about twelve teaching fellowships in nearly as many departments. For a number of years the position has been known as a graduate assistantship, the graduate student dividing his time equally between his studies and assisting in the teaching work of the department in which he is enrolled.

THE JOHN WALTER ACKERSON SCHOLARSHIP

In memory of the late John Walter Ackerson, a pioneer of Washington, Mrs. S. Louise Ackerson offers a scholarship of one hundred dollars annually to the young woman member of the junior class who may be adjudged most worthy on the basis of scholarship, personal influence and self reliance.

WOMAN'S LEAGUE SCHOLARSHIP

The Woman's League of the University of Washington offers a scholarship of one hundred dollars annually to a woman member of the junior class adjudged worthy on the basis of scholarship, financial need, and personal influence.

SENIOR SCHOLARS

In June preceding their senior year, juniors who have eighty-eight or more credits with high grade may be elected senior scholars. A senior scholar may be relieved from attendance at regular lectures or recitations, and may be granted other special privileges in order that he may devote himself to more intensive and more correlated study than the class-room system permits. His work must be in not less than two or more than four allied subjects; and it must be correlated so that it will bear upon some common field.

PRIZES**FOR EXCELLENCE IN PUBLIC SPEAKING AND DEBATE**

Judge Alfred Battle offers an annual cash prize of seventy-five dollars to the Washington debating team chosen to meet representative debaters from the University of Oregon.

Each alternate year, beginning with the spring of 1908, the Seattle Bar Association will give the sum of fifty dollars to defray the expenses of a debate between the representatives of the Law Schools of Oregon and Washington.

FOR ESSAYS

The Philo Sherman Bennett prize of twenty-four dollars annually is "for the best essay discussing the principles of free government."

Mr. Vivian W. Carkeek, of the Law class of 1901, offers an annual cash prize of \$25.00 for the best thesis on Washington law.

The Washington Bankers' Association awards two prizes of fifteen and ten dollars for the best essays on an economic topic to be selected by the executive committee of the association.

Alpha Chapter of the Chi Omega Fraternity offers a social betterment prize of fifteen dollars, to be given annually, for the best paper on any phase of social service presented by a student of the University of Washington.

FOR ELECTRICAL ENGINEERING

The Jacob Furth estate offers an annual scholarship of one hundred dollars, to be awarded at commencement, to the senior student in electrical engineering who shall have done the best work in physics, mathematics, and electrical engineering during his course.

FOR SCHOLARSHIP IN ITALIAN

Mr. N. Paoletta, of Seattle, offers a gold medal each year, beginning with 1913, for a period of ten years, to the student doing the best work in Italian.

STUDENT LOAN FUNDS

Mr. Samuel H. Hedges, of Seattle, has endowed a student loan fund, known as The David Jackson Hedges Memorial Fund in memory of the donor's son, which affords assistance by way of emergency loans to young men of the University upon applications duly approved by the trustees of the fund.

The Tolo Club, a senior women's honor society, maintains a loan fund for women students.

The Faculty Women's Club, made up of faculty women and wives of the faculty, maintains a loan fund for women students.

STUDENT GOVERNMENT

A start has recently been made towards student government in the University. By an overwhelming majority the students have amended the Constitution of the A. S. U. W. so as to give to the Board of Control the function of a discipline committee to deal with all cases of conduct detrimental to the best interests of the student body. The principle involved has been approved by the Faculty and it is expected that before long the necessary rules and regulations will have been agreed upon and the system be in full operation.

ASSOCIATIONS AND CLUBS

ALUMNI ASSOCIATION

The officers of the Alumni Association for 1914-1915 are as follows: President, Mr. King Dykeman; vice-president, Mr. Arthur Campbell; secretary, Miss Dollie McLean; treasurer, Mr. Aubrey Levy.

THE ASSOCIATED STUDENTS

The Associated Students of the University of Washington (incorporated) is an organization of the entire student body. The powers of government are vested by its constitution in an annually elected board of control, upon which three members of the faculty and three alumni also have seats. The board appoints a general manager, who has the financial control of all branches of athletics, musical organizations, and of contests in debate and oratory. The associated student fee of \$5.00 a year entitles the student to a subscription to the University of Washington Daily—the official student paper—free admission to all athletic, debating and oratorical contests given under the auspices of the A. S. U. W., the annual musical concert, the discounts in the cooperative book store, and to all the voting and other privileges of the association.

CHRISTIAN ASSOCIATIONS

The Young Men's and the Young Women's Christian Associations each have a branch organization among the students. They are active in making the new students feel at home and in assisting them in many ways. Prospective students are invited to address the secretary of the University of Washington Y. M. C. A., Seattle, Washington, regarding rooming needs or employment. The student handbook will be ready for distribution at registration time.

DEPARTMENT CLUBS

The following clubs are connected with the work of different University departments: Chemical Club, Classical Club, Deutscher Verein, English Club, Forest Club, French Club, Home Economics Club, Mathematics Club, Political Science Club.

DEBATING

Debating in the University is fostered and directed by the University of Washington Debating Association, which has supervision of all the debating activities of the students. This association is composed of all students who are interested in debating and directs the various activities through three standing committees, viz., the Executive Committee, the Men's Debating Council and the Women's Debating Council.

The Executive Committee has supervision over all inter-club and inter-class debates. The Men's Council has supervision over

all matters relating to the inter-collegiate debates in which the men of the University participate. The Women's Council has supervision of the inter-collegiate debating relations in which the women of the University participate.

There are four debating and literary societies in the University, viz.: Stevens, Badger, Athena and Sacajawea. The first two are for men, the last two for women. Membership in the clubs is limited in order that frequent practice may be afforded.

Several annual debates are held with universities and colleges of the Pacific Coast, representatives of the University being chosen by tryouts held early in the year.

The Pacific Coast Triangular Debating League, consisting of the Universities of Washington, Oregon, and Stanford, holds an annual triangular debate on the second Friday evening in March. Each institution is represented by two teams representing the affirmative and negative of the question under discussion. The team remaining at home debates the affirmative side of the question.

The Northwest Triangular Debating League, consists of the Universities of Washington, Washington State College, and Whitman College. The arrangements are similar to those of the Pacific Coast Triangular League. The debates are held in February.

The Pacific Northwest Women's Debating League, consists of the University of Washington, Washington State College, and Whitman College. The arrangements are very similar to those of the men's leagues and give the women of the University equal opportunities for development in this field of practical achievement. The debates are held early in the second semester.

LAW SCHOOL DEBATES. An annual debate is held between representatives of the law schools of the University of Washington and the University of Oregon early in May. Debates are also held between the University of Washington Law School and the Law School of Vancouver, B. C.

MUSICAL ORGANIZATIONS

The musical organizations consist of the University Choral Society, Men's Glee Club, Women's Glee Club, Orchestra and Band.

PHILOLOGICAL ASSOCIATION

The Philological Association was organized to encourage scientific investigation in language and literature. Membership is open to all members of the University who are interested in philology.

HONOR SOCIETIES

The following honor societies have been established at the University: Phi Beta Kappa, Sigma Xi, Phi Delta Phi, Phi Delta Chi, Phi Delta Kappa, Phi Lambda Upsilon, Tau Kappa Alpha, Theta Sigma Phi, Sigma Delta Chi, Mim Kaph Mim, Tau Beta Pi.

WASHINGTON UNIVERSITY STATE HISTORICAL SOCIETY

The Washington University State Historical Society has for its purpose the preserving of the historical documents and records of the Northwest and of the State of Washington, and to preserve or publish the results of all investigations.

COLLEGE OF LIBERAL ARTS

THE FACULTY

HENRY LANDES, A. M. (Harvard), ACTING PRESIDENT.

ARTHUR SEWALL HAGGETT, PH. D. (Johns Hopkins), Professor of Greek; DEAN.

EDMOND STEPHEN MEANY, M. L. (Wisconsin), Professor of History.

J. ALLEN SMITH, PH. D. (University of Michigan), Professor of Political and Social Science.

CAROLINE HAVEN OBER, Professor of Spanish.

FREDERICK MORGAN PADELFORD, PH. D. (Yale), Professor of English.

WILLIAM SAVERY, PH. D. (Harvard), Professor of Philosophy.

DAVID THOMSON, A. B. (Toronto), Professor of Latin.

PIERRE JOSEPH FREIN, PH. D. (Johns Hopkins), Professor of French.

FREDERICK WILLIAM MEISNEST, PH. D. (Wisconsin), Professor of German.

HERBERT HENRY GOWEN, D. D., F. R. G. S., F. R. S. A., Professor Lecturer of Oriental History, Literature and Institutions.

OLIVER HUNTINGTON RICHARDSON, PH. D. (Heidelberg), Professor of European History.

WILLIAM ELMER HENRY, A. M., Librarian and Director of the Department of Library Economy.

WALTER GREENWOOD BEACH, A. M. (Harvard), Professor of Social Science.

VERNON LOUIS PARRINGTON, A. B. (Harvard), Professor of English.

FREDERICK ELMER BOLTON, PH. D. (Clark), Professor of Education.

EDWIN JOHN VICKNER, PH. D. (University of Minnesota), Professor of the Scandinavian Languages.

EDWARD EUGENE McCAMMON, Lieutenant U. S. A., Professor of Military Science and Tactics.

HERBERT GALEN LULL, PH. D. (California), Professor of Education.

FRANK GEORGE KANE, A. B. (Michigan), Professor of Journalism.

ALLEN ROGERS BENHAM, PH. D. (Yale), Associate Professor of English.

- LOBEN DOUGLAS MILLIMAN, A. B. (Michigan), Associate Professor of English.
- THOMAS KAY SIDEY, PH. D. (Chicago), Associate Professor of Latin and Greek.
- EDWARD McMAHON, A. M. (Wisconsin), Associate Professor of American History.
- STEVENSON SMITH, PH. D. (Pennsylvania), Associate Professor of Orthogenics.
- JACOB NEIBERT BOWMAN, PH. D. (Heidelberg), Associate Professor of European History.
- WILLIAM PIERCE GORSUCH, A. B. (Knox), Associate Professor in charge of the Department of Public Speaking and Debate.
- GEORGE WALLACE UMPHREY, PH. D. (Harvard), Associate Professor of Spanish.
- VANDERVEER CUSTIS, PH. D. (Harvard), Assistant Professor of Economics.
- OTTO PATZER, PH. D. (Wisconsin), Assistant Professor of French.
- JOSEPH KINMONT HART, PH. D. (Chicago), Assistant Professor of Education.
- OTILLIE GERTRUDE BOETZKES, A. M. (Washington), Assistant Professor of German.
- HANS JACOB HOFF, PH. D. (Illinois), Assistant Professor of German.
- ROBERT MAX GARRETT, PH. D. (Munich), Assistant Professor of English.
- EDWARD GODFREY COX, PH. D. (Cornell), Assistant Professor of English.
- CHARLES MUNRO STRONG, A. M. (Missouri), Assistant Professor of Spanish.
- WILLIAM THEODORE DARBY, A. M. (Columbia), Assistant Professor of English.
- HARVEY BRUCE DENSMORE, A. B. (Oxford), Assistant Professor of Greek.
- DAVID ALLEN ANDERSON, PH. D. (Iowa), Assistant Professor of Education.
- ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.
- ERNEST GEORGE ATKIN, A. M. (Harvard), Assistant Professor of French.
- GINO ARTURO RATTI, PH. D. (Grenoble), Assistant Professor of French.

JOEL MARCUS JOHANSON, A. B. (Washington), Assistant Professor of English.

THERESA SCHMID MCMAHON, PH. D. (Wisconsin) Assistant Professor of Political and Social Science.

CHARLES LOUIS HELMLINGE, PH. B. (German Wallace College), Assistant Professor of French.

ERNEST OTTO ECKELMAN, PH. D. (Heidelberg), Assistant Professor of German.

FRED WASHINGTON KENNEDY, Assistant Professor of Journalism and Director of the Journalism Laboratories.

HARRY EDWIN SMITH, PH. D. (Cornell), Assistant Professor of Economics.

LEE A WHITE, A. M. (Michigan), Assistant Professor of Journalism.

WALTER BELL WHITTLESEY, A. M. (Washington), Instructor in French.

RALPH HASWELL LUTZ, PH. D. (Heidelberg), Instructor in History.

NEWELL WHEELER SAWYER, A. M. (Pennsylvania), Instructor in English.

VICTOR LOVITT OAKES CHITTICK, A. M. (Harvard), Instructor in English.

ATTILIO PHILIPPO SBEDICO, PH. D. (Pennsylvania), Instructor in French and Italian.

HENRY SLATER WILCOX, A. M. (Harvard), Instructor in Psychology.

RUDOLPH HERBERT ERNST, A. M. (Harvard), Instructor in German.

CURT JOHN DUCASSE, PH. D. (Harvard), Instructor in Philosophy and Psychology.

THOMAS WITHERS, C. E. (Virginia Military Institute), Instructor in English.

CONRAD TRESSMAN, PH. D. (Pennsylvania), Instructor in German.

WILLIAM LAFOLLETTE, A. B. (De Pauw), Instructor in Public Speaking and Debate.

SERENO BURTON CLARK, PH. D. (Harvard), Instructor in Greek and Latin.

GEORGE MILTON JANES, PH. D. (Johns Hopkins), Instructor in Political and Social Science.

HUGH ELMER AGNEW, A. B. (Michigan), Instructor in Journalism.

RUDOLPH RIEDER, A. B. (Wisconsin), Instructor in German.

FRANK JOSEPH LAUBE, A. M. (Washington), Instructor in Political and Social Science.

- EDWIN RAY GUTHRIE, PH. D. (Pennsylvania), Instructor in Philosophy.
- GEORGE BROWN JACKSON, A. M. (Leander Clark College), Instructor in German.
- PAUL KRUSE, A. M. (Washington), Instructor in Education.
- ROBERT CHENAULT GIVLER, PH. D. (Harvard), Instructor in Psychology.
- CLEMENT AKERMAN, A. M. (Harvard), Instructor in Economics.
- DONALD ADAMS, A. B. (Harvard), Teaching Fellow in English.
- DOROTHY FAY, A. B. (Vassar), Teaching Fellow in English.
- KATE LEILA GREGG, A. B. (Washington), Teaching Fellow in English.
- CHARLES ALEXANDER GUERARD, B. L. (University of France), Teaching Fellow in French.
- JOHN HEINES, A. B. (Rutgers College), Teaching Fellow in English.
- GEORGE A. LINHART, PH. D. (Yale), Teaching Fellow in German and Chemistry.
- ELIZABETH MACLEAY, A. B. (Washington), Teaching Fellow in English.
- WESLEY FREDERIC RENNIE, A. B. (Hillsdale College), Teaching Fellow in English.
-

- TREVOR KINCAID, A. M. (Washington), Professor of Zoology.
- DAVID CONNOLLY HALL, M. S., M. D. (Chicago), Director of Physical Training.
- IRVING MACKEY GLEN, A. M. (University of Oregon), Professor of Music and Fine Arts.
- FRANK MARION MORRISON, PH. D. (Chicago), Associate Professor of Mathematics.
- WILLIAM MAURICE DEHN, PH. D. (Illinois), Associate Professor of Chemistry.
- EFFIE ISABEL RAITT, B. S. (Columbia), Professor and Director of the Department of Home Economics.
- EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.
- HENRY LOUIS BRAKEL, PH. D. (Cornell), Assistant Professor of Physics.
- GEORGE BURTON RIGG, PH. D. (Chicago), Assistant Professor of Botany.

ADMISSION TO FRESHMAN CLASS

To be admitted to freshman standing in the College of Liberal Arts a student must either (a) pass an examination based on a four year course amounting in the aggregate to fifteen units, or (b) complete a course of the same length in an accredited school. The required and elective units are as follows:

Algebra	1½
Plane geometry.....	1
A science (chemistry, physics, botany, zoology) ..	1
A history (American preferred) or U. S. History and civics	1
English	3
A foreign language	2
<hr style="width: 10%; margin-left: auto; margin-right: 0;"/>	
Total.....	9½

Additional subjects prescribed for the several groups of the College of Liberal Arts:

Group 1	{	Sub-group 1. (Classical) a total of 4 units of Latin.
		Sub-group 2. (Modern Language) 2 additional units of foreign language.
Group 2	{	Sub-group 1. (History and Political Science) 2 additional units of foreign language, or an additional unit of laboratory science and ½ unit of solid geometry.
		Sub-group 2. (Philosophy and Education) Same as for History and Political Science.

More detailed information concerning admission will be furnished those interested in a separate section of the University Bulletin, known as Entrance Information.

CURRICULUM OF THE COLLEGE OF LIBERAL ARTS.

GROUPS

The departments of the College of Liberal Arts are grouped as follows:

Group I. LANGUAGE AND LITERATURE.

Sub-group 1. (Classical) Greek, Latin.

Sub-group 2. (Modern Language) English, French, German, Italian, Public Speaking and Debate, Spanish, Scandinavian.

Group II. PHILOSOPHICAL.

Sub-group 1. (History and Political Science) History, Political Science.

Sub-group 2. (Philosophy and Education) Philosophy, Education.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

To secure the degree of Bachelor of Arts the candidate must meet the following requirements:

He must complete the number of credits* specified in each of the following subjects:

- a. Ancient Language and Literature.....‡6 or 8 credits
- b. Modern foreign Language.....‡8 credits
- c. Rhetoric‡0 to 8 credits
- d. Mathematics4 credits
- e. Physical science8 credits
- f. Biological science.....8 credits
- g. History8 credits
- h. Philosophy8 credits
- i. Political science6 credits
- j. Physical Training or Military Science.....8 credits
- k. College Problems.....1 credit

NOTE—Freshmen are required to take one hour a week each semester in hygiene, in connection with their physical or military training.

* By the term *credit* is meant one recitation a week for a period of one semester.

‡ A student entering with less than 4 years of foreign language must make a total of 5 years in high school and college combined.

† Freshmen on entering the University will be examined in English composition and will either be excused from that subject in the University or required to take a 2, 3, or 4 hour course per week throughout the year, according to their needs.

COLLEGE PROBLEMS: Freshmen in the Colleges of Liberal Arts and Science, except those who are registered in certain "set" courses, are required to take one hour a week the first semester in instruction in "Problems of Study," "How to Use the Library" and "Organization of Departments and Courses in the University;" and in the second semester, one hour a week in the study of "Vocations Open to College Men and Women of the Northwest." This course will include practical discussions of the organization of the student's plans for his university career, the consideration of a vocation, the planning of a course that will help him to work out his vocational interests, and the relating of his university work and his vocational plans to the demands of the world. One credit is allowed for the year's work. The section for women comes on Friday at 11, and the one for men on Wednesday at 1 o'clock.

This course is not required of students who enter the University with the standing of sophomore or above. Students who fail to take the course at the proper time, or who fail in the course will take, in lieu thereof, some course in Social Science of double the number of hours credit.

EXEMPTIONS: A student may be exempted from certain of the above requirements on the following conditions:

From *a* if he presents for entrance 4 units of ancient language.

From *b* if he presents for entrance 4 units of modern foreign language.

From *d* if he presents for entrance $3\frac{1}{2}$ units of mathematics; viz.: $1\frac{1}{2}$ units of algebra, 1 unit of plane geometry, $\frac{1}{2}$ unit solid geometry, and $\frac{1}{2}$ unit trigonometry.

From *e* if he presents for entrance 3 units of science; viz.: 1 unit physics, 1 unit chemistry, and 1 unit of any other science.

From *f* if he presents for entrance 3 units of science; viz.: 1 unit of biological science, 1 unit of physics, and 1 unit of any other science.

From *g* if he presents for entrance 3 units of history.

NOTE: A student cannot obtain exemption from both *e* and *f*.

PENALTIES: Of the above requirements *c* must be completed within the first year, otherwise only $\frac{1}{2}$ credit will be allowed; *a* or *b*, *d*, *e* or *f*, *g* must be completed within the first two years, otherwise only $\frac{1}{2}$ credit will be allowed.

3. He must complete the requirements for a major.*

* A major consists of not less than 24 credits in some one department.

The department in which the student selects his major will be known as his major department and its head as his major advisor. Not more than forty credits in the major department may be counted toward graduation.

4. He must complete not less than 48 credits in the group in which his major department falls.

5. He must complete a total of 128 credits, but of these not more than 24 may be counted in any department, other than the major department (except that in English 24 may be counted in addition to Freshman Composition).

GENERAL NOTE: Each student is to be held either for the admission and graduation requirements of the catalogue under which he enters, or for those of the catalogue under which he graduates.

DISTRIBUTION OF WORK BY YEARS

Of the work in the prescribed subjects (see 2 above), that in English Composition (Rhetoric) must be completed in the Freshman year; that in Mathematics and in Medieval and Modern History (when taken in fulfillment of the History requirement) and also one year of Science and one year of Foreign Language must be completed by the end of the Sophomore year.† The work of the Junior and Senior years consists of those prescribed subjects which the student has not been able to take during the first two years, and of those additional courses which will fulfill the major and elective requirements as specified under 3, 4 and 5 above.

Candidates for the bachelor's degrees in the College of Liberal Arts must receive grades of A, B or C in at least three-fourths of the credits required for the degree. This rule does not apply to grades given before the year 1910-11.

SCHEME OF ELECTIVES

For purposes of election, outside the major department, the College of Liberal Arts, the College of Science and the College of Education shall be treated as one.

The following courses given outside the College of Liberal Arts may be counted toward a bachelor of arts degree. Not more than twelve such credits altogether shall be counted toward this degree except that from the College of Fine Arts 24 credits may be so counted.

† If taken later than the time indicated here these subjects will count but half credit.

COLLEGE OF PHARMACY

Materia medica	}	Total amount allowed, eight credits.
Therapeutics		
Toxicology		

COLLEGE OF ENGINEERING

Mechanical drawing, 4 credits	}	Total amount allowed, twelve credits.
Descriptive geometry, 4 credits		
Surveying, 4 credits		
Dynamo machinery, 4 credits		
Alternating currents, 4 credits		

COLLEGE OF MINES

General metallurgy—four credits.

COLLEGE OF FINE ARTS

A total of 24 credits in the College of Fine Arts may be counted toward the bachelor of arts degree.

COLLEGE OF FORESTRY

The following courses may be counted toward the bachelor of arts degree: General Forestry, For. 29, 2 hours; Dendrology, For. 30, 2 hours; Forest Economics, 2 hours; Silviculture, 6 hours. The maximum number of hours elective from these subjects is twelve.

SCHOOL OF LAW

Agency, 2 credits	Equity, 2 credits
Constitutional law, 4 credits	Persons, 2 credits
Contracts, 6 credits	Property, 4 credits
General business law, 2 credits	

From the above subjects a total of twelve credits may be counted toward the bachelor of arts degree by a student majoring in the Philosophical Group; a total of six credits may be so counted by a student majoring in any other group.

SUGGESTIVE SCHEDULE BY YEARS OF THE COURSES LEADING TO THE A. B. DEGREE.

GROUP I. LANGUAGE AND LITERATURE.		GROUP II PHILOSOPHICAL
Sub-group I	Sub-group II	Sub-groups I and II
ANCIENT LANGUAGE AND LITERATURE	MODERN LANGUAGE AND LITERATURE	HISTORY AND POLITICAL SCIENCE, OR PHILOSOPHY
<i>Freshman</i>	<i>Freshman</i>	<i>Freshman</i>
†English 0 to 8	†English 0 to 8	†English 0 to 8
Greek 8	Mod. For. Lang. 8	Foreign Lang. 8
Latin 8	History 8	History 8
Mathematics 4	Mathematics 4	Mathematics 4
College Problems.... 1	College Problems.... 1	College Problems ... 1
Phys. Training.... 4	Phys. Training.... 4	Phys. Training.... 4
<i>Sophomore</i>	<i>Sophomore</i>	<i>Sophomore</i>
Latin 8	Anc. Language.... 8	For. Language.... 8
Greek 8	Philosophy 8	Philosophy 8
History 8	Science 8	Pol. Science..... 6
Phys. Science..... 8	Elective* 8	Science 8
Phys. Training.... 4	Phys. Training.... 4	Phys. Training.... 4
<i>Junior</i>	<i>Junior</i>	<i>Junior</i>
Major 8	Major 8	Major 8
Mod. For. Lang.... 8	Pol. Economy..... 6	Science 8
Philosophy 8	Science 8	Electives 16
Biol. Science..... 8	Elective 8	<i>Senior</i>
<i>Senior</i>	<i>Senior</i>	<i>Senior</i>
Major 8	Major 8	Major 8
Pol. Science 6	Electives 8	Electives 8
Electives 8		

* This elective should be applied on the student's proposed major.

† Those students who are excused from one-half or more of the requirements in English Composition should take a science.

CURRICULUM IN HOME ECONOMICS

Leading to the A. B. Degree.

FRESHMAN	SOPHOMORE
†English 0 to 8	Zoology 10 4
Modern language 8	Ancient Language 8
Chemistry 8	History 8
Home Economics 4	Mathematics 4
Fine Arts (III 1) 2	Fine Arts (Architecture).... 3
Physical Training 4	Home Economics 6
College Problems 1	Physical Training 4
JUNIOR	SENIOR
Philosophy 8	Home Economics 6
Political Science 1a and 26.... 6	Political Science 3-4 or 44 or
Biology (Bact. 106)..... 5	Fine Arts 6
Elective 6	Philosophy 4
Home Economics 8	Elective 10

† Those who are excused from all or a part of the requirement in English composition should either take some subject listed in the sophomore year or a corresponding number of hours of free elective.

CURRICULUM IN JOURNALISM

Leading to the A. B. Degree.

A. EDITORIAL GROUP.

FRESHMAN YEAR

<i>First Semester</i>		<i>Second Semester</i>	
	Hours.		Hours.
Journalism 1 (Reporting)...	3	Journalism 2 (continued)...	3
Journalism 27 (Mechanics of Printing)	1	Journalism 28 (continued)...	1
Modern Language	4	Modern Language.....	4
English 1	4	Ancient Language and Lit..	3
Zoology	4	Zoology	4
Mil. Sci. or Physical Tr....	2	Mil. Sci. or Physical Tr....	2
	<hr/> 16+2		<hr/> 15+2

SOPHOMORE YEAR

Journalism 3 (Editing).....	3	Journalism 4 (continued)...	3
Ancient Language and Lit..	3	Journalism 10 (Jurisprudence)	2
Physical Science	4	Physical Science	4
History 7	4	History 8	4
Political Science 1.....	3	Political Science 2.....	3
Mil. Sci. or Physical Tr....	2	Mil. Sci. or Physical Tr....	2
	<hr/> 17+2		<hr/> 16+2

JUNIOR YEAR

Journalism 5 (Features and Ex.) or Journalism elective equivalent	2	Journalism 6, or Journalism elective equivalent	2
Journalism 11 (editorial)..	3	Journalism 12 (continued)..	3
Philosophy 1 or 5.....	4	Philosophy 31 or 6.....	4
Political Science 3.....	3	Political Science 4.....	3
English 19 or 5 or 15 or 23a	2 or 3	English 20 or 6 or 16 or 24a	2 or 3
Elective	3 or 2	Elective	3 or 2
	<hr/> 17		<hr/> 17

SENIOR YEAR

Journalism 13 (policy).....	3	Journalism 14 (continued)..	3
Journalism 15 (the newspaper)	2	Journalism 16 (continued)..	2
Political Science 19.....	3	Political Science 20.....	3
Elective	7	Elective	7
	<hr/> 15		<hr/> 15

NOTE: Students who wish to take two years of modern foreign language in succession may postpone Physical Science to the junior year, and English 19, 5, 15 or 23a and second semester continuation, to the senior year.

B. ADVERTISING AND BUSINESS ADMINISTRATION GROUP.

The curriculum in the "Advertising and Business Administration" group is the same as that for the editorial group in the freshman year. In the sophomore year, students electing this

group will take Journalism 21-22, instead of Journalism 3-4; in the junior year, Journalism 23-24 instead of Journalism 5-6 or its elective equivalent in the editorial group, and Journalism 29-30 instead of Journalism 11-12; in the senior year, Journalism 25 and Journalism 26 instead of Journalism 15-16. This arrangement will give students in the advertising and business administration group one more hour elective in the junior year than those in the editorial group have.

CURRICULUM IN LIBRARY ECONOMY

Leading to the A. B. Degree

FRESHMAN YEAR

<i>First Semester</i>	<i>Credits.</i>	<i>Second Semester</i>	<i>Credits.</i>
English 1	4	English 2	4
Elementary Botany, Chemistry, or Physics.....	4	Elementary Botany, Chemistry, or Physics	4
History 1	4	History 2.....	4
French or German.....	4	French or German.....	4
Mil. Sci. or Physical Tr.....	2	Mil. Sci. or Physical Tr.....	2
	<hr/> 16+2		<hr/> 16+2

SOPHOMORE YEAR

Elements of Economics.....	3	Elements of Economics.....	3
Zoology 1	4	Geology 4	4
French or German.....	4	French or German.....	4
Mathematics 1	2	Mathematics 2	2
Greek 13 or Latin 11.....	3	Zoology 16	2
Mil. Sci. or Physical Tr.....	2	Mil. Sci. or Physical Tr.....	2
	<hr/> 16+2		<hr/> 15+2

JUNIOR YEAR

History 7	4	History 8.....	4
English 19a	3	English 20a	3
Philosophy 1	4	History 30	3
Library Economy 1.....	5	Library Economy 2.....	7
	<hr/> 16		<hr/> 17

SENIOR YEAR

Elements of Sociology.....	3	Social Problems	3
Philosophy 15	2	Philosophy 16	2
History of Education.....	3	History 22	3
Library Economy 3.....	7	Library Economy 4.....	7
	<hr/> 15		<hr/> 15

NOTES: 1. Those students who are excused from one-half or more of English 1 and 2 will substitute mathematics from the sophomore year.

2. When mathematics is substituted for English as in note 1, an elective may be taken in the sophomore year.

3. History 1 and 2 are required without regard to the work done in the High School.

CURRICULUM IN COMMERCE

Leading to the A. B. Degree

FRESHMAN YEAR

<i>First Semester</i>		<i>Second Semester</i>	
	Credits.		Credits.
English 1	4	English 2	4
History (Med. or Mod.)		History (Med. or Mod.)	
or Science	4	or Science	4
Modern Language	4	Modern Language	4
Mathematics	4	Mathematics	4
College Problems	½	College Problems	½
Mil. Sci. or Physical Tr...	2	Mil. Sci. or Physical Tr...	2
	<hr/> 16½+2		<hr/> 16½+2

SOPHOMORE YEAR

Modern Language	3 or 4	Modern Language	3 or 4
Science or History (Amer.,		Science or History (Amer.,	
Eng. or Med. and Mod.)...	4	Eng. or Med. & Mod.)....	4
Philosophy 31 (Psychology)	4	Philosophy 2 (Ethics)....	4
Pol. & Soc. Sci. 1 (El. Econ-		Pol. & Soc. Sci. 2 (El. Econ.)	3
omy)	3	Pol & Soc. Sci. 32 (Ec. Hist.)	
Pol. & Soc. Sci. 39 (Com.		or 28 (Trade of Pac.)....	3
Geography)	3	Mil. Sci. or Physical Tr....	2
Mil. Sci. or Physical Tr....	2		
	<hr/> 17 or 18+2		<hr/> 17 or 18+2

JUNIOR YEAR

Pol. & Soc. Sci. 19 (Amer.		Pol. & Soc. Sci. 20 (Amer.	
Govt.)	3	Govt.)	3
Pol. & Soc. Sci. 47 (Account-		Pol. & Soc. Sci. 48 (Account-	
ing)	3	ing)	3
Law 153 (Business)	3	Law 154 (Business)	3
Science	4	Science	4
Pol. & Soc. Sci. 11 (Trans-		Pol. & Soc. Sci. 8 (Ind. Org.)	
portation)	3	or 12 (History of Com.) or	
		32 (Econ. Hist.)	3
	<hr/> 16		<hr/> 16

SENIOR YEAR

16 to 18 hours each semester.

Pol. & Soc. Sci. 49 (Stat.)..	3	Pol. & Soc. Sci. 14 (Mod.	
Pol. & Soc. Sci. 27 (Dom. &		Tariff)	2
For. Mark.)	3	Pol. & Soc. Sci. 38 (Labor	
Pol. & Soc. Sci. 37 (Labor)	3	Legis.)	3
Pol. & Soc. Sci. 15 (M. & B.)	3	Pol. & Soc. Sci. 8 (Ind. Org.)	3
Pol. & Soc. Sci. 31 (Ev. of		Pol. & Soc. Sci. 12 (Hist. of	
Ind. Soc.)	3	Com.)	3
Pol. & Soc. Sci. 51 (Insur-		Pol. & Soc. Sci. 32 (Ec. Hist.	
ance)	3	of U. S.)	3
Journalism 31 (Practice of		Journalism 32 (Practice of	
Ad.)	2	Adv.	2
Philosophy 41 (Practical		Forestry 8 (For. Econ.)....	2
Psy.)	3	Geology 15 (Eco. Geog. of	
		Wn.)	2

TWO-YEAR CURRICULUM IN COMMERCE

<i>First Semester</i>		<i>Second Semester</i>	
	Credits.		Credits.
Pol. & Soc. Sci. 1 (Elem. Ec.)	3	Pol. & Soc. Sci. 2 (Elem. Ec.)	3
Pol. & Soc. Sci. 47 (Accounting)	3	Pol. & Soc. Sci. 48 (Accounting)	3
Pol. & Soc. Sci. 89 (Com. Geog.)	3	Pol. & Soc. Sci. 28 (Trade of Pac.)	3
Law 153 (Business)	3	Law 154 (Business)	3
English (Composition)	4	English (Composition)	4
Military Training	2	Military Training	2
	<hr/> 16+2		<hr/> 16+2

SECOND YEAR

Pol. & Soc. Sci. 19 (Am. Gov't.)	3	Pol. & Soc. Sci. 20 (Am. Gov't.)	3
Journalism 31 (Practice of Adv.)	2	Journalism 32 (Practice of Adv.)	2
Philosophy 41 (Pract. Psy.)	3	Pol. & Soc. Sci. 8 (Ind. Org.)	3
Electives	9	Pol. & Soc. Sci. 10 (Pub. Fin.)	3
Pol. & Soc. Sci. 15 (M. & B.)	3	Pol. & Soc. Sci. 32 (Ec. Hist. of U. S.)	3
Pol. & Soc. Sci. 51 (Insur.)	3	Pol. & Soc. Sci. 12 (Hist. of Com.)	3
Pol. & Soc. Sci. 27 (Dom. & For. Mark.)	3	Military Training	2
Pol. & Soc. Sci. 11 (Trans.)	3		
Pol. & Soc. Sci. 49 (Stat.)	3		
Military Training	2		
	<hr/> 17+2		<hr/> 17+2

This course is designed for students who have already reached the age of twenty-one, and who are unable to take a four year course. Permission to students under twenty-one years of age, to take the course may be granted on written application to the Head of the Department of Political and Social Science. Such permission is entirely optional and will be granted only in cases of extreme urgency and where the student has completed all entrance requirements. Application must reach the University at least one week before the beginning of registration.

BANKING GROUP

JUNIOR YEAR

<i>First Semester</i>		<i>Second Semester</i>	
	Credits.		Credits.
Pol. & Soc. Sci. 15 (M. & B.)	3	Pol. & Soc. Sci. 40 (Corp. Fin.)	3
Pol. & Soc. Sci. 19 (Am. Gov't)	3	Pol. & Soc. Sci. 20 (Am. Gov't.)	3
Pol. & Soc. Sci. 47 (Accounting)	3	Pol. & Soc. Sci. 48 (Accounting)	3
Law 153 (Business)	3	Law 154 (Business)	3
Electives		Electives	

SENIOR YEAR

Pol. & Soc. Sci. 49 (Stat.)	3	Pol. & Soc. Sci. 50 (International Exchange)	3
Pol. & Soc. Sci. 51 (Insurance)	3	Electives	
Electives			

TRANSPORTATION GROUP

JUNIOR YEAR

Pol. & Soc. Sci. 47 (Accounting) 3	Pol. & Soc. Sci. 48 (Accounting) 3
Pol. & Soc. Sci. 19 (Am. Gov't.) 3	Pol. & Soc. Sci. 20 (Am. Gov't.) 3
Pol. & Soc. Sci. 11 (Trans.).... 3	Law 154 (Business) 3
Law 153 (Business) 3	Electives
Electives	

SENIOR YEAR

Pol. & Soc. Sci. 37 (Labor).... 3	Pol. & Soc. Sci. 38 (Labor Legis.) 3
Pol. & Soc. Sci. 27 (Dom. & For. M.) 3	Pol. & Soc. Sci. 12 (Hist. of Com.) 3
Pol. & Soc. Sci. 49 (Statistics). 3	Pol. & Soc. Sci. 40 (Corp. Fin.). 3
Electives	Electives

PUBLIC SERVICE GROUP

JUNIOR YEAR

First Semester

Credits.

Pol. & Soc. Sci. 47 (Accounting) 3
Pol. & Soc. Sci. 19 (Am. Gov't.). 3

Electives

Pol. & Soc. Sci. 3
 Pol. & Soc. Sci. 15
 Pol. & Soc. Sci. 11
 History
 Law
 Modern Language
 Science
 Engineering

Second Semester

Credits

Pol. & Soc. Sci. 48 (Accounting) 3
Pol. & Soc. Sci. 20 (Am. Gov't.). 3
Pol. & Soc. Sci. 10 (Pub. Fin.). 3

Electives

Pol. & Soc. Sci. 12
 Pol. & Soc. Sci. 4
 Modern Language
 History
 Law
 Science
 Engineering

SENIOR YEAR

Pol. & Soc. Sci. 49 (Statistics).. 3	Pol. & Soc. Sci. 24 (Interna- tional Law) 3
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Electives

Pol. & Soc. Sci.
 History
 Law
 Engineering
 Science

Electives

Pol. & Soc. Sci.
 History
 Law
 Engineering
 Science

CURRICULUM PREPARATORY TO LAW

A course designed for students who will begin law after having taken only the two years college work as required for their admission to the Law School.

The student must take either the prescribed courses in the College of Liberal Arts or the course outlined below:

* A total of 128 credits is required for the degree.

FIRST YEAR

English (1, 2), Freshman composition....	0-8 credits
History, (English or American).....	8 credits
Chemistry, Zoology or Botany.....	8 credits
(preferably in the order named)	
College Mathematics (1b, 2b) or foreign language	8 credits
(If the student has taken two years of Latin, it is recommended that he take Roman law.)	
Military Drill (men); Physical Training (women)	4 credits
College Problems	1 credit

SECOND YEAR

Political and Social Science.....	6 credits
(Either Principles of Sociology and Elementary Economics or American Government)	
Philosophy	8 credits
(Two of the following four subjects: Intro- duction to Philosophy; Ethics; Logic or Psy- chology; or History of Philosophy).	
Sixteen hours from among the following subjects: Physics; the continuation of a foreign language; History, American or European, political or consti- tutional; Political and Social Science; Philosophy; English Literature; a year of Science; Argumenta- tion and Debate; Vocational Speaking.	

For the third and fourth year in the College of Liberal Arts and the College of Science, students must classify themselves under some one of the groups as offered, either a regular course or the combined Arts-Law course. If students change their course from Preparatory to Law to regular Liberal Arts or Science, trigonometry may be taken in the junior year with full credit.

SIX-YEAR ARTS AND LAW CURRICULUM

This combined course allows the student with a good record to obtain an A. B. and an LL. B. in six years. It is open only to those students who have maintained a uniformly good record for scholarship during the first three years of collegiate work. At the end of three years after the student has earned 98 credits, including 8 credits in military drill or physical training and in-

cluding all of the required work, together with a major, he may for the fourth year register in the School of Law for the first year's work in law. He must, however, earn in the College of Liberal Arts additional credits sufficient to make the total credits amount to 104. Twenty-four credits in the first year law work may apply toward the A. B. degree, thus making 128 credits required for this degree.

The last two years of this combined course are devoted to completing the rest of the required work in the School of Law.

Students are strongly advised to complete their full ninety-six credits in the College of Liberal Arts by the end of the third year so that they can enter the law work clear in the fourth year.

Students from other institutions entering this university with advanced standing may take advantage of this combined course, provided they are registered in the College of Liberal Arts for at least one full year of work, and earn at least thirty credits in this university before entering the School of Law.

This privilege will not be extended to normal graduates attempting to graduate in two years, nor to under-graduates of other colleges who enter this university with the rank of senior.

COLLEGE OF SCIENCE

THE FACULTY

- HENRY LANDES, A. M. (Harvard University), ACTING PRESIDENT, Professor of Geology and Mineralogy.
- THEODORE CHRISTIAN FRYE, PH. D. (University of Chicago), ACTING DEAN, and Professor of Botany.
- ORSON BENNETT JOHNSON, LL. B. (Union College of Law), Professor Emeritus of Zoology.
- HORACE G. BYERS, PH. D. (Johns Hopkins University), Professor of Chemistry.
- TREVOR KINCAID, A. M. (University of Washington), Professor of Zoology.
- FREDERICK ARTHUR OSBORN, PH. D. (University of Michigan), Professor of Physics and Director of Physics Laboratories.
- ROBERT EDOUARD MORITZ, PH. D. (University of Nebraska), Professor of Mathematics and Astronomy.
- DAVID CONNOLLY HALL, Sc. M., M. D. (University of Chicago), Director of Physical Education.
- HENRY KREITZER BENSON, PH. D. (Columbia University), Professor of Industrial Chemistry.
- JOHN WEINZIRL, PH. D. (University of Wisconsin), Professor of Bacteriology.
- FRANK MARION MORRISON, PH. D. (University of Chicago), Associate Professor of Mathematics.
- SAMUEL LATIMER BOOTHROYD, A. M. (Colorado Agricultural College), Associate Professor of Astronomy and Mathematics.
- WILLIAM MAURICE DEHN, PH. D. (University of Illinois), Associate Professor of Physiological Chemistry and Toxicology.
- STEVENSON SMITH, PH. D. (University of Pennsylvania), Associate Professor of Orthogenics.
- EFFIE ISABEL RAITT, B. S. (Columbia University), Professor and Director of the Department of Home Economics.
- EDWIN JAMES SAUNDERS, A. M. (Harvard University), Assistant Professor of Geology.

- GEORGE IRVING GAVETT, B. S. (C. E.) (University of Michigan), Assistant Professor of Mathematics.
- ROBERT EVASTAFIEFF ROSE, PH. D. (University of Leipzig), Assistant Professor of Chemistry.
- ELI VICTOR SMITH, PH. D. (Northwestern University), Assistant Professor of Zoology.
- HENRY LOUIS BRAKEL, PH. D. (Cornell University), Assistant Professor of Physics.
- CHARLES EDWIN WEAVER, PH. D. (University of California), Assistant Professor of Geology.
- *ALLEN FULLER CARPENTER, A. M. (University of Nebraska), Assistant Professor of Mathematics.
- GEORGE BURTON RIGG, PH. D. (University of Chicago), Assistant Professor of Botany.
- GRACE GOLDENA DENNY, A. B. (University of Nebraska), Assistant Professor of Domestic Art.
- JOHN WILLIAM HOTSON, PH. D. (Harvard University), Assistant Professor of Botany.
- LEWIS IRVING NEIKIRK, PH. D. (University of Pennsylvania), Assistant Professor of Mathematics.
- JESSIE B. MERRICK, B. S. (Columbia University), Director of Physical Education for Women.
- HJALMAR LAURITS OSTERUD, A. M. (University of Washington), Instructor in Zoology.
- HARLAN LEO TRUMBULL, PH. D. (University of Chicago), Instructor in Chemistry.
- HENRY SLATER WILCOX, A. M. (Harvard University), Instructor in Psychology.
- CURT JOHN DUCASSE, PH. D. (Harvard University), Instructor in Philosophy and Psychology.
- FLOYD THOMAS VORIS, A. M. (Columbia University), Instructor in Physics.
- SAMUEL HERBERT ANDERSON, PH. D. (University of Illinois), Instructor in Physics.
- ERIC TEMPLE BELL, PH. D. (Columbia University), Instructor in Mathematics.
- GERTRUDE CRUDEN, A. B. (Smith College), B. S. (Columbia University), Instructor in Domestic Art.
- GEORGE NELSON SALISBURY, B. S. (University of Minnesota), Lecturer in Meteorology. United States Weather Bureau Official.

* Absent on leave 1914-1915.

NATHAN ALTSHILLER, Sc.D. (University of Ghent), Instructor in Mathematics.

JAMES EDGAR BELL, Ph.D. (University of Illinois), Instructor in Chemistry.

IRENE HUNT DAVIS, A.B. (University of Washington), Instructor in Chemistry.

ETHEL DOROTHY JOHNSON, A.B. (University of Nebraska), Instructor in Physical Training.

ELIZABETH ROTHERMEL, A.M. (Columbia University), Instructor in Home Economics.

LLOYD LEROY SMAIL, Ph.D. (Columbia University), Instructor in Mathematics.

LUTHER EWING WEAR, Ph.D. (Johns Hopkins University), Instructor in Mathematics.

FREDERICK WILLIAM ASHTON, A.B. (University of Washington), Teaching Fellow in Chemistry.

LOIS LEONORA BAKER, B.S. (Iowa College), Teaching Fellow in Mathematics.

ETHEL BARDELL, A.M. (University of Washington), Teaching Fellow in Botany.

EARL FRANKLIN BURDICK, B.S. (Northwestern University), Teaching Fellow in Chemistry.

FERRY HOUGHTEN, A.B. (Olivet College), Teaching Fellow in Physics.

MARTIN WILLIAM LISSE, B.S. (Pennsylvania State College), Teaching Fellow in Chemistry.

DELBERT HARRY NICKSON, B.S. (University of Wisconsin), Teaching Fellow in Bacteriology.

DAVID OHLSON, A.B. (University of Washington), Teaching Fellow in Physics.

VINNIE ARAH PEASE, A.B. (University of Puget Sound), Teaching Fellow in Botany.

EDWARD FRANKLIN RHODENBAUGH, B.S. (Iowa State College), Teaching Fellow in Chemistry.

WINFIELD SCOTT, JR., A.B. (Oberlin College), Teaching Fellow in Chemistry.

FRED HOBSON SUTTON, A.B. (University of Washington), Teaching Fellow in Mathematics.

THOMAS GORDON THOMPSON, A.B. (Clark University), Teaching Fellow in Chemistry.

AUGUSTUS ALLISON WAGNER, A.B. (Pacific University), Teaching Fellow in Chemistry.

WILLIAM SAVERY, PH. D. (Harvard University), Professor of Philosophy.

PIERRE JOSEPH FREIN, PH. D. (Johns Hopkins University), Professor of French.

EDWIN JOHN VICKNER, PH. D. (University of Minnesota), Professor of Scandinavian Languages.

THOMAS KAY SIDEY, PH. D. (University of Chicago), Associate Professor of Latin and Greek.

JACOB NEIBERT BOWMAN, PH. D. (University of Heidelberg), Associate Professor of European History.

GEORGE WALLACE UMPHREY, PH. D. (Harvard University), Associate Professor of Spanish.

EDWARD GODFREY COX, PH. D. (Cornell University), Assistant Professor of English.

JOSEPH KINMONT HART, PH. D. (University of Chicago), Assistant Professor of Education.

HARVEY BRUCE DENSMORE, A. B. (Oxford University), Assistant Professor of Greek.

THERESA SCHMID McMAHON, PH. D. (University of Wisconsin), Assistant Professor of Political and Social Science.

RUDOLF RIEDER, A. B. (Wisconsin), Instructor in German.

ADMISSION TO THE FRESHMAN CLASS

To be admitted to freshman standing in the College of Science, a student must either (a) pass an examination based on a four-year course amounting in the aggregate to fifteen units, or (b) complete a course of the same length in an accredited school. The required and elective units are as follows:

Algebra	1½
Plane Geometry	1
Solid Geometry	½
Physics	1
Chemistry, Botany, or Zoology.....	1
English	3
A foreign language.....	2
A history (American history preferred) or U. S. History and Civics.....	1
Elective	4
<hr/>	
Total.....	15

More detailed information concerning admission will be furnished those interested in a separate section of the University Bulletin, known as Entrance Information.

CURRICULA OF THE COLLEGE OF SCIENCE

I. CURRICULA WITH ELECTIVE COURSES.

In this division, in order to receive the degree of bachelor of science, a candidate who has been regularly admitted to the College of Science must fulfill the following requirements:

1. The requirements for a major must be completed, which consist of 24 credits or more in some one department.

The department in which the student selects his major will be known as his major department and its head as his major advisor. Not more than 40 credits in the major department may be counted toward graduation.

2. A total of 128 credits must be secured, but of these not more than 24 may be counted in any department other than the major department. A minimum of 48 credits must be completed in the College of Science. Elections may be made of courses in the College of Arts and the College of Education in the same manner as in the College of Science.

3. The number of credits specified in each of the following subjects must be earned as a part of the total of 128 credits, subject to the possible exemptions stated below:

- a.* Astronomy, Chemistry, or Physics.....8 credits
- b.* Botany, Geology, or Zoology.....8 credits
- c.* Physical Training or Military Science...8 credits
- d.* Mathematics4 credits
- e.* Ancient language and literature.....6 or 8 credits
- f.* Modern foreign language.....8 credits

(A student entering with less than four years of foreign language must make a total of five years in high school and college combined.)

- g.* Rhetoric0 to 8 credits
- h.* History8 credits
- i.* Philosophy6 or 8 credits
- j.* Political Science6 credits
- k.* College Problems1 credit

COLLEGE PROBLEMS. Freshmen in the Colleges of Liberal Arts and Science, except those who are registered in "set" courses, are required to take one hour a week the first semester in instruction in "Problems of Study," "How to Use the Library," and "Organization of Departments and Courses in the University;" and in the second semester, one hour a week in the study of "Vocations Open to College Men and Women of the Northwest." This course will include practical discussions of the organization of the student's plans for his University career, the consideration of a vocation, the planning of a course that will help him to work out his vocational interests, and the relating of his university work and his vocational plans to the demands of the world. One credit is allowed for the year's work. The section for women comes on Friday at 11, and the one for men on Wednesday at 1 o'clock.

This course is not required of students who enter the University with the standing of sophomore or above. Students who fail to take the course at the proper time, or who fail in the course will take, in lieu thereof, some course in Social Science of double the number of hours credit.

HYGIENE. Freshmen are required to take one hour a week each semester in hygiene, in connection with their physical or military training.

Possible exemptions from the courses specified above:

A student may be exempted from certain of the above requirements on the following conditions:

From (a) if he presents for entrance 3 units of science, viz.: 1 unit of physics, 1 unit of chemistry, and 1 unit of any other science.

From (b) if he presents for entrance 3 units of science, viz.: 1 unit of biological science, 1 unit of physics, and 1 unit of any other science.

From (d) if he presents for entrance $3\frac{1}{2}$ units of mathematics, viz.: $1\frac{1}{2}$ units of algebra, 1 unit of plane geometry, $\frac{1}{2}$ unit of solid geometry, and $\frac{1}{2}$ unit of trigonometry.

From (e) if he presents for entrance 4 units of ancient language.

From (f) if he presents for entrance 4 units of modern foreign language.

From (h) if he presents for entrance 3 units of history.

NOTE 1.—A student cannot obtain exemption from both (a) and (b).

NOTE 2.—Of the above requirements (g) must be completed within the first year, and (e) or (f), (d), (a) or (b), and (h) must be completed within the first two years, otherwise only one-half credit will be allowed.

GENERAL NOTE.—The student is to be held either for the admission and graduation requirements of the catalogue under which he enters, or for those of the catalogue under which he graduates.

THREE-FOURTHS GRADES ABOVE D

Candidates for the bachelor's degree in the College of Science must receive grades of A, B or C in at least three-fourths of the credits required for the degree. This rule does not apply to grades given before the year 1910-11.

ELECTIVES IN OTHER COLLEGES

In Engineering, Forestry, Law, Mines, Music, and Pharmacy elections will be allowed to the extent of 12 credits from any one college, and not to exceed 16 from all.

SUGGESTIVE SCHEDULE BY YEARS FOR THE GENERAL OR ELECTIVE COURSES

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UNIVERSITY OF WASHINGTON

Astronomy Chemistry Mathematics Physics	Botany Geology Zoology	Home Economics	Physical Education	Psychology
<i>Freshman</i>	<i>Freshman</i>	<i>Freshman</i>	<i>Freshman</i>	<i>Freshman</i>
Astron., Chem. or Physics 8 Mathematics 4 English 8 Foreign language. 8 College problems. 1 Physical or Mil- itary training... 4	Botany, Geol. and Zoology 8 Mathematics 4 English 8 Foreign language. 8 College problems. 1 Physical or Mil- itary training... 4	Home economics.. 4 Chemistry 8 English 4 Foreign language. 8 Mathematics 4 Design 2 College problems. 1 Physical or Mil- itary training... 4	Mathematics 4 Zoology 8 English 8 Foreign language. 8 College problems. 1 Physical or Mil- itary training.. 4	Mathematics 4 Zoology 8 English 8 Foreign language. 8 College problems. 1 Physical or Mil- itary training... 4
<i>Sophomore</i>	<i>Sophomore</i>	<i>Sophomore</i>	<i>Sophomore</i>	<i>Sophomore</i>
Science 8 Foreign language. 8 History 8 Political science.. 6 Physical training. 4	Science 8 Foreign language. 8 History 8 Political science.. 6 Physical training. 4	Home economics.. 4 Chemistry 8 English 4 Zoology 8 Foreign language. 8 Physical training. 4	Chemistry 8 Zoology 8 History 8 Foreign language. 8 Physical training. 4	Major 4 Mathematics 4 Physics 8 History 8 Foreign language. 8 Physical training. 4
<i>Junior</i>	<i>Junior</i>	<i>Junior</i>	<i>Junior</i>	<i>Junior</i>
Major 8 Philosophy 8 Electives 14	Major 8 Philosophy 8 Electives 14	Home economics.. 6 Philosophy 8 History 8 Political science.. 6 Electives 2	Major 12 Education 4 Philosophy 8 Political science.. 6	Major 8 Histology and Neurology 8 History of Phil- osophy 8 Political science.. 6
<i>Senior</i>	<i>Senior</i>	<i>Senior</i>	<i>Senior</i>	<i>Senior</i>
Major 8 Electives 22	Major 8 Electives 22	Home economics.. 10 Electives 20	Major 12 Education 8 Elective 10	Major 8 Electives 22

CURRICULUM IN HOME ECONOMICS

A prescribed curriculum in Home Economics, leading to the degree of Bachelor of Science in Home Economics, is offered as follows:

FRESHMAN YEAR

<i>First Semester</i>	<i>Credit</i>	<i>Second Semester</i>	<i>Credit</i>
Home Economics 2.....	2	Chemistry 2c (household chemistry)	4
Fine Arts III, No. 1.....	2	English 2b (composition)...	4
Chemistry 1c (general)....	4	Modern language	4
English 1b (composition)...	4	Botany 1 or Zoology 1....	4
Modern language	4	Physical Training	2
Physical Training 1.....	2		
	<hr/> 16+2		<hr/> 16+2

SOPHOMORE YEAR

	Credit		Credit
Home Economics 3 (foods, selection and preparation)	4	Zoology 10	4
Home Econ. 5 (clothing)...	2	Chemistry 11c (foods).....	4
Home Econ. 25 (textiles)...	3	Physics 6a	4
Chemistry 3c (organic).....	4	German, French, English Literature, Greek and Roman Literature, or History....	4
German, French, English Literature, Greek and Roman Literature, or History....	4	Physical Training	2
Physical Training	2		<hr/> 16+2
	<hr/> 17+2		

JUNIOR YEAR

	Credit		Credit
Home Econ. 1a (dietetics)...	4	Home Economics 8 (cloth-	
Architecture	3	ing)	4
Home Econ. 4.....	2	Home Econ. 22 (home deco-	
Pol. Science 1 (Principles of		ration)	3
Econ.)	3	Bacteriology 106.....	5
Psychology (or elective)....	4	Political Science 26 (Stand-	
		ards of living)	2
	<hr/> 16	Education (or elective)....	4
			<hr/> 18

SENIOR YEAR

	Credit		Credit
Home Econ. 27 (Teachers' Course)	2	Home Economics 24 (Household management)	3
Home Econ. 19 (Home Nursing)	2	Home Econ. 28 (Teachers' course)	2
Pol. Science 3 (Sociology)	3	Pol. Science 4 (Social problems)	3
Ethics	4	Education (or elective)	4
Education (or elective)	4	Elective	2
	<hr/> 15		<hr/> 14

CURRICULUM PREPARATORY TO MEDICINE

Four years of prescribed work, leading to the B. S. degree, are provided for those students who desire to enter a medical school after graduation from this institution. By special permission, a student planning to enter a medical school before completion of the four-year course may be permitted to take out of regular order such courses as may be accorded advanced credits in the particular school selected.

<i>Freshman (a)</i>		<i>Sophomore</i>	
	Hours		Hours
Botany (b)	4	Anatomy, comparative	8
Chemistry (1a) (c)	8	Chemistry (2a)	8
Zoology, invertebrate	4	Physics (3a and 4a)	8
Mathematics (e)	4	French or German	8
English	4	Military or physical training... 4	
German or French (f)	8		
Military or physical training... 4			
<i>Junior</i>		<i>Senior</i>	
	Hours		Hours
Chemistry, physiological	4	Bacteriology 3 and 8	8
Embryology	4	Elective	12
Histology	4	Pharmacology and Toxicology.. 4	
Neurology	4	Psychology	8
Physiology	8		
Elective	8		

NOTE: (a) Two years of Latin must be offered for admission. Solid geometry is not required for admission when four years of language are offered.

(b) Botany 2, second semester. If Botany was studied in the high school, then Botany 10 should be elected.

(c) Chemistry 1, 2, and 8b are required of students who have not had high school chemistry.

(d) Trigonometry is required, but solid geometry may be elected if not previously studied in the high school.

(e) Students offering four units of German or French are exempt from this requirement and may elect a corresponding number of hours. Students offering two units of either German or French are required to take the other language.

DEPARTMENTS OF INSTRUCTION

COLLEGE OF LIBERAL ARTS AND THE COLLEGE OF SCIENCE.

The departments of these two colleges are arranged in alphabetical order. Distinct subjects which are not organized as separate departments but are given in connection with the related work of an established department have directory headings in the alphabetical list.

Courses listed as year courses ordinarily carry credit only when pursued for the full time; the instructor's permission must be obtained for credit for only a single semester of such a course.

The credit indicated in connection with each course is the "semester credit," being based on the class periods per week.

ASTRONOMY

(See Mathematics and Astronomy)

BACTERIOLOGY

(See Botany)

BOTANY

(Office, Science Hall)

**PROFESSOR FRYE, PROFESSOR WEINZIRL, ASSISTANT PROFESSOR RIGG,
ASSISTANT PROFESSOR HOTSON, MISS BARDELL, MR. NICKSON,
MISS PEASE, MISS EDWARDS, MISS NEIKIRK, MR. SCHMITZ,
MR. TURESSON.**

1. BOTANY

SUGGESTED SELECTIONS.

1. For the required science in the colleges of Liberal Arts and Science only courses 1, 2, 10, 5, 6, will be accepted; for Home Economics majors, 23 and 24 will also be accepted.

2. For a major: courses 5, 6, 41, 42, 43, 44, of which 5 and 6 are required. The total number of credits in the department must be at least 24.

3. For those preparing to teach botany: courses 5, 6, 9, 10, 41, 42, 43, 44.

4. For pharmacy students: courses 13, 14.

5. For forestry students: courses 1, 10, 11, 12, 16, 43, 44.
6. For home economics students: courses 1, 2, 23, 24.
7. For students preparing to teach agriculture: courses 10, 5, 6, 41, 42, 43, 44, 25, 26.
8. For those desiring to enter seed laboratories: courses 10, 5, 6, 43, 44, 17.

The laboratory fee for all courses except 37 is three dollars.

FOR UNDERGRADUATES

1. **ELEMENTARY BOTANY.** Four credits. First semester. Professor FRYE and Assistant Professor RIGG.

The structure and functions of roots, stems, leaves and seeds. Only for those who have had no botany in the high school.

2. **ELEMENTARY BOTANY.** Four credits. Second semester. Professor FRYE and Assistant Professor RIGG.

Open to students entering the second semester without any previous botany work.

Types of the great groups of plants from the lowest to the highest. Plant analysis.

5-6. **GENERAL BOTANY.** Four credits. The year. Prerequisite, botany 2 or 10; or zoology 1 and 2. Professor FRYE and assistant.

A morphological study of types of the groups from the lowest to the highest; showing advances in complexity, and tracing the general line of evolution in plants. Required of all majors.

10. **TAXONOMY.** Four credits. Second semester. For students who have received entrance credit for a high school course in botany. To be taken in place of botany 2 by those who expect to continue with botany 5 or 11. Prerequisite, botany 1, or an equivalent, except for teachers and seniors. Professor FRYE.

The science of classification of plants. Analysis of plants. Field trips, laboratory work and lectures.

11-12. **FORESTERS' BOTANY.** Four credits. The year. For forestry students. Prerequisites, botany, 1, and 10 or 2. Assistant Professor HORTON and assistants.

A study of the types of plants to illustrate the advance in complexity. Structure of the higher plants, specially the stem.

13-14. PHARMACY BOTANY. Four credits. The year. Assistant Professor RIGG.

Gross structure of vegetative and reproductive parts of seed plants. Brief study of spore plants. Microscopy of powdered drugs.

***23. FOODS.** Four credits. First semester. Prerequisite, botany 1 or high school botany. Assistant Professor RIGG.

The origin and structure of food-producing tissues in plants.

***24. FIBRES.** Four credits. Second semester. Prerequisite, botany 1 or high school botany. Assistant Professor RIGG.

The origin and structure of fibre-producing tissue in plants.

FOR UPPERCLASSMEN AND GRADUATES

***9. ECOLOGY.** Four credits. First semester. Prerequisite, botany, 5, 6, 10. Professor FRYE.

The factors causing environmental adaptations in plants. Recitations, field work and laboratory.

***17. SEEDS.** Four credits. First semester. Prerequisites, one year of botany; junior standing.

Seed structure and physiology. The recognition of plants by their seeds.

20. PLANT HISTOLOGY. Three credits. Second semester. Prerequisite, botany 6. Professor FRYE.

Preparation of slides for the compound microscope. Study of plant tissues.

25-26. ELEMENTARY AGRICULTURE. Four credits. The year. Prerequisites, botany 1, and 2 or 10; junior standing. Assistant Professor HOTSON.

Designed as a preparation for those who expect to teach the subject in high schools.

33. RESEARCH. First or second semesters, or both. Credit and time to be arranged. Open to qualified students, after consultation, either for thesis work or credit only.

37. JOURNAL CLUB. No credit. The year. One meeting per week at time to be arranged. Prerequisite, junior standing; two years of botany. Professor FRYE.

Review of articles in current journals. Suggested for all seniors, graduates and instructors in the department.

* Not offered in 1915-1916.

41-42. GENERAL FUNGI. Four credits. The year. Time to be arranged. Prerequisites, botany 11 or 5 and junior standing. Dr. HOTSON.

Morphology and classification of fungi; designed as a basis for plant pathology.

43. PLANT PHYSIOLOGY. Four credits. First semester. Prerequisites, chemistry 1 and 2; botany 1 and 2, or 9 and 10, or 1 and 10. Assistant Professor RIGG.

The fundamental physical and chemical processes in plants.

44. PLANT PHYSIOLOGY. Four credits. Second semester. Prerequisite, botany 43. Assistant Professor RIGG.

The laws underlying growth and movement in plants.

FOR GRADUATES ONLY.

50. ALGAE. Four credits. Either semester. Prerequisite botany 5 and 6, or 11 and 12. Professor FRYE.

51. BRYOPHYTES. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

52. PTERIDOPHYTES. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

53. GYMNOSPERMS. Four credits. Either semester. Prerequisite, botany 5 or 6 or 11 and 12. Professor FRYE.

54. ANGIOSPERMS. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

Only one of courses 50 to 54, inclusive, will be given in one semester, the particular course to depend upon requests from the advanced students.

*61-62. PLANT PATHOLOGY. Four credits. The year. Prerequisite, botany 42. Assistant Professor HOTSON.

A study of the diseases of plants and of the fungi which produce them.

II. BACTERIOLOGY

The courses in bacteriology are essentially all applied and bear primarily upon: (a) medicine, (b) sanitation, and (c) industry.

The laboratory deposit for courses 103, 104, 105, 106, 108, 111, 112, 115, 116, 119, and 120 is \$5 per semester; for course 110 is \$2.50; no deposit for other courses.

* Not given in 1915-1916.

SUGGESTED ELECTIONS

For pre-medical students: 103, 108, are required; 111, 112, 113, 114, may be elected.

For home economics students: 106 is required; 113 is recommended.

For chemical engineering students: 103, 104, 111, 113.

For other engineering students: 110 only is open.

For pharmacists: 105 is required; in junior and senior years, 108, 111, 112, 113, 114, may be elected.

For hygienic training: 103, 104, 111, 113, 117, 118, 119, 120.

For a major, see BOTANY, botany 1, 2; bacteriology, 103, 104 or 108, 111, 112, 113, 114.

FOR UNDERGRADUATES

101-102. PUBLIC HEALTH. See Physical Education.

105. BACTERIOLOGY FOR PHARMACISTS. Four credits. First semester. Prerequisites, sophomore standing, one year of botany, and one year of chemistry. Professor WEINZIRL.

A general survey including technique, biology, diseases, immune sera, vaccines, disinfectants, etc.

106. GENERAL AND HOUSEHOLD BACTERIOLOGY. Five credits. Second semester. For home economics students. Professor WEINZIRL.

Bacteriology as related to the home and its activities. Lectures only.

*110. BACTERIOLOGY FOR ENGINEERS. Two credits. Second semester. Laboratory deposit, \$2.50. Professor WEINZIRL.

General course. Application to sewage disposal and water supplies.

FOR UNDERGRADUATES AND GRADUATES

103. GENERAL BACTERIOLOGY. Four credits. First semester. Prerequisite, junior standing; botany or zoology, 1 year; chemistry 1 year. Professor WEINZIRL and Mr. NICKSON.

Methods of growing bacteria and studying their structure, functions and distribution.

104. SANITARY AND INDUSTRIAL BACTERIOLOGY. Four credits. Second semester. Prerequisite bacteriology 103. Professor WEINZIRL and Mr. NICKSON.

A brief survey of disease bacteria. Most of the time is given to sanitation and industry. Inspection trips.

* Not given in 1915-1916.

108. MEDICAL BACTERIOLOGY. Four credits. Second semester. Prerequisite, bacteriology 103. Required of pre-medical students. Professor WEINZIRL and Mr. NICKSON.

The study of pathogenic bacteria.

109. SCHOOL HYGIENE. See EDUCATION 29. Professor WEINZIRL.

111. BACTERIOLOGICAL ANALYSIS. Two credits. First semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

Analysis of water, sewage, milk, meat, etc. Laboratory work only.

112. LABORATORY DIAGNOSIS. Two credits. Second semester. Prerequisite, bacteriology 104 or 108. Professor WEINZIRL.

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. SANITARY PROBLEMS. Two credits. First semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

The sanitary problems relating to water, sewage, and food. Lectures only.

114. DIAGNOSTIC METHODS. Two credits. Second semester. Prerequisite, to be taken with bacteriology 112. Professor WEINZIRL.

The consideration of diagnostic methods and their application. Lectures only.

*116. GENERAL PATHOLOGY. Four credits. Second semester. Prerequisites, bacteriology 103, Histology and junior standing. Mr. NICKSON.

Gross and microscopical study of pathological lesions.

117-118. SEMINAR IN BACTERIOLOGY. Two credits. The year. For graduate students only. With research constitutes a full year's work, and is planned as the regular third year's work in bacteriology. Time to be arranged. Professor WEINZIRL.

119-120. RESEARCH IN BACTERIOLOGY. Two or four credits. The year. Open to qualified students after consultation. Professor WEINZIRL.

CHEMISTRY.

(Bagley Hall)

PROFESSOR BYERS, PROFESSOR BENSON, ASSOCIATE PROFESSOR DEHN,
ASSISTANT PROFESSOR ROSE, DR. TRUMBULL, DR. BELL, MRS.
DAVIS, MR. ASHTON, MISS BEHLING, MR. LISSE, MR.
BURDICK, MR. RHODENBAUGH, MR. THOMPSON,
MR. WAGNER, MR. SCOTT AND DEAN JOHN-
SON, COLLEGE OF PHARMACY.

The instruction in this department is designed to satisfy, as far as possible, the requirements of those students who desire to study chemistry as a means of culture and as a necessary complement of a liberal education. It is also realized that the subject is eminently practical; hence it is the desire of those in charge so to guide the student that he may fit himself for work in those lines in which chemistry has become an applied science.

REQUIREMENTS OF THE DEPARTMENT

For a major, twenty-four credits selected from the courses outlined and including 1a, 2a, 3, 4, and 9.

The deposit for each laboratory course is ten dollars per semester. This deposit covers the materials actually consumed in the laboratory and with care provides a student for a full semester's work; the portion of the deposit not used will be refunded.

FOR UNDERGRADUATES

1-2. GENERAL CHEMISTRY. Four credits. The year. Two lectures and six hours laboratory work per week. Professor BYERS, Instructors and Assistants.

Many students come from accredited schools in which chemistry is not required. To meet the needs of such students, this course is offered. Text-books, Smith's College Chemistry and Laboratory Manual.

1a-2a. GENERAL CHEMISTRY. Four credits. The year. Two lectures and six laboratory hours per week. Professor BYERS, Dr. TRUMBULL and Assistants.

Primarily for engineers, but is open to all students who have had a year's work in chemistry in an accredited high school. Text-books, Smith's General Chemistry, Smith's Laboratory Manual, and Byers and Knight's Qualitative Analysis.

1b. GENERAL CHEMISTRY. Four credits. Second semester. Assistant Professor ROSE.

For students entering at the beginning of the second semester.

2b. GENERAL CHEMISTRY. Four credits. First semester. Continuation of 1b. Assistant Professor ROSE.

1c-2c. GENERAL CHEMISTRY. Four credits. The year. Two lectures and six laboratory hours per week. Assistant Professor ROSE.

For students of domestic science and women of the Colleges of Liberal Arts and Science.

1d. PROSPECTOR'S COURSE. Four credits. For miners who enter January 1 and continue to April 1. Professor BENSON.

Does not require previous knowledge of chemistry, and will be merged into a course of qualitative analysis. Brownlee textbook required.

1e. GENERAL CHEMISTRY. Four credits. First semester.

A lecture and recitation course designed for students of pharmacy. It must be taken in conjunction with 1f.

1f. GENERAL CHEMISTRY. Four credits. First semester.

A laboratory course designed to accompany 1e. A portion of this course and of 2f form a continuous course in qualitative analysis.

1s-2s. SOILS. Four credits. The year. Not accepted for science requirement. Prerequisite, one year college chemistry; laboratory deposit for course \$8.00, \$6 payable first semester, \$2 second. Credit given only upon completion of entire course. Professors BENSON, LANDES, KINCAID, and HOTSON.

First quarter in department of chemistry dealing with classification, composition and fertility of soils. Second quarter in department of geology treating of the relation of minerals, rocks, topography, and climate to soil formation, distribution and classification. Third quarter in department of zoology dealing with the relation of animal life to soils, insect control and insecticides. Fourth quarter treating of plants in relation to the soil, micro-organisms of the soil, fungous diseases of Washington plants and their remedies.

2e. ORGANIC CHEMISTRY. Four credits. Second semester.

For students in pharmacy. It must be accompanied by chemistry 2f.

2f. ORGANIC CHEMISTRY. Four credits. Second semester. A laboratory course in organic preparations. See also 1f.

3-4. ORGANIC CHEMISTRY. Four credits. The year. Assistant Professor DEHN.

Lecture course. Laboratory work on the preparation and testing of representative compounds. Bernthsen-Sudborough's text used in connection with Sudborough-James laboratory manual as laboratory guide.

3c. ORGANIC CHEMISTRY. Four credits. First semester. Associate Professor DEHN.

A lecture and laboratory course for the women of the department of home economics and adapted to the students of the Colleges of Arts and Science who wish to make a more rapid survey of the subject than is furnished by courses 3-4.

FOR UPPERCLASSMEN AND GRADUATES

5-6. ADVANCED ORGANIC CHEMISTRY. Four credits. The year. Assistant Professor ROSE.

Chemistry of volatile oils, dyestuffs, alkaloids and sugars. Special laboratory work can be arranged.

7. ORGANIC ANALYSIS AND GLASS BLOWING. Two to four credits. The year. Associate Professor DEHN.

A laboratory course of either two or four hours. Individual instruction.

8. ADVANCED QUALITATIVE ANALYSIS. Four credits. First semester. Two lectures and six laboratory hours per week. Professor BYERS.

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

8b. ELEMENTARY QUALITATIVE ANALYSIS. Four credits. The year.

Chemistry 1-2 is followed by a course in qualitative analysis. Two lectures and six laboratory hours per week. Text-book: Byers and Knight.

9. QUANTITATIVE ANALYSIS. Four credits. The year. Twelve laboratory hours and one recitation per week. Professor BELL.

Gravimetric and volumetric analysis. Olsen's Quantitative Analysis.

9a. **QUANTITATIVE ANALYSIS.** Four credits. Either semester. Four laboratory periods per week. Dr. BELL.

A continuation of the work of Chemistry 9, and including special methods and mineral analysis.

10-11. **FOOD ANALYSIS.** Four credits. The year. Laboratory three times per week. Professor JOHNSON and Miss HINDMAN.

Laboratory and class work in the study of methods of analysis of food products and the study of the Federal and State laws regulating the sale of foods and drugs. Methods of the Association of Official Agricultural Chemists are used. Graduate students, if prepared, may elect a research problem in food analysis.

11c. **CHEMISTRY OF FOODS.** Four credits. Either semester. Two lectures and two laboratory periods per week. Prerequisite chemistry 1c-2c, and 3c, or their equivalent. Professor JOHNSON.

A course designed particularly for students of home economics.

12. **ENGINEERING CHEMISTRY.** Three credits. Both semesters. Sophomore engineers. Prerequisite, 2a, 2b or 8b. Professor BENSON.

Chemistry of the materials of engineering. Two lectures and one laboratory period. Text-book, Benson's Industrial Chemistry for Engineering Students.

13-14. **INDUSTRIAL CHEMISTRY.** Four credits. The year. Junior chemical engineers. Prerequisite, chemistry 9. Two lectures and two laboratory periods. Professor BENSON.

A course dealing with a detailed study of chemical industries.

15. **WATER EXAMINATION.** Three credits. First semester. Two lectures and one laboratory period. Professor BENSON.

Option for students in chemical and civil engineering. The course deals with the sanitary aspects of water supplies and the chemistry of water purification.

*17. **FOREST PRODUCTS.** Three credits. First semester. Option for students in forestry. Two lectures and one laboratory period. Professor BENSON.

* Not given 1914-1915.

A detailed study of the chemical process involved in the utilization of wood.

18. ROAD MATERIALS. Two credits. Second semester. Professor BENSON. Option for students in civil engineering. One lecture and one laboratory period.

Text-books: Hubbard's Dust Preventives and Road Binders and Bulletin 38, office of Public Roads: Method for Examination of Bituminous Road Materials.

19. URINARY ANALYSIS. Two credits. Second semester. Laboratory work only. Associate Professor DEHN.

Practical methods of analysis of normal and pathological urines. Especially for students entering upon the study of medicine.

20-21. PHYSIOLOGICAL CHEMISTRY. Four credits. The year. Associate Professor DEHN.

A course designed for medical, chemical and general science students. Chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes, with special attention to the composition and chemical analysis of blood, milk and urine.

20a. PHYSIOLOGICAL CHEMISTRY. Four credits. Second semester. Primarily for pre-medical and home economics students. Associate Professor DEHN.

Essentially the same course at 20.

FOR GRADUATES

22. PHYSICAL CHEMISTRY. Four credits. First semester. Three lectures and one laboratory period per week. DR. TRUMBULL.

An elementary lecture course dealing with fundamental theories of chemistry based upon physical measurements.

*23. ELECTRO CHEMISTRY. Four credits. Second semester. Professor BYERS and Dr. TRUMBULL.

The lecture course deals with the historical development of electro chemistry, the theories of electrolysis, migration of ions, concentration cells, solution pressure, etc. The laboratory work consists of the preparation of substances by electrolysis and electro synthesis, electro-plating, etc., and of illustrations of the subject-matter of the lecture work.

* Not given in 1915-1916.

24. **INORGANIC PREPARATIONS.** Credits to be arranged. Second semester. Twelve laboratory hours per week. Professor BYERS.

Methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles.

25. **ADVANCED PHYSICAL CHEMISTRY.** Four credits. Second semester. Two lectures and six laboratory hours. Dr. TRUMBULL.

A course in chemical statics and dynamics with physical chemical measurements. Nernst and Ostwald-Luther used as texts.

26. **INVESTIGATION.** The year.

Any student who has completed at least three years' work in chemistry may undertake some original investigation under the direction of one of the instructors. Such work will not be encouraged, however, except when the student is presenting himself for an advanced degree.

27-28. **CHEMICAL THEORY.** Two credits. The year. Professor BYERS.

All graduate students registering in the department of chemistry will be expected to take a two-hour course throughout the year in the historical development of fundamental laws and theories.

29. **ADVANCED ORGANIC PREPARATIONS.** Four credits. The year. Associate Professor DEHN.

30. **TEXTILE CHEMISTRY.** Two credits. Second semester. For home economics students only. One lecture and three laboratory hours. Assistant Professor ROSE.

A course dealing with the composition of commercial fabrics and the chemical tests dealing with identification and detection of sophistications.

ENGLISH

(Offices, Rooms 45 and 42, Denny Hall.)

PROFESSORS PADELFORD AND PARRINGTON; ASSOCIATE PROFESSORS BENHAM AND MILLIMAN; ASSISTANT PROFESSORS GARRETT, COX, DARBY AND JOHANSON; MR. SAWYER, MR. CHITTICK AND MR. WITHERS.

Departmental Committee on Major Work: Johanson, Padel-ford, Parrington, Milliman, Cox.

REQUIREMENTS FOR MAJOR STUDENTS

Major students are required to take course 7-8 or course 33-34. Candidates for the teachers' certificate are required to take, in addition, course 35-36.

It is expected that senior major students will take course A, but the work is not a definite prescription.

I. COMPOSITION.

1-2. FRESHMAN COMPOSITION. Two to four credits. The year. Required of all freshmen in the College of Liberal Arts and in the College of Science. If taken later than the freshman year, only half credit will be given. Associate Professor MILLIMAN in charge.

The principles of English composition, with practice in writing, and conferences in theme criticism.

The work done in this course is regarded as belonging rather to the high school than to the university, and the amount prescribed varies with the preparation of the student. Those whose preliminary training has been superior will be excused from the course; others will be required to take two, three or four hours, as their needs demand. All who receive a grade of A in course 1 are excused from course 2.

2. FRESHMAN COMPOSITION. Two to four credits. First semester. Associate Professor MILLIMAN in charge.

A repetition of 2 above.

1. FRESHMAN COMPOSITION. Two to four credits. Second semester. Associate Professor MILLIMAN in charge.

A repetition of 1 above.

1a-2a. FRESHMAN COMPOSITION. Two credits. First semester of freshman and second semester of sophomore year. Associate Professor MILLIMAN in charge.

An adaptation of course 1-2 for students in the College of Engineering. No students will be excused from the course, but a section will be provided for those whose training has been exceptionally good.

1c-2c. FRESHMAN COMPOSITION. Two credits. The year. Mr. _____.

For students in the College of Forestry.

1e-2e. COMPOSITION FOR FOREIGNERS. Four credits. The year. Mr. _____.

A course designed to meet the needs of those who require special drill in English idiom.

1bA-2bA. SOPHOMORE COMPOSITION. Two credits. The year. Mr. _____ and Mr. _____.

For sophomores in the department of home economics.

9-10. ENGLISH VERSE. One credit. The year. Professor PARINGTON.

A study of the principles of English versification, with practice in verse-writing, and some consideration of present-day poetry.

11-12. ADVANCED PROSE COMPOSITION. Three credits. The year. Associate Professor MILLIMAN, Mr. CHITTICK, and Mr. HARRISON.

Section A. Associate Professor MILLIMAN. A course in magazine writing. Articles in current magazines are studied as models for long and short themes on timely subjects. Section B. Mr. CHITTICK. A course for students who desire practice in essay writing in all forms, from informal to finished literary. Section C. Mr. HARRISON. A course in the study and practice of dramatic composition.

II. LANGUAGE.

Primarily for juniors and seniors.

7-8. HISTORICAL ENGLISH GRAMMAR. Two credits. The year. Assistant Professor Cox.

A study of the origin and development of the English language, with special reference to the vocabulary, construction, and pronunciation of modern English.

33-34. OLD AND MIDDLE ENGLISH. Three credits. The year. Assistant Professor GARRETT.

The first semester is devoted to the study of the elements of Old English grammar and to the reading of easy texts; the second semester is given over to a rapid and extensive reading in Middle English.

III. INTRODUCTORY COURSES IN ENGLISH LITERATURE.

Primarily for freshmen and sophomores.

1d-2d. FRESHMAN LITERATURE. Three credits. The year. Mr. _____ and Mr. _____.

Literature dealing with the social, educational, scientific and religious questions of the day. Informal discussions, with papers. Intended primarily for freshmen who have been excused from all or part of the required course in composition.

3-4. SOPHOMORE LITERATURE. Three credits. The year. Mr. SAWYER. and Mr. _____.

A study of literary types; poetry, drama, essay, and novel.

5-6. CONTEMPORARY LITERATURE. Three credits. The year. Assistant Professor DARBY, Mr. CHITTICK, and Mr. _____.

The reading and discussion of significant works of the past thirty years.

IV. HISTORICAL DEVELOPMENT OF ENGLISH LITERATURE.

Primarily for juniors and seniors.

The several courses grouped below are to be considered merely as convenient divisions of the body of English literature. It is urged that the students should conceive of the field as a whole, and plan his elections so as to read through as large a part of the entire field as possible.

21. ENGLISH LITERATURE FROM ALFRED TO CHAUCER. Two credits. First semester. Assistant Professor GARRETT.

No knowledge of Old English is necessary, as the earlier texts are read in translation.

22. ENGLISH LITERATURE FROM CHAUCER TO SHAKESPEARE. Two credits. Second semester. Assistant Professor GARRETT.

A study of the late mediaeval and early renaissance literary production. Emphasis is laid upon the literary rather than the linguistic characteristics of the time.

17. BROWNING. Three credits. First semester. Professor PADEFORD.

A study of Browning as an artist, and as an intellectual and spiritual force.

18. SHAKESPEARE. Three credits. Second semester. Professor PADEFORD.

An attempt primarily through the study of Shakespeare to catch the spirit of the English Renaissance.

*27-28. THE ENGLISH DRAMA. Three credits. The year. Mr.

37-38. MAIN TENDENCIES IN ENGLISH LITERATURE FROM 1590 TO 1900. Three credits. The year. Professor PARRINGTON.

A study in national ideals, with a consideration of significant literary figures and works.

31-32. ENGLISH LITERATURE IN THE EIGHTEENTH CENTURY. Three credits. The year. Assistant Professor DARBY.

A study of the literary and social movements of the period.

13. THE GEORGIAN POETS. Three credits. First semester. Assistant Professor DARBY.

A study of the English romantic movement: Wordsworth, Coleridge, Shelley, Keats and Byron.

14. THE VICTORIAN POETS. Three credits. Second semester. Assistant Professor DARBY.

A study of English poetry since 1830.

23-24. SOCIAL IDEALS IN ENGLISH LITERATURE. Three credits. The year. Associate Professor BENHAM.

A study of model commonwealths, and of such other literature as illustrates the growth of English social and economic thought.

*23a-24a. SOCIAL IDEALS IN THE SEVENTEENTH CENTURY. Two credits. The year. Associate Professor BENHAM.

*23b-24b. SOCIAL IDEALS IN THE NINETEENTH CENTURY. Two credits. The year. Associate Professor BENHAM.

19-20. AMERICAN LITERATURE FROM THE BEGINNING TO 1870. Three credits. The year. Professor PARRINGTON.

A study in the development of national ideals. Emphasis will be laid upon the reflection of theological, political, and social movements in the literature.

19a-20a. AMERICAN LITERATURE SINCE 1870. Two credits. The year. Professor PARRINGTON.

An introduction to current literary ideals and thought in America.

19b. GREAT AMERICAN WRITERS. Two credits. First semester. Associate Professor MILLIMAN.

A critical study of the works of Emerson and Whitman.

20b. GREAT AMERICAN WRITERS. Three credits. Second semester. Associate Professor MILLIMAN.

A critical study of the works of Longfellow and Lowell.

15-16. GENERAL LITERATURE. Three credits. The year. Assistant Professor JOHANSON.

Studies in representative European writers.

25-26. THE NOVEL. Three credits. The year. Associate Professor Milliman.

A study of the movements in English prose fiction, with an analysis of some of the principal works, and a discussion of the problems in ethics and esthetics involved.

29-30. THE THEORY AND ART OF LITERARY CRITICISM. Three credits. The year. Assistant Professor Cox.

A study of the main tenets and functions of criticism; reading of representative pieces of criticism and practice in the writing of critical essays on books, plays, and men.

PHILOSOPHY 17-18. PHILOSOPHY IN THE MODERN DRAMA. Two credits. The year. Associate Professor BENHAM.

For a fuller statement, see the department of philosophy.

35-36. TEACHER'S COURSE. Two credits. The year. Required of major students who wish the recommendation of the department for the normal diploma. Assistant Professor GARRETT and Mr. CHITTICK.

A consideration of methods and problems in the teaching of English in the high school, with practice in teaching.

A. GENERAL SURVEY FOR MAJOR STUDENTS. One credit for the year. Assistant Professor JOHANSON.

Individual conferences with major students for the purpose of guiding them in their reading and correlating their courses in the department. Each senior major is expected to meet the instructor in conference at least once a fortnight.

V. GRADUATE WORK.

Department Committee on Graduate Work: Parrington, Padel-
ford, Garrett, Cox, Johanson.

All graduate work is conducted by means of seminars. The time devoted to the meetings is indicated in each case, but the number of credits which a student may elect in a given seminar varies from one or two to six at option. In every case, however, the number elected must be indicated at the time of enrollment.

SEMINAR I. ENGLISH LITERARY HISTORY.

A. MEDIAEVAL LITERATURE. From the beginnings to 1550.
The year. Assistant Professor Cox.

B. ENGLISH LITERATURE FROM 1550 TO 1660. The year. Pro-
fessor PADELFORD.

C. ENGLISH LITERATURE FROM 1660 TO 1830. The year. As-
sistant Professor DARBY.

SEMINAR II. AMERICAN LITERARY HISTORY. The year. Professor
PARRINGTON.SEMINAR III. MODERN ENGLISH LITERATURE. The year. Associate
Professor BENHAM.

SEMINAR IV. COMPARATIVE LITERATURE.

A. THEORIES OF POETRY AND CRITICISM. The year. Assistant
Professor Cox.

B. RENAISSANCE LITERARY TYPES IN ENGLAND, FRANCE AND
ITALY. The year. Professor PADELFORD.

SEMINAR V. THE ENGLISH LANGUAGE. Assistant Professor GAR-
RETT.

A. OLD AND MIDDLE ENGLISH. The year.

B. COMPARATIVE GRAMMAR. The year.

SEMINAR VI. RHETORIC: ELEMENTS OF STYLE. First semester.
Associate Professor MILLIMAN.JOINT SEMINAR IN ENGLISH AND EDUCATION. The year. Profes-
sors LULL and BENHAM.

The subject of this course, intended for seniors and gradu-
ate students in English and Education, will be the history of edu-
cational theory and practice.

FRENCH AND ITALIAN

(Denny Hall)

PROFESSOR FREIN, ASSISTANT PROFESSORS PATZER, ATKIN, RATTI, HELMLINGE, MR. WHITTLESEY, DR. SBEDICO, GRADUATE ASSISTANT.

REQUIREMENTS OF THE DEPARTMENT

Courses 5-6, 7-8, 9, and 33-34 are required of majors and of all who wish to be recommended as teachers.

I. FRENCH.

FOR UNDERGRADUATES

1-2. ELEMENTARY. Four credits. The year. Eight sections. Assistant professors and instructors.

Fraser and Squair's French Grammar, part I; Labiche, La Grammaire; Malot, Sans Famille; Moineaux, Les Deux Sœurs; Halévy, Un Mariage d'Amour.

Course 1 is repeated the second semester.

2-3. ADVANCED FIRST YEAR. Four credits. The year. Two sections. Prerequisite, one semester of French in the University, or one year in the high school. Those who have had three semesters of French in the high school should enter course 3. Assistant Professors PATZER and ATKIN.

3-4. READING AND SYNTAX. Four credits. The year. Four sections. Prerequisite 2, or three semesters in the high school. Assistant professors and instructors.

Fraser and Squair's French Grammar, part II. Texts read in 1914-15: Maupassant, Ten Short Stories from; Hugo, Hernani; Bazin, Les Oberlès; Rostand, Cyrano de Bergerac; Daudet, Mercœur Cholsis de.

Course 4 is repeated in the first semester.

This course may be entered by those who have had two years of French in high school and who do not intend to major in the modern language group.

5-6. CLASSICAL FRENCH. Three credits. The year. Three sections. Prerequisite 4. Assistant Professors RATTI and HELMLINGE and Mr. WHITTLESEY.

Reading of the masterpieces of Corneille, Molière, Racine, Boileau, La Fontaine, La Bruyère, La Rochefoucauld.

Course 5 is repeated the second semester for those who finish course 4 in February, and for those who enter at that time with three years of French in the high school.

7-8. COMPOSITION AND CONVERSATION. Three credits. The year. Two sections. Assistant Professors RATTI and HELMLINGE.

9-9. PHONETICS. Two credits. Repeated second semester. Prerequisite 1. Assistant Professor ATKIN.

This course is intended to furnish the student an opportunity to acquire a reasonably accurate pronunciation, based upon rules which will give him self-assurance in reading ordinary French. Those who have not been trained in phonetics in the high school should enter this course.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

21-22. THE FRENCH NOVEL. Two credits. The year. Prerequisite 6. Assistant Professor HELMLINGE.

History of the French novel from its beginning. Some of the most representative novels will be read in class, and others assigned for outside reading.

23-24. LYRIC POETRY. Two credits. The year. Prerequisite 6. Mr. WHITTLESEY.

History of Lyric Poetry. Considerable attention paid to the structure of modern forms of lyric poetry. Canfield's French Lyrics.

25-26. THE FRENCH DRAMA. Two credits. The year. Prerequisite 6. Assistant Professor PATZER.

History of the drama from its origin. Some of the masterpieces are read in class, and some are assigned for individual reading and report.

27-28. HISTORY OF THE FRENCH LITERATURE OF THE NINETEENTH CENTURY. Two credits. The year. Prerequisite 6. Assistant Professor RATTI.

Lectures in French. Some of the masterpieces assigned for individual reading and report.

29-30. HISTORY OF THE FRENCH LITERATURE OF THE EIGHTEENTH CENTURY. Two credits. The year. Prerequisite 6.

This course is given in alternative years; it will not be given in 1915-1916.

31-32. HISTORY OF THE FRENCH LITERATURE OF THE SEVENTEENTH CENTURY. Two credits. The year. Prerequisite 6. Assistant Professor ATKIN.

Lectures in French; assigned reading.

33-34. TEACHERS' COURSE. Two credits. The year. Prerequisite 6 and 8. Professor FREIN.

Special emphasis on the methods of teaching French pronunciation. Oral and written exercises. Review of grammar, with students conducting the recitations.

FOR GRADUATES.

51-52. HISTORY OF THE FRENCH LITERATURE OF THE SIXTEENTH CENTURY. Two credits. The year. Prerequisite 6. Assistant Professor PATZER.

Lectures in French. Some texts of the sixteenth century will be assigned for outside reading, and some will be read in class. The French Renaissance will be compared with that of other countries.

53-54. MIDDLE FRENCH. Two credits. The year. Professor FREIN.

Lectures on the history of the fourteenth and fifteenth centuries will be given in French. Some texts will be read in class, and others will be assigned to be read out of class and reports made to the class. Course conducted in French.

55-56. OLD FRENCH READINGS. Four credits. The year. Professor FREIN.

Elements of Old French grammar, and translation from Old French into modern French of some of the texts in Bartsch, Chrestomathie de l'Ancien Francais, and a few of the old texts will be read in complete editions.

57-58. HISTORY OF OLD FRENCH LITERATURE. Two credits. The year. Open only to those who have a reading knowledge of Old French. Those who have had course 53-54 will ordinarily be prepared to follow the work. Course given in French. Professor FREIN.

II. ITALIAN.

FOR UNDERGRADUATES

1-2. ELEMENTARY. Four credits. The year. No student will be allowed to begin Italian and French (or Spanish) the same year. Dr. SBEDICO.

Grammar and reading.

3-4. READING AND SYNTAX. Two credits. The year. Dr. SBEDICO.

Modern texts will be read. Constant practice in conversation.

GEOLOGY

(Office, Room 11, Science Hall.)

PROFESSOR LANDES, ASSISTANT PROFESSORS SAUNDERS, WEAVER AND
CULVER, MR. SALISBURY

REQUIREMENTS OF THE DEPARTMENT

(a) For the required 8 credits in biological science in the Colleges of Liberal Arts and Science: Courses 1-2 or 3-4.

(b) For a major: 24 credits in geology with 24 additional credits in the College of Science. Not more than 40 credits may be counted in the major department.

(c) For a teacher's certificate: The same as for a major, or the teacher's course in Science. It is recommended that those preparing to teach physical geography in the high school, or those entering the second semester, should take courses 3-4 instead of 1-2.

COURSES

1-2. GENERAL GEOLOGY. Four credits. The year. Three recitations and one 2 hour laboratory period per week, with occasional one-half day field trips. Laboratory fee \$1 per semester. Assistant Professors SAUNDERS and CULVER.

1a. GEOLOGY FOR ENGINEERING AND MINING STUDENTS. Required course for sophomores. Four credits. First semester. Laboratory fee, \$1.00. Assistant Professor CULVER.

1b. GEOLOGY FOR ENGINEERING AND MINING STUDENTS. *Elective* for freshman. Four credits. First semester. Laboratory fee, \$1.00. Assistant Professor CULVER.

1c. GEOLOGY FOR ENGINEERING AND MINING STUDENTS. Four credits. Second semester. Laboratory fee, \$1.00. Assistant Professor CULVER.

1d. GEOLOGY FOR FORESTRY STUDENTS. Four credits. Second semester. Laboratory fee, \$1.00. Assistant Professor CULVER.

1s-2s. SOILS. Four credits. The year. Not accepted for science requirements; prerequisite, one year college chemistry; laboratory deposit for course, \$8, \$6 payable the first semester and \$2 the second. Credit given only upon completion of entire course. See Chem. 1s and 2s. Professors BENSON, LANDES, KINCAID, and HOTSON.

Treats of the relation of minerals, rocks, topography and climate to soil formation, distribution and classification.

3. CLIMATOLOGY. Four credits. First semester. Three recitations and one laboratory period per week. Laboratory fee \$1.00. Assistant Professor SAUNDERS and Mr. SALISBURY.

A general consideration of the climatic elements of the atmosphere.

4. PHYSIOGRAPHY. Four credits. Second semester. Three recitations and one laboratory period per week. Laboratory fee, \$1.00. Assistant Professor SAUNDERS.

A study of the surface features of the earth with special reference to their origin, development, classification, and relation to geologic structure.

5. COMMON MINERALS AND ROCKS. Three credits. First semester. Two recitations and one laboratory period. Laboratory fee, \$1.00. Prerequisite, high school or university chemistry. Assistant Professor CULVER.

6. GLACIAL GEOLOGY. Two credits. First semester. Two lectures or recitations per week. Prerequisites, geology 2 or 4. Assistant Professor CULVER.

The characteristics of glaciers and the geological work they accomplish.

7. CONTINENTAL EVOLUTION. Two credits. Second semester. Two lectures or recitations per week. Prerequisite, geology 2 or 4. Assistant Professor WEAVER.

Studies in the geological history of sedimentation, volcanic activity, the major earth movements, and geographic changes in the development of the North American continent.

8. PHYSIOGRAPHY OF THE UNITED STATES. Three credits. First semester. Three lectures or recitations per week. Prerequisite, geology 1 or 4. Assistant Professor SAUNDERS.

The development of the physiographic features of the United States and the influences these features have exerted on the history and commercial growth of the country.

9. DESCRIPTIVE AND DETERMINATIVE MINERALOGY. Four credits. Second semester. Two recitations and two laboratory periods per week. For engineering and mining students. Laboratory fee, \$2.00. Prerequisite, one year of chemistry. Assistant Professor CULVER.

10. ADVANCED GENERAL GEOLOGY. Three credits. First semester. Three lectures or recitations per week. Prerequisite, geology 2 or 4. Professor LANDES.

The development of geology as a science; its relation to the other sciences; the present lines of growth and research.

11. GENERAL PALAEOLOGY. Two credits. Second semester. Two lectures or recitations per week. Some knowledge of general geology is a prerequisite. Assistant Professor WEAVER.

A brief survey of the former animal and plant life of the earth.

12. GEOLOGY AND PALAEOLOGY OF THE TERTIARY FORMATIONS. Two credits. First semester. Two lectures or recitations per week. Prerequisite, geology 2. Assistant Professor WEAVER.

A comparative study of the geological history of the continents and the development of life during the Tertiary in its world-wide application.

13. OPTICAL CRYSTALLOGRAPHY. Four credits. First semester. Two recitations and two laboratory periods per week. Assistant Professor WEAVER.

14. GEOLOGY OF WASHINGTON. Two credits. First semester. Two lectures or recitations per week. Professor LANDES.

15. **ECONOMIC GEOGRAPHY OF WASHINGTON.** Two credits. Second semester. Two lectures or recitations per week. Professor LANDES.

16. **PETROLOGY.** Three credits. First semester. A special course for coal mining men in the College of Mines. Laboratory deposit, \$2.00. Prerequisites, geology 1a and 9. Assistant Professor WEAVER.

17. **PETROGRAPHY.** Four credits. Second semester. Two recitations and two laboratory periods per week. Prerequisites, geology 9 and 13. Laboratory deposit, \$2.00. Assistant Professor WEAVER.

A study of the distinguishing characteristics of the different groups and species of rocks with practice in their determination by modern petrographical methods.

18. **ECONOMIC GEOLOGY.** Four credits. Second semester. Four recitations per week. Prerequisites, 1a, 9 and 17. Professor LANDES.

19. **PALAEONTOLOGY.** Four credits. First semester. Three recitations and one laboratory period per week. Prerequisites, geology 2 or 1a. Assistant Professor WEAVER.

20-21. **FIELD WORK.** The year. Professor LANDES, Assistant Professors SAUNDERS, WEAVER and CULVER.

22-23. **ADVANCED PETROGRAPHY.** Credits to be arranged. The year. Assistant Professor WEAVER.

24-25. **ADVANCED PALAEONTOLOGY.** Credits to be arranged. The year. Assistant Professor WEAVER.

26-27. **RESEARCH WORK.** Credits to be arranged. The year. Professor LANDES, Assistant Professors SAUNDERS, WEAVER and CULVER.

SPECIAL SHORT COURSES.

A. **FORESTRY GEOLOGY.** A course of twenty lectures on general geology given in January, February and March, to the students in the short course in the College of Forestry. Assistant Professor SAUNDERS.

GEOLOGY B. **MINERALOGY.** Instruction and practice in blow-pipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week. Deposit, two dollars. Assistant Professor CULVER.

GEOLOGY C. ELEMENTS OF GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. Assistant Professor CULVER.

GERMAN

PROFESSOR MEISNEST; ASSISTANT PROFESSORS BOETZKES, HOFF, ECKELMAN; MR. ERNST, DR. TRESSMANN, MR. RIEDER, MR. JACKSON, DR. LINHART.

REQUIREMENTS OF THE DEPARTMENT

For a major: 24 to 40 credits, including at least two of the following courses: 25, 26, 27, 28.

For the normal diploma: the same as for a major including course 29-30.

Students desiring the recommendation of the department to teach German should include courses 13-14, 29-30.

FOR UNDERGRADUATES

1-2. FIRST YEAR. Four credits. The year. For beginners. Assistant Professors BOETZKES and ECKELMAN, Mr. ERNST, Dr. TRESSMANN, Mr. JACKSON.

Stage pronunciation, grammar, reading of easy prose and verse and conversation. Students entering the second semester with one year of German in the high school may take course 2. Two semesters must be completed before credit is allowed.

1. FIRST YEAR. Four credits. Second semester. For beginners. Assistant Professor BOETZKES.

The same as course 1. Two semesters must be completed before credit is allowed.

2a-3a. ADVANCED FIRST YEAR. Four credits. The year. Prerequisite, one semester or one year high school. Assistant Professor BOETZKES, Dr. TRESSMANN.

Continuation of grammar, reading of modern prose, conversation. Equivalent of 2 and 3.

3-4. SECOND YEAR. Four credits. The year. Prerequisite 2 or two years high school. Assistant Professors HOFF, ECKELMAN; Mr. ERNST, Dr. TRESSMANN, Mr. JACKSON.

Review of grammar, modern prose, at least one drama by Schiller, Goethe or Lessing during the second semester, conversation.

3s-4s. SECOND YEAR. Four credits. The year. Prerequisite same as 3-4. Primarily for students in science, engineering and forestry. Two sections, the one for the engineers continuing for the first semester only. Mr. RIEDER and Dr. LINHART.

First semester: review of grammar, modern prose and drama, conversation. Second semester: introduction to scientific German and monographs.

4a-5a. ADVANCED SECOND YEAR. Four credits. The year. Prerequisite, 3 or three years high school. Assistant Professor BOETZKES, Mr. JACKSON.

Schiller's *Jungfrau von Orleans*, Scheffel's *Trompeter von Saekkingen*, modern prose and drama.

5. SCHILLER. Three credits. First semester. Prerequisite, 4 or four years high school. Assistant Professor HOFF, Dr. TRESSMANN.

Life and works. *Wallenstein*. Private reading: *Wilhelm Tell* or *María Stuart*.

6. GOETHE. Three credits. Second semester. Prerequisite, 4 or four years high school. Assistant Professor HOFF, Dr. TRESSMANN.

Life and works. *Goetz von Berlichingen*, *Egmont* and *Iphigenie*. Private reading: *Dichtung und Wahrheit*.

7-8. RECENT WRITERS. Three credits. The year. Prerequisite, 4 or four years high school. Primarily for students not majors. Mr. ERNST.

Social problems as represented in the works of Hauptmann, Sudermann, Fulda, Wolzogen, Lienhard, Schnitzler, Paul Ernst.

9-10. GERMAN PEDAGOGICAL LITERATURE. Two credits. The year. Prerequisite, 4. Mr. RIEDER.

Educational monographs and periodical literature.

11-12. SCIENTIFIC GERMAN. Two credits. The year. Prerequisite, 4. Mr. RIEDER.

Scientific essays, monographs and technical periodicals. Each student does private reading in his own special field under the guidance of the instructor and the major professor.

13-14. CONVERSATION AND COMPOSITION. Three credits. The year. Prerequisite, 4. Professor MEISNEST, Assistant Professors HOFF and BOETZKES.

Drill in stage pronunciation, review of grammar and syntax in German, expressive reading, oral and written reproductions, letter writing and themes.

15-16. GERMAN INSTITUTIONS. Two credits. The year. Assistant Professor BOETZKES.

A study of the main cultural movements and institutions in Germany.

*17-18. MODERN NOVELS. Two credits. The year. Prerequisite, 4.

Sudermann, Keller, C. F. Meyer, Freytag, Hauff, Ludwig.

19-20. MODERN DRAMA. Two credits. The year. Prerequisite, 4. Mr. RIEDER.

Rapid reading course. Grillparzer, Hebbel, Suderman and Hauptmann.

21-22. GERMAN CLASSICS IN ENGLISH TRANSLATION. Two credits. The year. No prerequisite. Mr. ERNST.

First Semester: The drama of the Nineteenth century. Second Semester: Wagner's "Word-Tone" dramas.

FOR UNDERGRADUATES AND GRADUATES

25. HISTORY OF GERMAN LITERATURE. Three credits. First semester. Dr. ECKELMAN.

A general survey for students specializing in German. Thomas's German Anthology.

26. LYRICS AND BALLADS. Three credits. Second semester. Dr. ECKELMAN.

Characteristic lyrics and ballads of Goethe, Schiller, Uhland, Geibel, Moerike, Klenze's Deutsche Gedichte.

27. LESSING. Three credits. First semester. Professor MEISNEST.

Life, Emilia Galotti, Nathan der Weise, Hamburgische Dramaturgie or Laokoon.

28. GOETHE'S FAUST, PARTS I AND II. Three credits. Second semester. Professor MEISNEST.

Interpretation, genesis, plan and purpose of the drama. Faust legend and Faust theme in literature.

29-30. TEACHERS' COURSE. Two credits. The year. Professor MEISNEST.

First semester: elementary phonetics and practice in stage pronunciation and expressive reading. Second semester: grammar review, methods of teaching German, course of study for high schools, text-books and aids in teaching, observation.

* Omitted in 1915-1916.

FOR GRADUATES

*41-42. STORM AND STRESS PERIOD. Two to four credits. The year. Professor MEISNEST.

*43-44. ROMANTIC SCHOOL. Two to four credits. The year. Professor MEISNEST.

45-46. NINETEENTH CENTURY. Two to four credits. The year. Dr. ECKELMAN.

Study of the drama and novel. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer.

47-48. INTER-RELATIONS OF GERMAN AND ENGLISH LITERATURE. Two to four credits. The year. Professor MEISNEST.

First Semester: Shakespeare in Germany and his influence on German literature. Second Semester: The influence on German literature of Milton, Young, Addison, Ossian, Pope, Thomson, Swift, Richardson, Fielding, Sterne and Goldsmith.

51-52. HISTORY OF THE GERMAN LANGUAGE. One credit. The year. Assistant Professor HOFF.

53-54. MIDDLE HIGH GERMAN. Three credits. The year. Assistant Professor HOFF.

*55-56. OLD HIGH GERMAN. Two credits. The year. Assistant Professor HOFF.

*57-58. GOTHIC. Two credits. The year. Assistant Professor HOFF.

GREEK

PROFESSOR HAGGETT, ASSOCIATE PROFESSOR SIDNEY, AND ASSISTANT PROFESSOR DENSMORE

REQUIREMENTS OF THE DEPARTMENT

For a major, at least 24 credits chosen from courses 3 to 12. The following courses may be counted toward the requirement of one year of ancient language and literature.

(a) Greek, 1-2 or 3-4.

(b) Latin 1-2.

(c) Greek civilization and Greek literature. (Greek 13-14.)

(d) Greek civilization and Roman civilization. (Greek 13 and Latin 11.)

(e) Greek literature and Roman literature. (Greek 14 and Latin 13.)

* Omitted in 1915-1916.

(f) Roman civilization and Roman literature. (Latin 11 and 13.)

(g) Oriental literature—Persian and Indian. (See department of Oriental literature.)

COURSES

1-2. **ELEMENTARY GREEK.** Four credits. The year. Assistant Professor DENSMORE.

3-4. **HOMER-PLATO.** Three credits. The year. Prerequisite, 1-2. Professor HAGGETT.

Selections from the *Odyssey*; Plato's *Apology*, *Crito*, and parts of the *Phaedo*.

FOR JUNIORS, SENIORS AND GRADUATES

5-6. **DRAMATIC POETRY.** Two credits. The year. Prerequisite, 3-4. Assistant Professor DENSMORE.

Selected plays from Euripides, Sophocles, and Aristophanes.

7. **LYRIC POETRY.** Two credits. First semester. Prerequisites, 3-4. Professor HAGGETT.

Selections from the elegaic, iambic, and melic poets.

8. **ORATORY.** Two credits. Second semester. Prerequisite, 3-4. Professor HAGGETT.

Selections from Lysias and Demosthenes.

*9. **EPIC POETRY.** Two credits. First semester. Prerequisite, 3-4. Professor HAGGETT.

Rapid readings of selections from Homer and Hesiod.

*10. **HISTORICAL PROSE.** Two credits. Second semester. Prerequisite, 3-4. Professor HAGGETT.

Selections from Herodotus and Thucydides.

11-12. **ADVANCED READING.** Three credits. The year. Prerequisite, 5-6. Professor HAGGETT.

Rapid reading of the entire work (or a considerable portion) of some one author, or extensive work in some one department of Greek literature.

17. **GREEK ANTIQUITIES.** Two credits. First semester. For classical majors. To be followed by Latin 24. Assistant Professor SIDEY.

13. **GREEK CIVILIZATION.** Three credits. Either semester. Primarily for freshmen and sophomores. A knowledge of the

* Not offered in 1915-1916.

Greek language is not required. To be followed by Greek 14 or Latin 12. Assistant Professor DENSMORE.

Part of the time will be devoted to the history of the Greek peoples, the remainder to their life and art, under such topics as (a) mythology and religion, (b) public and private life, (c) art and archaeology. Lectures (illustrated by photographs and slides) and collateral reading.

14. HISTORY OF GREEK LITERATURE. Three credits. Either semester. Professor HAGGETT, Associate Professor SIDNEY and Assistant Professor DENSMORE.

Text-book, lectures, and readings from English translations. with assignments of selected work for special study and periodic written tests. Prerequisite, Greek 13 or at least two years of ancient language. A knowledge of the Greek language is not required. This course is intended to be followed by Latin 13.

15. GREEK ARCHAEOLOGY AND ART. Two credits. First semester. Knowledge of the Greek language is not required. Professor HAGGETT.

After a brief survey of the results of archaeological discoveries up to the present time, the main work of the course will be devoted to a discussion of some of the best examples of Greek architecture, sculpture and vase painting. The discussions will be illustrated by photographs and lantern slides.

16. GREEK POETRY IN ENGLISH TRANSLATION. Two credits. Second semester. Knowledge of the Greek language is not required. Professor HAGGETT.

Lectures, assigned readings and discussions.

19. GREEK HISTORY. Three credits. First semester. See History 3. Assistant Professor DENSMORE.

HISTORY

(Office, Room 11, Denny Hall)

PROFESSORS MEANY, RICHARDSON; ASSOCIATE PROFESSORS MC MAHON AND BOWMAN; DR. LUTZ; TEACHING FELLOW ———

REQUIREMENTS OF THE DEPARTMENT

THE EIGHT HOUR REQUIREMENT IN HISTORY may be satisfied by one of the following courses: MEDIEVAL AND MODERN EUROPEAN HISTORY (1-2). It is desirable that this course be selected in full-

filment of the history requirement and that it be taken in the freshman year. Students who enter the university in the second semester may enter this course in the second section provided (2a), with the understanding that they will take the first semester's work in the following year (1-a). Juniors and seniors will receive only half credit.

HISTORY OF THE UNITED STATES (7-8). Primarily for sophomores; not open to freshmen except in the case of students in the Law School, or students who are taking work in the College of Liberal Arts to satisfy requirements for entrance to the Law School.

ENGLISH POLITICAL HISTORY (5-6). Primarily for sophomores and juniors; not open to freshmen except those specified in (b) below. To this course, however, course 1-2 is a prerequisite except in the case of (a) students admitted to advanced standing from other colleges and universities; (b) students in the Law School or students who are taking work in the Colleges of Arts and Science to satisfy requirements for entrance to the Law School; (c) majors in English literature and in political science; (d) students who receive the special permission of the instructor in charge of the course.

For a major at least eight credits shall be obtained in the most advanced undergraduate courses. Course 1-2 is required of all history majors. Course 42 does not count toward a major.

It is recommended that all history majors shall take, in excess of the 24 history credits and of the credits formally required in various other departments for graduation, additional work in History, Political and Social Science, Philosophy, Modern Languages, and English Literature. Medieval Latin is desirable for those who intend to study history for advanced professional purposes.

PROSPECTIVE TEACHERS of history as a major subject in high schools who desire the recommendation of the department of history, as a department, must show to the satisfaction of the department that they are acquainted with the elementary facts requisite for the teaching of all history courses taught in the high schools of the state, and that they have specialized knowledge in their chosen field.

Courses 3 and 4 are open to all, without prerequisite; courses 7-8, 9-10 and 42 are open, without prerequisite, to sophomores,

juniors and seniors. Courses 11-34 inclusive, 39-40, 57-58, 59-60, are open to juniors, seniors and graduate students; but for prerequisites to some of these, see statement of the course. Courses 35-38 inclusive, are open to sophomores, juniors, seniors and graduate students, without prerequisites. Seniors are admitted, by permission, to courses 45-56 inclusive.

1-2. **MEDIEVAL AND MODERN EUROPEAN HISTORY.** Four credits. The year. Associate Professor BOWMAN, Dr. LUTZ.

A general survey of the political, economic and social development of the principal medieval and modern European peoples down to the present time.

1a-2a. **MEDIEVAL AND MODERN EUROPEAN HISTORY.** Four credits. An adaptation of 1-2 for students who enter the University in the second semester. Dr. LUTZ.

3. **HISTORY OF GREECE.** Three credits. First semester. Assistant Professor DENSMORE.

A general survey of Greek history from the earliest times to the Roman conquest, including some account of the eastern sources of the civilization and of the spread of Hellenism.

4. **HISTORY OF ROME.** Three credits. Second semester. Assistant Professor DENSMORE.

A survey of Roman history to the fall of the Western Empire. Attention is given to the development of Roman institutions and law.

5-6. **ENGLISH POLITICAL HISTORY.** Four credits. The year. Open to sophomores, juniors, seniors, and certain classes of freshmen. See requirements. Professor RICHARDSON.

A study of the political, social and intellectual development of the English people from the Saxon conquest to the end of the nineteenth century. Economic developments also receive attention.

7-8. **HISTORY OF THE UNITED STATES.** Four credits. The year. Open to sophomores, juniors, seniors, and certain classes of freshmen. See requirements. Associate Professor McMAHON.

A general survey with emphasis upon political history. Lectures, text-book, collateral reading and topics.

9-10. **MAKERS OF THE NATION.** Two credits. The year. Professor MEANY.

Lectures on the lives of leading Americans with relation to the historic development of their times.

FOR JUNIORS AND SENIORS

Students must have had at least one year of history to elect any course in this group except course 42, which is open to sophomores, juniors and seniors without prerequisite, but which does not count for a major.

11-12. **ENGLISH CONSTITUTIONAL HISTORY.** Three credits. The year. Open to juniors and seniors who have taken or are taking 5-6, and to pre-law students with consent of the instructor. Professor RICHARDSON.

The development of the legal and governmental institutions of the English people to the present time.

13. **THE MEDIEVAL EMPIRE.** Three credits. First semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and growth of the Holy Roman Empire down to the early fourteenth century.

14. **MEDIEVAL CIVILIZATION.** Two credits. Second semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the medieval civilization and culture down to the thirteenth century. Associate Professor BOWMAN.

15. **THE RENAISSANCE.** Three credits. First semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and development of the Renaissance and its spread among the European peoples.

16. **THE REFORMATION.** Three credits. Second semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and development of the Reformation, and of its spread among the European peoples.

17-18. **PRUSSIA AND NORTHERN EUROPE.** Two credits. The year. Prerequisite, 1-2. Professor RICHARDSON.

This course deals with Sweden as a great power, its rise, progress, and decline; the rise of Russia and Prussia; the partition of Poland; and the beginnings of the Eastern Question. Special attention is paid to the economic, political and military development of the Prussian state from its foundation to the acquisition of world-power by Frederick the Great.

*19-20. **HISTORY OF FRANCE FROM THE REFORMATION TO THE FRENCH REVOLUTION.** Professor RICHARDSON.

* Not given in 1915-1916.

21. **THE FRENCH REVOLUTION AND NAPOLEONIC ERA.** Three credits. First semester. Prerequisite, 1-2. Professor RICHARDSON.

Among the principal topics considered are the following: the material conditions out of which, in France, the Revolution emerged, and the nature of the ideals which inspired it; contemporary conditions in the European states system which facilitated the extension of the Revolution over Europe; the epoch of International Wars, with especial reference to the territorial redistribution of Europe, the beginnings of modern liberalism, and the career of Napoleon.

22. **EUROPE SINCE 1814.** Three credits. Second semester. Prerequisite, 1-2. Professor RICHARDSON.

Mainly political, introductory to European politics of the present time. The course deals with the fundamental principles and policies of the Era of Reaction under Metternich and the subsequent triumph of liberalism. The chief emphasis is laid upon the establishment of constitutional government and national unity in Germany, Italy and the other states of Western Europe, and upon the careers of great leaders, notably Bismarck and Cavour.

23-24. **EUROPE SINCE 1870, AND CONTEMPORARY EUROPE.** Two credits. The year. Prerequisite, 1-2. Dr. LUTZ.

The first part of the course, based upon the study of contemporary histories, is introductory to the latter part, which is based upon the use of current periodicals, newspapers and other publications. Scientific methods of research are applied to the study of current historical events.

25. **HISTORY OF THE UNITED STATES, 1787-1828.** Three credits. First semester. Associate Professor McMAHON.

26. **HISTORY OF THE UNITED STATES, 1828-1860.** Three credits. Second semester. Associate Professor McMAHON.

27. **CIVIL WAR AND RECONSTRUCTION.** Three credits. First semester. Associate Professor McMAHON.

A general study of the Civil war and the period of reconstruction.

28. **THE HISTORY OF NATIONAL DEVELOPMENT.** Three credits. Second semester. Associate Professor McMAHON.

A continuation of course 27, in which the development of the American nation will be traced from the close of the reconstruction period to the present time.

29. SPAIN IN AMERICA. Three credits. First semester. Professor MEANY.

A study of the rise and fall of Spanish power in the new world, and an outline of the history of the Spanish-American republics.

30. DEVELOPMENT OF THE PACIFIC. Three credits. Second semester. Professor MEANY.

History of the countries bordering upon the Pacific ocean, with special reference to the changes now in progress of development.

31-32. HISTORY OF AMERICAN DIPLOMACY. Two credits. The year. Professor MEANY.

A study of the treaties and foreign policy of the United States. Open to those who have taken a narrative course in American history.

33-34. NORTHWESTERN HISTORY. Two credits. The year. Professor MEANY.

From the earliest voyages to the settlement and organization of the territories.

35. THE EVOLUTION OF CHINA—TO THE MANCHU CONQUEST. Two credits. First semester. Professor GOWEN.

36. THE EVOLUTION OF CHINA—MODERN ERA. Two credits. Second semester. Professor GOWEN.

37. THE EVOLUTION OF JAPAN—FEUDAL ERA. Two credits. First semester. Professor GOWEN.

38. THE EVOLUTION OF JAPAN—MODERN ERA. Two credits. second semester. Professor GOWEN.

*39-40. ECONOMIC AND SOCIAL HISTORY OF THE AMERICAN COLONIES. Associate Professor McMAHON.

42. CONTEMPORARY HISTORY. One credit. Second semester. Members of the history and other departments.

A lecture course dealing with various historical questions of the world of the present and immediate past.

*57-58. THE DEVELOPMENT OF INTERNATIONAL ARBITRATION AND CONCILIATION. Two credits. The year. Dr. LUTZ.

* Not offered in 1915-1916.

59-60. HISTORY OF ENGLAND SINCE THE ACCESSION OF GEORGE III. Two credits. The year. Prerequisite, 1-2, or 5-6. Dr. LUTZ.

A study of the development of modern English institutions, social reform, foreign relations and imperialism.

43. METHODS OF TEACHING HISTORY. Two credits. First semester. Required of advanced students who expect to teach history. Associate Professor McMAHON.

Text-books, assigned readings, courses of study and methods of presentation will be considered.

GRADUATE COURSES

45-46. HISTORIOGRAPHY. One credit. The year. Open to graduate students and to seniors by permission. Associate Professor BOWMAN.

A study of the general history of the writing of history.

*47-48. METHODS OF HISTORICAL RESEARCH AND CRITICISM. One credit. The year. Professor RICHARDSON.

49-50. SEMINAR IN ENGLISH HISTORY. Two to four credits. The year. Open to graduates and a few seniors by permission. Professor RICHARDSON.

A graduate course which lays more stress upon the constitutional than upon the political side of the subject. The course will deal with topics in the Tudor and Stuart period, and with the antecedents of the Puritan Revolution.

51-52. SEMINAR IN AMERICAN HISTORY. Two credits. The year. Associate Professor McMAHON.

This course is primarily for graduates or other advanced students who may be admitted by permission.

53-54. JOINT SEMINAR. Two credits. The year. Open to graduate students and to a limited number of seniors on recommendation of their major professors. Professors MEANY, SMITH and CONDON.

Designed for study and reports upon the problems in the historical, political, and legal developments of the State of Washington and the Pacific Northwest.

*55-56. SEMINAR IN EUROPEAN HISTORY. Two credits. The year. Associate Professor BOWMAN.

* Not offered in 1915-1916.

HOME ECONOMICS

(Office, Home Economics Building)

PROFESSOR RAITT, ASSISTANT PROFESSOR DENNY; MISS CRUDEN, MISS ROTHERMEL, MISS AMERY AND MISS ELLIOTT.

Courses pertaining to the home are offered as part of a liberal education, as vocational training, and for the purpose of preparing teachers of home economics for high schools and colleges.

Students who major in other departments of the University may elect a maximum of 24 credits in the department of home economics.

Students in the College of Science may major in the department of home economics and will receive the degree of bachelor of science.

Students in the College of Liberal Arts may major in the department of home economics and will receive the degree of bachelor of arts.

Students who expect to teach should follow the prescribed course which leads to the degree of bachelor of science in home economics. Graduates of the girls' manual arts course prescribed by the state board of education are admitted to this course without condition.

FOR UNDERGRADUATES

A-B. GENERAL COURSE. The year. No prerequisites. Laboratory deposit, \$3. Professor RAITT, Assistant Professor DENNY, Miss ROTHERMEL, Miss CRUDEN, Miss AMERY.

This course is planned for those students who will elect no other work in this department. It will include consideration of the selection, decoration and furnishing of the house. The organization of the household. The principles of food selection and preparation. Elements of nutrition. A study of textiles and clothing. Home care of the sick.

2. FOODS: PRINCIPLES AND PRACTICE OF FOOD PREPARATION. Two credits. Second semester. Prerequisite or parallel, chemistry, 1c. Laboratory deposit, \$4. Miss ROTHERMEL, Miss AMERY.

Nature and use of food. Changes produced by heat, cold and fermentation upon typical food materials. Practice in fundamental cooking processes. Course 2 in 1914-15 will also be given in the first semester.

3. FOODS: SELECTION AND PREPARATION. Four credits. First

semester. Prerequisite, home economics 2 or two years high school domestic science; chemistry 1c. Prerequisite or parallel, chemistry 2c. Laboratory deposit, \$4. Miss ROTHERMEL, Miss AMERY.

Continuation of course 2. Economic aspect of, selection and preparation of food. Production and manufacture of food, its nutritive value. Two lectures and two laboratory periods. Course 3 will in 1915-6 be repeated in the second semester.

4. **FOODS: COMPARATIVE STUDIES OF FOOD MATERIALS AND COOKING PROCESSES.** Two credits. Second semester. Prerequisite, home economics 3. Laboratory deposit, \$4. Miss ROTHERMEL.

Consideration of possible variations in fuels, utensils, methods and materials with reference to economy of time and labor and to nutritive value. Course 4 in 1915-16 will also be given in the first semester.

5. **CLOTHING: PRINCIPLES OF HAND AND MACHINE SEWING.** Two credits. First semester. Laboratory deposit, \$1. Assistant Professor DENNY, Miss CRUDEN.

Use and care of machines. Study of materials and design. Principles of construction. Comparison of home made and commercial clothing. Problem: garment making.

8. **CLOTHING: SELECTION AND CONSTRUCTION.** Four credits. Second semester. Prerequisite, home economics 5 or two years high school, Fine Arts III 1. Laboratory deposit, \$1.50. Assistant Professor DENNY, Miss CRUDEN.

Economic, hygienic and aesthetic aspects of dress. Adaptation of patterns, drafting. One lecture per week. Problem: shirt waist, simple gowns. Course 8 in 1915-16 will also be given in the first semester.

9-10. **CLOTHING.** Continuation of course 8. Three credits. The year. Prerequisite, home economics 8. Laboratory deposit, \$1. Assistant Professor DENNY, Miss CRUDEN.

Problem: Lined dresses, draping. Consult instructor before electing.

11-12. **NEEDLEWORK.** Two credits. The year. Prerequisite, 8. Laboratory deposit, \$1. Assistant Professor DENNY.

History and art of needlework, history of lace. Problems: marking of household linens, decorative stitches, fine mending. Consult instructor before electing.

14. **NUTRITION: ELEMENTARY DIETETICS.** Four credits. Second semester. Prerequisite or parallel, chemistry 1c-2c, home economics 2. Laboratory deposit, \$3. Professor RAITT.

Functions and nutritive value of food. The fate of the food-stuffs in the body. Dietary standards. Computing of dietaries. Infant feeding. Two lectures and two laboratory periods per week. The course is designed for those students who wish to obtain a practical knowledge of nutrition as part of a liberal education but who are not preparing to teach the subject.

18. **MILLINERY.** Two credits. Second semester. Prerequisite, home economics 5, Fine Arts III 1. Laboratory deposit, \$1. Also given in the first semester 1915-16. Miss CRUDEN.

Study of trade conditions. Consideration of materials, suitability and cost. Problem: designing and drafting patterns for hats. Construction of types of frames. Coverings and trimmings.

20. **LAUNDERING AND DYEING.** Two credits. First semester. Prerequisite, chemistry 1c-2c. Laboratory deposit, \$2. Miss CRUDEN.

Principles and processes of laundering and dyeing.

22. **HOME DECORATION.** Three credits. Second semester. Prerequisite, Fine Arts III 1. Laboratory deposit, \$2. Assistant Professor DENNY.

Study of color, space and line, and their application to home decoration. Economic and artistic problems of furnishing. Three laboratory periods per week.

27-28. **TEACHERS' COURSE.** Two credits. The year. Prerequisite, home economics, 3, 8, 15, 22, 24 and education 1. Professor RAITT, Assistant Professor DENNY.

Curricula, methods of teaching, and equipment. Organization of courses of study in foods, nutrition, textiles, clothing, and the home. Adaptation to different grades and types of schools. Practice teaching. Two lectures per week.

32. **ECONOMICS OF CLOTHING.** Three credits. First semester. Elective. Assistant Professor DENNY.

The evolution of dress, its economic and psychological importance. Hygienic and artistic consideration in clothing. Comparative study of factory made, modiste and home made clothing. Clothing budgets for various classes and incomes. Economic and

sociological phases of the clothing industry. Three lectures per week.

33. COSTUME DESIGN. Two credits. First semester. Prerequisite, design. Assistant Professor DENNY.

Development of fashion from ancient times to the present with emphasis upon the best art periods. Study of historic textiles. Designing of costumes based upon this historic study and the principles of design and color harmony.

19. HOME NURSING. Two credits. First semester. Prerequisites, home economics 2 and 14 or 15. Laboratory deposit, \$2. Miss ROTHERMEL.

Emergencies, first aid, and simple procedure in home care of the sick. Planning and serving meals adapted to the needs of the sick and convalescent. One lecture per week.

24. HOUSEHOLD MANAGEMENT. Three credits. Second semester. Prerequisites, home economics 14 or 15 and political science 26. Professor RAITT.

Organization of the household. The budget and its apportionment. Housewifery. Application of the principles of scientific management to the household.

25. TEXTILES. Three credits. Either semester. Prerequisite, chemistry, 1c-2c. Laboratory deposit, \$1. Assistant Professor DENNY.

Evolution of spinning and weaving. Study of wool, cotton, silk, linen, and minor textile fibers from raw product to finished material, including hygienic, economic and aesthetic considerations. Laboratory work in the identification of fabrics. Physical, chemical and microscopic tests. Two lectures per week.

31. GENERAL SURVEY. Two credits. First semester. Professor RAITT.

The social, economic and educational function of the household, traced from primitive ages to modern times. Modern movements that affect the home. The functions and ideals of the home. The home economics movement. Two lectures per week.

35. ADVANCED COSTUME DESIGN. Continuation of course 33. Two credits. Second semester. Prerequisites, design, home economics 33. Assistant Professor DENNY.

Modification of extreme fashions. Choice of design and color to meet requirements of the individual.

FOR JUNIORS, SENIORS, AND GRADUATES.

15. NUTRITION. Dietetics. Four credits. First semester. Prerequisites, home economics 3, chemistry 3c, chemistry 20a. Laboratory deposit, \$3. Professor RAITT.

Principles of human nutrition. Application to needs of individuals and groups under varying conditions. Dietary standards. Methods of computing dietaries. Two lectures and two laboratory periods per week.

16. NUTRITION. Continuation of course, 15. Two credits. Second semester. Prerequisite, home economics 15. Professor RAITT.

Study of the development of the science of nutrition. Review of present status. Original sources. Library research. Two lectures per week.

29. SPECIAL FOOD PROBLEMS. Three credits. First semester. Prerequisite, home economics 14 or 15. Laboratory deposit, \$1. Professor RAITT.

Marketing, cold storage, dietaries, adulterations, preservatives. A consideration of food habits. Given to seniors only. Three lectures.

FOR GRADUATES.

30. SPECIAL FOOD PROBLEMS. Three credits. Second semester. Prerequisites, home economics 3, 4, 15, 29; chemistry 3c, 10, 11. Professor RAITT.

Investigation of local food products.

36. SEMINAR. Four credits. Either semester. Prerequisite, thirty hours in home economics including home economics 27 and 28. Professor RAITT.

A study of the present status of home economics' education with special attention to the work in the elementary and high schools of the state of Washington.

37. RESEARCH. Either semester. Credits to be arranged. Miss ROTHERMEL.

Investigations of recent discoveries in the biological or physical sciences of immediate value to the housewife and consideration of methods for their utilization.

HYGIENE

(See Physical Training)

ITALIAN

(See French)

JOURNALISM

(Education Building)

PROFESSOR KANE, ASSISTANT PROFESSOR WHITE, ASSISTANT PROFESSOR
KENNEDY, MR. AGNEW

Men and women planning to go into newspaper work are provided with a course of study especially designed to help to qualify them for journalism. Practical journalism is studied, the studies following as closely as feasible the work in a newspaper office. Every effort is made to reproduce as faithfully as is possible within the limits of a collegiate curriculum the conditions under which newspapers are produced. To this end certain equipment is maintained, certain methods practiced, and certain relations induced.

A well-equipped printing department, organized on efficiency principles, offers a wide range of laboratory function for the students of journalism. The University of Washington Daily's staff is open to the competitive efforts of the students. The department receives a daily telegraphic report through the United Press Associations' service, and this is utilized for practice in editing, copy-reading, head-writing, and re-writing. Through the courtesy of the Seattle Times, the department has access to one page of the Sunday edition, the material for which is written and edited and made up by students in the department. All the leading daily and weekly newspapers, the state over, have regular correspondents, most of them chosen from the ranks of the students of journalism, who cover the news of the University for them. The instructional staff of the department is supplemented by a score of non-resident lecturers, who are in active newspaper work, in the different departments of newspaper production and direction.

The work in journalism, as arranged through a reorganization effected in 1913, is a set course. It is divided into editorial and advertising and business administration sections. This division is made to permit specialization by the student on those studies which will contribute most directly toward qualifying him

for the phase of newspaper work which he intends to enter. The student who contemplates entering the editorial room of the newspaper to begin as a reporter, with the hope of working up to one of the executive or editorial writing positions, will take the editorial section of the course. The student who intends to enter the business office of the newspaper, to begin as advertising solicitor or circulation assistant, will take the advertising and business administration section. Both sections begin with the same study—the Elements of Journalism—then diverge into specialization, and return to meet in a general study of newspaper policy and the institution of the newspaper. Within the editorial section there are some electives which allow for finer specialization, between the capacity for editing and making-up and the capacity for writing.

The set course, without regard for this division into sections, requires the student to present for graduation with the degree of bachelor of arts, 128 credits, plus the usual eight credits required in Military Science and Tactics, Hygiene, or Physical Training. The student is required to designate his major in the department, and his election as between the divisions at the beginning of the sophomore year. The minimum number of credits which a student may present in journalistic studies for the satisfaction of the major is 36, and the maximum number of credits in journalistic studies which he may present for graduation with the degree of bachelor of arts is 36. If the student wishes to take more journalistic studies than those which total 36 hours, he may take them, but the credit earned in them will not apply toward a bachelor of arts degree.

In arranging this curriculum such reinforcing subjects were prescribed as are most profitable in developing that broad scholarship, which, in addition to his technical training, will help the graduate to meet the requirements of modern newspaper work. These subjects seek especially to familiarize the student with social, political and industrial conditions of the times.

No deviation from the requirements established for the Bachelor of Arts degree, except those indicated in the set course, will be permitted, and the system of prerequisites adopted for the journalistic studies will be adhered to rigidly in the interest of class efficiency.

The curriculum will be found on page 16.

1-2. **ELEMENTS OF JOURNALISM.** Three credits. The year. Laboratory deposit, two dollars. Professor KANE.

Reporting; definition and study of the news story and the feature story; general survey of field, with some consideration of news sources and services; assignments, required reading. Journalism 27-28 required in conjunction.

2-1. A class in Elements of Journalism is begun at the opening of the second semester, and the work carried through for a year as in 1-2. Assistant Professor WHITE.

3-4. **EDITING.** Three credits. The year. Laboratory deposit, \$2. Prerequisite, journalism, 1-2 and 27-28. Assistant Professor WHITE.

Copy reading; head writing; evaluation of news; advanced news and feature story; correspondence, with special attention to the preparation of queries and the handling of district, state or sectional news. Special editions, sport extras, "society," and other departmental concerns. Assignments, required reading. The United Press daily telegraphic report is furnished for the especial use of this class.

OPEN TO JUNIORS AND SENIORS

5-6. **FEATURES AND EXCHANGES.** Two credits. The year. Laboratory deposit, \$2. Prerequisite, journalism 1-2, 3-4, 27-28. Assistant Professor WHITE.

Rewriting; handling of "grapevine;" syndicate matter; Sunday stories. Writing and editing. Assignments, required reading. Elective.

7. **HISTORY AND PRINCIPLES OF JOURNALISM.** Two credits. First semester. Laboratory deposit, \$2. Prerequisite, journalism 1-2, 3-4, 27-28. Assistant Professor WHITE.

A study of the development of Journalism; the services performed by the press in different periods, and its standards and ideals in each such period; the part taken by the newspaper in large social and political movements. Inseparable from this is a review of the lives of those individual editors and publishers who have left their impress on journalism. Thesis. Elective.

11-12. **EDITORIAL.** Three credits. The year. Laboratory deposit, \$2. Prerequisite, Journalism 1-2, 3-4, 27-28, and 5-6 or 7 or 17-18. Professor KANE.

News interpretation; study of the editorial styles of leading daily and weekly publications; close consideration of current

tendencies and movements in politics, science, literature and art, with an attempt to trace their origins and determine their influence. Practice in the writing of editorials; preparation of weekly resume of the news.

13-14. **NEWSPAPER POLICY.** Three credits. The year. Laboratory deposit, \$2. Prerequisite, Journalism 1, 2, 3, 4, 10, 11, 12, 27, 28, and one of the elective courses, 5-6, 7, or 17-18; or, if student of advertising, Journalism 1, 2, 21, 22, 23, 24, 27, 28, 29, 30. Professor KANE.

Definition; formulation of a general policy; expression of such policy in specific applications; consideration of the policies (so far as they are manifest) of leading dailies and weeklies; "campaigns." Assignments. Required reading.

15-16. **THE NEWSPAPER.** Two credits. The year. Prerequisite, the same as for 13-14. Professor KANE.

17-18. **THE SHORT STORY.** Three credits. The year. Laboratory deposit, \$2. Prerequisite, Journalism 1, 2, 3, 4, 27, 28. Mr. AGNEW.

Practical instruction in producing and marketing the modern short story; a critical appreciation of the short story and its place in literature. Evolution of the short story. Consideration of story material. Analysis of dramatic narrative. Study of the types of story. Lectures, class exercises and writing. Elective.

*19-20. **CARTOONING AND ILLUSTRATING.** Two credits. The year. Prerequisite, Journalism 1, 2, 27, 28. Mr. _____.

ADVERTISING

21-22. **PRINCIPLES OF ADVERTISING.** Three credits. The year. Laboratory deposit, \$2. Prerequisites, Journalism, 1, 2, 27, 28. Mr. AGNEW.

Underlying principles of salesmanship and advertising. General methods of distribution. Technical structure of advertisements, with much practice in writing copy and in laying out for compositor.

23-24. **ADVANCED ADVERTISING.** Two credits. The year. Laboratory deposit, \$2. Prerequisite, Journalism 1, 2, 27, 28, 21, 22. Mr. AGNEW.

Special problems in advertising; agency work, railway, insurance, municipal and general publicity campaigns.

* Not given in 1915-1916.

31-32. **GENERAL ADVERTISING.** Two credits. The year. Open to Commerce and Forestry students. Mr. AGNEW.

This course is designed for the consideration of such advertising problems as would come to the manager of a business, and includes principles of display, methods of distribution, trade marks, mediums and agency service.

25. **NEWSPAPER ADMINISTRATION.** Three credits. First semester. Prerequisite, Journalism 1, 2, 21, 22, 23, 24, 27, 28, 29, 30, Mr. AGNEW.

The field of daily, weekly and trade journal. Equipment. Mechanical get-up of paper. Files. Organization. News sources.

26. **NEWSPAPER REVENUE.** Three credits. Second semester. Prerequisite, Journalism 1, 2, 21, 22, 23, 24, 27, 28, 29, 30, 25. Mr. AGNEW.

Advertising. Circulation. Commercial printing department.

PRINTING

27-28. **THE MECHANICS OF PRINTING.** One credit. The year. One lecture and two laboratory hours a week. Laboratory deposit, two dollars. Assistant Professor KENNEDY.

Instruction in faces and type value in relation to heads and advertising. Proof reading. Printer's technical terms. History and use of paper. Engravings. Practice work on University of Washington Daily.

OPEN TO JUNIORS AND SENIORS

29-30. **BUSINESS ADMINISTRATION.** Two credits. The year. Two lectures and one laboratory hour a week. Laboratory deposit, two dollars. Assistant Professor KENNEDY.

Cost finding. Estimating. Simplified accounting. Office management. Buying and selling. Efficiency. These subjects are intended for students who enter the newspaper field with the prospect of becoming owners, publishers, managers, and the work is confined to the printing profession. These courses are to be taken in conjunction with courses as indicated in editorial and advertising studies. Prerequisite, Journalism 1, 2, 27, 28, 21, 22. This course is elective except as required.

LATIN

(Office, Room 28, Denny Hall.)

PROFESSOR THOMSON, ASSOCIATE PROFESSOR SIDEY, DR. CLARK

REQUIREMENTS FOR A MAJOR

1. Four years of preparatory Latin.
2. One year of Greek. Students are strongly urged to present at least two.
3. Courses 1, 2, 3, 4, 24, 25, 26, and others to the amount of at least eight credits.

For the normal diploma with Latin as a major, courses 1, 2, 3, 4, 9, 10, 24, 25-26, must be taken.

The requirement of one year's work in ancient language and literature may be satisfied by:

- a. Greek civilization and Roman civilization (Gr. 13, Lat. 11).
 - b. Greek civilization and Greek literature (Gr. 13 and 14).
 - c. Greek literature and Roman literature (Gr. 14 and Lat. 13)
 - d. Roman civilization and Roman literature (Lat. 11 and 13)
 - e. Courses 1-2.
 - f. Greek 1-2 or 3-4.
 - g. Oriental literature—Persian and Indian.
1. CICERO. De Senectute. SALLUST. Catiline. Four credits. First semester. Primarily for freshmen. Professor THOMSON, Dr. CLARK.
 2. PLAUTUS. Captivi and Trinummus. TERENCE, Adelphi. Four credits. Second semester. Professor THOMSON, Dr. CLARK. Prerequisite for 1 and 2, four years of preparatory Latin.
 3. CATULLUS, HORACE, OVID. Three credits. First semester. Primarily for sophomores. Prerequisite, 1-2. Associate Professor SIDEY.
 4. TACITUS. Germania. LIVY, Book I. Three credits. Second semester. Prerequisite, 1-2. Associate Professor SIDEY.

JUNIORS, SENIORS AND GRADUATES

5. CICERO, Letters. SENECA, Letters. Two credits. First semester. Prerequisite, 3-4. Professor THOMSON.
6. HORACE, Satires and Epistles. Two credits. Second semester. Prerequisite, 3-4. Professor THOMSON.

TEACHERS' COURSE

9-10. **TEACHERS' COURSE.** Three credits. The year. Pre-requisite, 5-6 or 7-8; or may be taken along with either of these. Associate Professor **SIDEY**.

Selected portions of Caesar, Bell. Gall. V-VII and Bell. Civile; Suetonius, Julius Caesar; Cicero's Letters; Vergil, *Bucolics* and *Georgics*; Ancient Lives of Vergil. Review of the Caesar, Cicero and Vergil usually read in high schools. Methods of teaching Latin and discussion of the problems likely to arise in the classroom. Teaching by members of the class, under the supervision of the instructor. Visits to schools where Latin is taught and reports on the teaching observed.

24. **ROMAN ANTIQUITIES.** Two credits. Second semester. For classical majors. To follow Greek 17. Associate Professor **SIDEY**.

FOR GRADUATES

18. **LUCRETIVS.** Books I and III; **CICERO**, *De Finibus* I and II. Two credits. First semester. Professor **THOMSON**.

19. **VERGIL.** *Georgics* and *Aeneid* VII-XII. Two credits. Second semester. Professor **THOMSON**.

20. **MEDIEVAL LATIN.** Einhard's *Life of Charlemagne*, Bede's *History of England*. Two credits. First semester. Associate Professor **SIDEY**.

21. **TACITUS.** *History* I, II. Two credits. Second semester. Associate Professor **SIDEY**.

22. **LATIN OF THE EMPIRE.** Gudeman's *Selections*. Two credits. First semester. Professor **THOMSON**.

23. **TACITUS**, *Dialogus*. **QUINTILIAN**, *Book I*. Two credits. Second semester. Professor **THOMSON**.

OPEN TO ALL STUDENTS

11. **ROMAN CIVILIZATION.** Three credits. Both semesters. Dr. **CLARK**.

This course is designed to give a clear notion of the part played in history by the Romans and to set forth their contributions to civilization in general. A general survey of Roman history will serve as a basis for the discussion of the religious, political and legal systems of the Romans, their literature and art, and their family life. Lectures (illustrated, when possible, by slides) and collateral reading.

13. HISTORY OF ROMAN LITERATURE. Three credits. First semester. Prerequisite, two years of Latin. Associate Professor SIDEY, Dr. CLARK.

Fowler's Latin Literature, supplemented by lectures and collateral reading. Illustrative selections from English versions of the more important authors.

Course 13 is repeated in the second semester.

15. ROMAN HISTORY. See History 4. Assistant Professor DENSMORE.

16-17. ROMAN LAW. Four credits. The year. (Law Latin and selections from Roman Law). Primarily for prospective law students. Prerequisite, two years of preparatory Latin. Professor THOMSON.

25-26. LATIN PROSE COMPOSITION. Two credits. The year. Required of Latin majors and those who intend to teach Latin. Prerequisite, four years of preparatory Latin. Dr. CLARK.

27. ROMAN ART. Two credits. Second semester. To follow Greek 15. Professor SIDEY.

A study of the more important remains of Roman architecture and sculpture, together with lectures on Pompeii, Roman numismatics and the minor arts. This course is intended especially for students in Fine Arts.

LAW

(Office, Law Building)

153-154. BUSINESS LAW. Three credits. The year. Huffcut's Elements of Business Law and Bay's cases on Commercial Law. Assistant Professor COCKERILL.

No Law credit is given for this course.

158. NEWSPAPER JURISPRUDENCE. Two credits. Second semester. Prerequisite, Journalism 1-2, 3-4 or Journalism 1-2, 21-22, 27-28. Dean CONDON.

General principles of business law as applied to newspapers. Contempt; Libel and Copyright Laws; laws governing publication of advertisements; federal statutes requiring publicity as to ownership, circulation, etc. No Law credit is given for this course.

LIBRARY ECONOMY

(Office, The Library.)

TEACHING STAFF: WILLIAM E. HENBY, A. M.; CHARLES W. SMITH, A. B., B. L. S.; MARY HUBBARD, A. B., B. L. S.; FENIMORE SCHWARTZ, A. B., B. L. S.; MABEL ASHLEY, A. B.

The department of library economy seeks to give such instruction and practice in all essential lines of library activity as will enable a capable student to enter as an assistant in any large library or as librarian of a small library.

In this curriculum librarianship is the central idea and such lines of academic scholarship are made preparatory and collateral to it as will give at once a liberal education and the best undergraduate preparation for library service.

The library courses extend through the junior and senior years and consist of five recitations per week through the four semesters and six laboratory, or practice, hours per week through the last three semesters. In the junior year the class meets on M. T. W. Th. F. at 10 o'clock; in the senior year it meets on the same days at 8 o'clock. One-fourth of the senior practice is in the Seattle Public Library, largely in the branches. Upon the completion of this curriculum the degree of Bachelor of Arts is granted. A limited number of graduate students may be admitted, completing the work in one year by devoting their entire time to it.

Students taking the library curriculum must offer for entrance the requirements for admission to any group of the College of Liberal Arts or the College of Science and must have completed the first two years of the curriculum before being admitted to any course in library economy.

The curriculum for the freshman and sophomore years includes all the prescriptions for the bachelor of arts degree, within those years, so that if at the end of the sophomore year a student wishes to major in some other subject the change can be made without loss. Also by this arrangement a student who has not elected the library economy curriculum until the beginning of the junior year may make the election then if desired.

A student offering for entrance one or more years of high school credit in any of the sciences offered in the freshman year of this curriculum will be expected to pursue one of the other two sciences for the year.

No student will be admitted to the junior year of this curriculum who has not completed the equivalent of at least sixteen college credits in German and eight college credits in French. The curriculum is open only to students majoring in library economy. For definite outline see page 17.

MATHEMATICS AND ASTRONOMY

(Office, Room 1, Science Hall.)

I. MATHEMATICS

PROFESSOR MORITZ, ASSOCIATE PROFESSORS MORRISON AND BOOTHROYD,
ASSISTANT PROFESSORS GAVETT, CARPENTER AND NEIKIRK;
DRS. BELL, SMALL, WEAR AND KUSCHKE.

REQUIREMENTS OF THE DEPARTMENT

For a major in mathematics, 24 credits, including course 5-6.

COURSES FOR UNDERGRADUATES

a. FOR STUDENTS IN LIBERAL ARTS, PHARMACY, EDUCATION, LAW

(Courses 1 or 1b-2b satisfy the mathematics requirements except when trigonometry has been offered for admission, in which case one of the courses 2 or 1b-2b may be offered.)

1. PLANE TRIGONOMETRY. Two credits. The year. Fifteen sections. Prerequisites, one and a half year entrance algebra, one year plane geometry. Juniors and seniors who complete this course will receive only half credit.

Sections A and B are honor sections open only to students who wish to do strong work in mathematics, or who are looking forward to making mathematics their major. Students in these sections whose work falls below a C grade will be transferred to some other section.

The course covers the following topics: The trigonometric functions of any angle, the use of natural functions and logarithmic tables, the solution of right and oblique plane triangles, solution of trigonometric equations, construction of trigonometric graphs and trigonometric representation of complex numbers.

1c. MATHEMATICAL THEORY OF INVESTMENT. Four credits. First semester. Primarily for students in commerce courses. Professor GAVETT.

An exposition with applications of the mathematical principles underlying problems in interest, annuities, amortization, valu-

ation of bonds, sinking funds, depreciation, building and loan associations, life annuities, life insurance, premiums, endowment insurance, reserves and allied problems.

2c. MATHEMATICAL PRINCIPLES OF STATISTICAL METHODS. Four credits. Second semester. Primarily for students of commerce, education, botany and geology. Professor GAVETT.

An elementary study of the mathematical principles in the scientific manipulation of statistics of whatever kind. Tabulation of data, simple diagrams, frequency tables and graphs, histograms and ogives, types and averages, modes and medians, dispersian, skewness and coefficients of skewness, logarithms, histograms and index numbers, comparison of histograms, correlation, coefficients of correlation, probable error, the correlation table.

1e. PLANE TRIGONOMETRY. Four credits. Either semester.

Same as course 1, completing the whole course in one semester.

1b-2b. COLLEGE MATHEMATICS. Four credits. The year. Prerequisites, the same as for course 1. Professor MORITZ.

A survey course dealing with graphic methods, the elements of trigonometry through the solution of right triangles, logarithms, selected topics from higher algebra, the elements of analytical geometry and the underlying conceptions and simple applications of the differential and integral calculus.

b. FOR STUDENTS IN THE COLLEGE OF SCIENCE.

1. PLANE TRIGONOMETRY. (See under *a*, above.)

2. COLLEGE ALGEBRA. Two credits. The year. Prerequisites, same as for Math. 1. This course should be taken together with course 1 by freshmen who wish to continue their mathematics in the sophomore year. Dr. BELL.

Permutations and combinations, mathematical induction, determinants, undetermined coefficients, partial fractions, probability, infinite series and summation of series, elements of the theory of equations.

2e. COLLEGE ALGEBRA. Four credits. Second semester. Dr. WEAR.

Same as course 2 completing the subject in one semester.

3. ANALYTICAL GEOMETRY. Three credits. First semester. Two sections. Prerequisites, Math. 1.

A thorough study of the elements.

4. DIFFERENTIAL AND INTEGRAL CALCULUS. Three credits. Second semester. Two sections. Prerequisites, Math. 3.

This is only a half course and should be followed by Math. 5.

5-6. DIFFERENTIAL AND INTEGRAL CALCULUS. Three credits. The year. Continuation of course 4. Professor MORITZ.

5b. SPHERICAL TRIGONOMETRY. Two credits. First semester. Prerequisite, Math. 1 or 1a. Professor MORITZ.

6b. SOLID ANALYTICAL GEOMETRY. Two credits. Second semester. Prerequisites, Math. 4 or 3a. Professor MORITZ.

5c-6c. HIGHER MATHEMATICS FOR STUDENTS IN CHEMISTRY AND PHYSICS. Two credits. The year. Prerequisites, Math. 5 or 4a. Dr. BELL.

Selected topics applying the principles of the Infinitesimal Calculus to problems in chemistry and physics.

C. FOR STUDENTS IN THE COLLEGE OF ENGINEERING, SCHOOL OF MINES, AND SCHOOL OF FORESTRY

0-0. SOLID GEOMETRY. Three credits. Either semester. Four sections. Prerequisite, plane geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

1a. TRIGONOMETRY AND ALGEBRA. Four credits. First or second semesters. Prerequisites, same as for Math. 1.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of plane trigonometry and supplementary work in algebra equivalent to one hour per week.

2a. ANALYTICAL GEOMETRY AND ALGEBRA. Four credits. First or second semester. Prerequisites, Math. 1a.

Primarily for students in the Colleges of Engineering, Forestry, and Mines. The elements of analytical geometry and supplemental work in algebra equivalent to one hour per week.

1f-2f. FORESTER'S COURSE. Four credits. The year. Prerequisites, same as for Math. 1. Assistant Professor GAVETT.

A year's course in Numerical and Graphic methods, solution of Plane Triangles, the elements of Coordinate Geometry, and Derivatives and Integrals with applications to problems involving Maxima and Minima, Rectifications, Quadratures and Cubatures.

3a. CALCULUS FOR ENGINEERS. Four credits. First or second semester. Prerequisite, Math. 2a.

4a. CALCULUS FOR ENGINEERS. Four credits. First or second semester. Continuation of Math. 3a.

5a. APPLICATIONS OF THE CALCULUS FOR ENGINEERS. Two credits. First or second semester. Prerequisite, Math. 4a.

d. FOR UPPERCLASSMEN AND GRADUATES

7-8. ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS. Two credits. The year. Prerequisite, Math. 5 or Math. 4a. For seniors and graduates. Dr. NEIKIRK.

Introductory course. Solutions of the equations of the first and second order. Determination of constants of integration from initial conditions. Application to physics, chemistry and astronomy.

***9-10. VECTOR ANALYSIS.** Four credits. The year.

11, 12. PROJECTIVE GEOMETRY. Two credits. The year. Prerequisite, two years of college mathematics. For juniors, seniors and graduates. Mr. CARPENTER.

***13-14. DESCRIPTIVE GEOMETRY AND CURVE TRACING.** Four credits. The year. Prerequisites, Math. 5 or Math. 4a. For juniors, seniors and graduates. Mr. CARPENTER.

15-16. NON-EUCLIDEAN GEOMETRY. Two credits. The year. Prerequisites, two years of college mathematics. For juniors, seniors and graduates. Assistant Professor GAVETT.

17-18. THEORY OF FUNCTIONS OF A REAL VARIABLE. Two credits. The year. Prerequisite, 5 or 4a. Dr. SMAIL.

Rational and irrational numbers, the general function concept, continuity, integrability, and differentiability of functions, discontinuous functions, infinite series and products, series of functions, uniform convergence, multiple series, definite integrals, curvilinear integrals.

30. TEACHER'S COURSE. Four credits. Second semester. Prerequisites, Math. 5. For juniors and seniors. Required of those who make mathematics their major study and who are applicants for the teacher's certificate. Mr. CARPENTER.

* Not given in 1915-1916.

FOR GRADUATES

19. MODERN GEOMETRY. Three credits. First semester. Prerequisites, Math. 5 or Math. 4a. For seniors and graduates. Associate Professor MORRISON.

An introductory course in modern analytical geometry and higher plane curves.

20. DIFFERENTIAL GEOMETRY. Three credits. Second semester. Prerequisite, Math. 15. For seniors and graduates. Associate Professor MORRISON.

Applications of the calculus to the metrical properties of twisted curves and surfaces.

21. THEORY OF EQUATIONS. Three credits. First semester. Prerequisites, Math. 5 or 4a. Professor MORITZ.

22. MODERN ALGEBRA. Three credits. Second semester. Prerequisite, Math. 21. Professor MORITZ.

*23-24. FOUNDATIONS OF MATHEMATICS. Two credits. The year. Prerequisite, Math. 6. For seniors and graduates. Dr. NEIKIRK.

25-26. THEORY OF NUMBERS. Two credits. The year. Prerequisites, Math. 5 or Math. 4a. For juniors, seniors and graduates. Dr. BELL.

*27-28. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. Two credits. The year. Prerequisites, Math. 5 and Math. 6. For seniors and graduates. Dr. BELL.

*33-34. FOURIER'S SERIES AND SPHERICAL HARMONIES. 2 hours. The year. Prerequisites, Math. 6 or 4a. Assistant Professor NEIKIRK.

31. MATHEMATICAL JOURNAL AND RESEARCH CLUB. Meets on the second Tuesday of each month in Science building, room 2, at 8 p. m. The club consists of advanced students and teachers in the department of mathematics. The purpose of the club is to primarily discuss the research work carried on by members of the club, and secondarily to review important recent mathematical literature.

* Not given in 1915-1916.

II. ASTRONOMY (The Observatory.)

PROFESSOR MORITZ, ASSOCIATE PROFESSOR BOOTHROYD

The work in astronomy is planned for three classes of students: (a) those who desire some knowledge of astronomy as a part of a liberal education; (b) engineers and others who need some knowledge of astronomy as a part of their technical training; and (c) those who wish to pursue the subject more intensively than either of the other classes.

GRADUATION REQUIREMENT

Course 1-2 fulfills the eight credits of physical science required for graduation of students in the colleges of Liberal Arts and Science.

REQUIREMENTS FOR A MAJOR IN ASTRONOMY

24 credits, but 1a-2a cannot be counted. Reinforcing subjects of not less than 32 credits selected from mathematics, physics, chemistry, and geology are recommended.

1-2. GENERAL ASTRONOMY. Four credits. The year. Laboratory deposit, \$1.00. Two hours lectures and recitations and four hours laboratory per week. Prerequisites, preceded or accompanied, mathematics 1 or mathematics 1a. Associate Professor BOOTHROYD.

Since in this course the aim is to give a clear conception of the development of the scientific method as well as a comprehensive view of the astronomy of today, it is especially desirable for those who contemplate a scientific career, as well as a necessary requirement for a liberal education. It is required of all students majoring in astronomy and is strongly recommended for engineers and for majors in mathematics, physics, geology and chemistry.

1a-2a. DESCRIPTIVE ASTRONOMY. Two credits. The year. For sophomores, juniors and seniors. Associate Professor BOOTHROYD.

A course designed to give such a general knowledge of the subject as every well educated person should possess. The 6-inch equatorial telescope and other equipment of the observatory will be used for illustration and demonstration. This course is espe-

cially desirable for residents of the city who may wish a brief course in astronomy.

FOR UNDERGRADUATES AND GRADUATES

3. **ASTRO-PHYSICS.** Three credits. First semester. Open to sophomores, juniors, seniors and graduates. Prerequisites, astronomy 1-2, mathematics 1 and must be preceded or accompanied by mathematics 3-4, physics 1-2, chemistry 1-2. Associate Professor BOOTHROYD.

A thoro review of the fundamental principles of spectroscopy and of the methods and instruments used in spectroscopic research, followed by a survey of the field of Astro-Physics especially as it relates to solar and stellar physics and chemistry, as well as a survey of the problem of stellar motions. The work will be illustrated, wherever possible, by laboratory exercises performed by the student.

4. **PRACTICAL ASTRONOMY.** Three credits. Second semester. Open to sophomores, juniors, seniors and graduates. Prerequisites, astronomy 1-2 and must be preceded or accompanied by mathematics 3-4 or 3a-4a. Associate Professor BOOTHROYD.

In this course the problems of geodetic astronomy are considered, together with those involving the use of the meridian circle, chronograph and clock in determining the right ascensions and declinations of stars, as well as the theory and use of the equatorial and its accessories.

3a. **ELEMENTARY GEODESY.** Three credits. First semester. Prerequisites, preceded or accompanied by mathematics 3-4 or by mathematics 3a-4a. Associate Professor BOOTHROYD.

Precise surveying methods and elements of geodesy, mapping and map projection. This course is planned especially for civil engineers who desire a knowledge of precise surveying methods such as are used in the survey of the larger cities and in geodetic surveying and in all survey work where the highest accuracy is necessary, as well as some acquaintance with the more elementary principles underlying the science of geodesy. Some practice will be given in precise surveying methods.

4a. **GEODETIC ASTRONOMY.** Three credits. Second semester. Prerequisites, preceded or accompanied by mathematics 3-4 or by mathematics 3a-4a. Associate Professor BOOTHROYD.

The elements of practical astronomy are first taken up, after which they are applied to the problems of the determination of time, latitude, longitude and azimuth with the sextant and surveyor's transit. Each student is required to make the necessary observations and computations for these problems and the more precise methods required in geodetic work are illustrated with the instruments of the observatory. Engineers are, however, urged to take astronomy 4 in place of this if they can possibly afford the time.

***6 ADJUSTMENTS OF OBSERVATIONS.** Three credits. Second semester. Open to seniors, graduates and engineers. Prerequisites, astronomy 3a or astronomy 4. Associate Professor BOOTHROYD.

7. ANALYTICAL MECHANICS. Three credits. First semester. Open to engineers, juniors, seniors and graduates. Prerequisites, astronomy 1-2 and preceded or accompanied by mathematics 5 or mathematics 4a, physics 1-2. Associate Professor BOOTHROYD.

8. CELESTIAL MECHANICS. Three credits. Second semester. Open to juniors, seniors and graduates. Prerequisite, astronomy 7. Associate Professor BOOTHROYD.

***9-10. ADVANCED ASTRONOMY.** Four or six credits. Either semester. Open to seniors and graduates. Prerequisites, 16 credits in astronomy, 16 credits in mathematics. Associate Professor BOOTHROYD.

MILITARY SCIENCE AND TACTICS

(Office, The Armory.)

EDWARD E. MCCAMMON, FIRST LIEUTENANT THIRD INFANTRY, U. S. A.,
COMMANDANT

A course of two years in military training is required. All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take the course which by regulation of the University is required during the first and second year. Three hours a week are devoted to military training, for which two credits are given each semester.

* Not given in 1915-1916.

ORIENTAL HISTORY, LITERATURE AND LANGUAGES

(25 Denny Hall.)

PROFESSOR GOWEN

The requirement of one year's work in ancient language and literature may be satisfied by courses 5 and 6. Courses 1, 2, 3 and 4 count for credits in the department of history. Courses 7, 8, 9 and 10 are for juniors, seniors and graduates.

1. THE EVOLUTION OF CHINA. Before the Manchu Conquest. Two credits. First semester. The same as history 35.

2. THE EVOLUTION OF CHINA. Modern Era. Two credits. Second semester. The same as history 36.

3. THE EVOLUTION OF JAPAN. Feudal Era. Two credits. First semester. The same as history 37.

4. THE EVOLUTION OF JAPAN. Modern Era. Two credits. Second semester. The same as history 38.

5. THE LITERATURE OF INDIA. Three credits. First semester.

6. THE LITERATURE OF PERSIA. Three credits. Second semester.

7, 8. SANSKRIT. Four credits. The year. Hours to be arranged.

9, 10. SEMITIC LANGUAGES. Four credits. The year. Hours to be arranged.

Section 1. HEBREW (for beginners).

Section 2. HEBREW (advanced) or ARABIC.

PHILOSOPHY AND PSYCHOLOGY

(Office, Room 7, Denny Hall)

PROFESSOR SAVERY; ASSOCIATE PROFESSOR SMITH; DR. DUCASSE, MR. WILCOX, DR. GUTHRIE, DR. CIVLER, MISS WILKINSON.

Majors in philosophy should take 31 and 2 or 4 in the sophomore year. Students may major in psychology.

The requirements in the department may be satisfied by eight hours in the following courses: 1, 2, 3, 9, 10, 23, 24, 31, 33, 34, 35, 36; or by 5-6.

Courses 1, 2, 3 and 31 are adapted to arts-law students.

Course 31 is a prerequisite to the study of education, unless the student has taken elsewhere general psychology.

Course 5-6 is the best introduction to philosophy.

Freshmen are not admitted to courses except by consent of instructors.

1. INTRODUCTION TO PHILOSOPHY. Four credits. First semester. Professor SAVERY, Dr. DUCASSE and Dr. GUTHRIE.

An elementary study of the main problems of philosophy.

2. ELEMENTS OF ETHICS. Four credits. Either semester. Professor SAVERY, Dr. DUCASSE and Dr. GUTHRIE.

Study of value, the good, duty, virtue. Application of ethical principles to problems of economic life, government, law, art and religion. Three lectures, two discussion hours.

3. ELEMENTS OF LOGIC. Four credits. Either semester. Primarily for arts-law students. Dr. DUCASSE.

The logical structure of an action at law. The ways of logically establishing or invalidating any statement illustrated at length, considerable drill being given in the various processes of proof and disproof. The logic of testimony, circumstantial evidence, pleas of guilty with extenuating circumstances, special pleading, etc. Stress will be laid throughout on the practical rather than on the theoretical side of logic.

5-6. HISTORY OF PHILOSOPHY. Four credits. The year. Dr. GUTHRIE.

Ancient, Medieval and Modern. The views of the classical philosophers on the nature of the universe and man, the values of life, the ideal form of society, the origin and limits of knowledge, the relation of the individual to the world, etc. Portions of the most important works of the greater philosophers will be read. Some of the more recent philosophical movements, such as Pragmatism and Neo-Realism will be very briefly touched upon at the end of the course.

7-8. PRINCIPLES OF PHILOSOPHY. Three credits. The year. Prerequisite, 8 credits in philosophy. Professor SAVERY.

A course in systematic philosophy. (1) The meaning and tests of truth, with special reference to Pragmatism. (2) The construction of a theory of the universe, including an account of the nature of the human self, its relation to the body, the nature of matter, the problem of the freedom of the will. Study of

idealism. (3) The foundation of morality, pessimism and optimism, the evolution and destiny of man.

9-10. PHILOSOPHY OF SCIENCE. Two credits. The year. Prerequisite, 1, or 5-6. Professor SAVERY.

An account of scientific method; and of the fundamental laws and concepts of the sciences—mathematical, physical and biological. Interpretation of the scientific view of the world and its place in the human economy. Primarily for majors in science.

*11-12. HISTORY OF RELIGION. Two credits. The year. Professor GOWEN.

The nature, origin and early development of religion, and its advanced types in Brahmanism, Buddhism, Confucianism, Zoroastrianism, and Judaism.

13-14. PHILOSOPHY OF RELIGION. Two credits. First and second semester. Prerequisite, one course. Professor SAVERY.

(1) The religious experience: the origin, nature and types of religion, and its effect on individual happiness and morality. The social aspect of religion and the religion of democracy. Study of mystical experiences. (2) The truth of religion: the proofs of the existence of God, the basis of faith, pessimism, optimism and meliorism, immortality. Discussion of agnosticism.

*15-16. PHILOSOPHY IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY. Two credits. The year. Prerequisite, one course previous or concurrent. Required for seniors in library training course. Professor SAVERY.

17-18. PHILOSOPHY IN THE MODERN DRAMA. Two credits. The year. Prerequisite, one course previous or concurrent. Required for seniors in Library Training Course. Associate Professor BENHAM.

Philosophical, ethical and social ideals in Ibsen, Strindberg, Hauptmann, Sudermann, Maeterlinck, Brieux, Bernard Shaw, Galsworthy and other recent dramatists. Introductory study of similar ideas in the Greek drama, the book of Job and Shakspeare.

19-20. ESTHETICS. Two credits. The year. Required for seniors in music. Dr. GIVLER and Dr. DUCASSE.

The origin and motives of art, and the esthetic principles of architecture, sculpture, painting, music, poetry, the drama, and

* Not offered in 1915-1916.

the decorative arts. The nature of beauty, the sublime, the comic, the tragic. Standards of criticism. Social and democratic theories of art.

22. **ADVANCED LOGIC.** Two credits. Second semester. Prerequisite, 8 or analytical geometry and calculus. Time to be arranged. Dr. GUTHRIE.

The development of symbolic logic and the logic of mathematics, with a discussion of logical theory.

23-24. **PLATO AND ARISTOTLE.** Two credits. The year. Prerequisite, 1, or 5-6. Time to be arranged. Dr. GUTHRIE.

A study of the philosophical works of Plato and Aristotle, with a brief account of Greek philosophy before Plato.

25-26. **SEMINARY.** Hume and Kant. Two or three credits. The year. Open to students upon approval of instructor. One evening a week. Time to be arranged. Dr. DUCASSE.

Hume's Treatise of Human Nature and Kant's Critique of Pure Reason will be read and discussed.

28. **PERSONAL PROBLEMS AND PHILOSOPHY.** One credit. Second semester. No prerequisites. Time to be arranged. Dr. DUCASSE.

The existence of personal problems connected with the meaning of life, and with some of its most significant situations is, for many students, the source of their interest in philosophy. This course expressly recognizes this, and aims to bring to clear consciousness the ultimate issues upon which depends the solution of such problems for each person. The work will consist of lectures, discussions, private conferences and assigned reading.

31. **GENERAL PSYCHOLOGY.** Four credits. Either semester. Required for all courses in education. Laboratory deposit, \$2.00. Dr. GIVLER and Mr. WILCOX.

The facts and laws of consciousness and behavior and their connection with the nervous system. Three lectures, one recitation, one laboratory period.

33. **PHYSIOLOGICAL PSYCHOLOGY.** Four credits. First semester. Prerequisite, 31. One lecture, one recitation, two laboratory periods. Laboratory deposit, \$2.00. Mr. WILCOX.

The human brain and spinal cord, summation of stimuli, inhibition, rate of transmission of the nerve impulse, Weber's law and space perception.

34. **EXPERIMENTAL PSYCHOLOGY.** Four credits. Second semester. Prerequisite, 31. One lecture, one recitation and two laboratory periods. Laboratory deposit, \$1.00. Dr. GIVLER.

Qualitative and quantitative aspects of reaction in the various sense fields and higher processes. Such phenomena as thresholds, latent period, after-image, summation, fusion, perception of time and space in sensation are studied, as well as the functions of memory and the unifying processes of selective attention.

35-36. **PRINCIPLES OF PSYCHOLOGY.** Three credits. The year. Prerequisite, 31. Associate Professor SMITH.

A systematic study. Students are urged to precede this by physiological or experimental psychology.

*37. **ANIMAL BEHAVIOR.** Three credits. First semester. Prerequisite, 31. Mr. WILCOX.

The evolution of mind in animals.

38. **EDUCATIONAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 31. Dr. GIVLER.

The psychological basis of education. Perception, the learning process, practice, memory, habit, judgment, attention, and motor functions, with reference to age, sex, race, and individual differences.

40. **ABNORMAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 31. For pre-medical students, and others by permission of instructor. Mr. WILCOX.

Sleep, dreams, hypnotism, mediumship, possessions, hallucinations, motor automatisms, double personality and the subconscious.

41. **PRACTICAL PSYCHOLOGY.** Three credits. First semester. No prerequisite. For students of Commerce. Dr. GIVLER.

The psychological aspect of business and everyday life. Modern efficiency methods and "psychotechnics." A detailed study of the laws of attention, suggestion and imitation as applied to advertising, selling, and other economic problems.

42. **CHILD PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 31. Associate Professor SMITH.

A study of mental development from infancy to adult age. The course will include the following subjects: The starting point of mental life, the behavior of the newborn, the nature and occurrence of instincts throughout childhood, individual differ-

* Not given in 1915-1916.

ences, the analysis of temperament, the psychology of learning, heredity. The mind of the child will be examined in the light of systematic psychology with the purpose of giving the student some scientific understanding of childhood.

45. **PSYCHOLOGY OF EXCEPTIONAL CHILDREN.** Three credits. First semester. Prerequisite, 31. Associate Professor SMITH.

The nature and cause of mental defects and peculiarities of children, with special reference to methods of diagnosis and to physical pathology. Prerequisite to the course in the Education of Exceptional Children.

46. **METHODS OF MENTAL AND PHYSICAL TESTS AND METHODS OF MEASUREMENT.** Two credits. Second semester. Prerequisite, 45. Laboratory deposit, \$1.00. Associate Professor SMITH and Miss WILKINSON.

Laboratory course with conferences. The student will be given practical training in Clinical Psychology and in Experimental Child Psychology.

49-50. **RESEARCH IN PSYCHOLOGY.** First and second semester. Prerequisite, 33 or 34. Associate Professor SMITH.

Opportunity for original investigation.

PHYSICAL EDUCATION (Office, the Gymnasium)

DIRECTOR HALL, PROFESSOR WEINZIRL, MISS MERRICK, MR. CONNIBEAR,
MISS EASTMAN, MISS JOHNSON, MR. SEXSMITH

REQUIREMENTS FOR GRADUATION

The requirements in physical education for the several schools are as follows:

Colleges of Arts, Science, Engineering, and Forestry; Physical Education 1-4 inclusive.

College of Pharmacy, B. S.: Physical Education 1-4 inclusive.

College of Pharmacy, Ph. C.: Physical Education 1-2 inclusive.

The requirements in physical education for all able-bodied men are satisfied by an equal number of credits in the department of military science and tactics.

Students not held for military drill on account of previous service must earn same number of credits in physical education.

REQUIREMENTS FOR A MAJOR

The completion of twenty-four hours exclusive of the eight hours of practice required in the sophomore and freshmen years.

I. HYGIENE

All freshmen are required to complete a given amount of hygiene during their freshman year. This is carried out as a part of physical education and military science and tactics.

MEN

1. PERSONAL HYGIENE. First semester. Director HALL.

WOMEN

2. PUBLIC HYGIENE. First semester. Professor WEINZIRL.

1. PERSONAL HYGIENE. Second semester. Director HALL.

II. PHYSICAL EDUCATION

Courses 1 and 3 for both men and women are divided into two periods by the Thanksgiving recess. During the first period the work is carried on out-of-doors and consists of gymnastic games and athletic sports. The second period is devoted to indoor training.

Courses 2 and 4 are similarly divided by March 15th. The second period is devoted to out-of-door work.

Upon approval by the director training on athletic teams may be substituted by a limited number, for required courses.

Courses 1, 2, 3, 4, for both men and women must be taken during the freshman and sophomore years unless deferred by the director and dean.

To be eligible to compete in the various athletic contests every student must pass a satisfactory physical examination and have practiced at least thirty days.

A uniform gymnasium suit including shoes are necessary. They may be purchased after entering college.

Courses 9, 11, 13, 14, 15, and 16 may be elected by students in the Colleges of Arts and Science for which credit is given above the required eight hours.

All courses are open to election with credit by students majoring in the departments of education and zoology.

1-2. CALISTHENICS AND ATHLETICS. Two credits. The year. Introductory course for first year men. Director HALL, Mr. SEXSMITH.

1-2. CALISTHENICS AND ATHLETICS. Two credits. The year. Introductory course for first year women. Miss MERRICK, Miss EASTMAN, Miss JOHNSON.

3-4. GYMNASTICS AND ATHLETICS. Two credits. The year. For second year men. Director HALL, Mr. SEXSMITH.

3-4. GYMNASTICS AND ATHLETICS. Two credits. The year. For second year women. Miss MERRICK, Miss EASTMAN, Miss JOHNSON.

5-6. METHODS AND PRACTICE TEACHING. Two credits. The year. Miss EASTMAN and instructors.

A study of the various methods and systems of physical training; their application and adaptability to different ages and conditions.

*7-8. KINESIOLOGY AND ORGANIZATION. Two credits. The year. Prerequisites, zoology 3-4. (Human Anatomy). Mr. SEXSMITH and instructors.

*9. ADVANCED HYGIENE. Two credits. First semester. Director HALL.

A study of the forces that make for or against the perfect health of the individual.

*10. PHYSICAL EXAMINATIONS. Two credits. First semester. Director HALL.

11. ANTHROPOMETRY. Two credits. First semester. Miss JOHNSON.

*12. CORRECTIVE GYMNASTICS AND PRESCRIPTION OF EXERCISE. Two credits. Second semester. Director HALL.

*13. HISTORY OF PHYSICAL TRAINING. Two credits. Second semester. Mr. SEXSMITH.

14. PLAYGROUNDS AND RECREATION. Three credits. First semester. Miss EASTMAN.

15. HYGIENE: EMERGENCIES. Two credits. Second semester. Director HALL.

Especially accidents that may arise on athletic fields, on public playgrounds or in the gymnasium.

17. FOLK DANCES. One credit. First semester. Miss EASTMAN.

18. AESTHETIC DANCING. One credit. Second semester. Miss EASTMAN.

19-19a. ADVANCED GYMNASTIC EXERCISES. For majors only. majors only.

* Not given in 1915-1916.

20. PLAYGROUNDS AND RECREATION, a continuation of course
14. Four credits. Second semester. Miss EASTMAN.

Their practical application to various ages. Their organization and management. The training of playground leaders.

PHYSICS

(Office, Basement, Denny Hall)

PROFESSOR OSBORN, ASSISTANT PROFESSOR BRAKEL, DR. ANDERSON, MR. VORIS AND TEACHING FELLOWS

Courses 8 and 5 are suggested for students taking a second year of physics.

(a) PRIMARILY FOR STUDENTS IN ARTS AND SCIENCE

1-2. GENERAL PHYSICS. Four credits. The year. Three class periods and one laboratory period. Prerequisite, High School Physics. Professor OSBORN.

3-4. MECHANICS, SOUND AND MUSIC. Four credits. The year. Prerequisite, High School Physics. Dr. ANDERSON.

A course for the students in the music department.

5. HEAT. Three or four credits. Second semester. Prerequisites, 1 and 2. Mathematics, 8 hours. Three class periods and one laboratory period. May be taken without laboratory work for three credits. Dr. ANDERSON.

An experimental and theoretical treatment of the subject.

*6. VIBRATORY PHENOMENA AND SOUND. Four credits. First semester. Prerequisites, Physics 1, 2 and Calculus. Professor OSBORN.

The course takes up the development and discussion of the mathematical expressions for wave motions, and various types of vibrations.

7. LIGHT. Four credits. First semester. Prerequisite, Physics 1, 2. Math. 8 hours. Professor OSBORN.

8. ELECTRICITY AND MAGNETISM. Four credits. First semester. Three class periods and one laboratory period. Prerequisites, Physics 1, 2. Math. 4 hours. Professor BRAKEL.

This course is planned with a view to familiarize the student with the more important experimental and theoretical aspects of the subject.

* Not given in 1915-1916.

9. PHYSICS OF A. C. AND D. C. CIRCUITS. Four credits. Second semester. Prerequisites, Physics 8 or 5a and Mathematics, 8 hours. Professor BRAKEL.

A study of the fundamental principles of direct and alternating currents and the development of methods for the solution of practical problems. Three class periods and one laboratory period.

10. THEORETICAL MECHANICS. Three credits. First semester. Prerequisites, 1 and 2. Mathematics, 8 hours. Dr. ANDERSON.

An elementary mathematical discussion of the subject with special emphasis on the physical interpretation and historical development. Three class periods.

*11. TEACHER'S PHYSICS. Two credits. The year. Open only to seniors. Prerequisites, not less than 12 hours of physics and 24 hours of other science. Professor OSBORN.

*12. HISTORY OF PHYSICS. One credit. The year. Prerequisite, 16 hours of physics. Professor OSBORN.

*16 DYNAMICS. Two credits. The year. Prerequisites, physics 10, and Differential Equations. Dr. ANDERSON.

A rigorous mathematical treatment of fundamental principles.

17. THEORETICAL ELECTRICITY AND MAGNETISM. Two credits. The year. Prerequisites, physics 16 hours, Math. 16 hours. Professor BRAKEL.

A rigorous mathematical treatment of the fundamentals.

18. ADVANCED OPTICS. Two credits. Second semester. Special problems. Professor OSBORN.

19. THERMODYNAMICS AND KINETIC THEORY OF GASES. Two credits. The year. Two class periods. Prerequisites, Physics 5 and 10. Dr. ANDERSON.

20. HIGH TEMPERATURE THERMOMETRY. One credit. Second semester. Prerequisite, Physics 5. One laboratory period. Dr. ANDERSON.

*21. ELECTRO-CHEMISTRY AND THEORIES OF E. M. F. Three credits. Second semester. Professor BRAKEL.

22. ELECTRON THEORY. Three credits. Second semester. Prerequisites, 16 hours physics and 16 hours math., or special arrangement. Dr. ANDERSON.

* Not given in 1915-1916.

Discussion of recent researches in Conduction of Electricity through Gases, Photoelectric effect and Radioactivity with bearing on the Electron Theory. Two class periods.

24. COLLOQUIUM.

42. PHOTOGRAPHY. Two credits. The year. One class and one three hour laboratory period. Open to all. Mr. ———

Laboratory deposit is \$2.50 per semester for courses 1, 2, 3, 4, 5, 6, 7, 8, 9, 18, 20, 21, 42.

(b) PRIMARILY FOR STUDENTS IN APPLIED SCIENCE

1a. MECHANICS, WAVE MOTION AND LIGHT. Four credits. First or second semester. Prerequisites, High School Physics and Mathematics, 8 hours. Professor BRAKEL and Dr. ANDERSON.

2a. ELECTRICITY AND HEAT. Four credits. Second or first semester. Prerequisite, 1a. Professor BRAKEL and Dr. ANDERSON.

1b. PHYSICS MEASUREMENTS. Two credits. First or second semester. Taking 1a. Mr. VORIS.

2b. PHYSICS MEASUREMENTS. One credit. Second or first semester. Taking 2a. Mr. VORIS.

3a-4a. GENERAL PHYSICS. Four credits. The year. Prerequisites, High School Physics and Trigonometry. Mr. VORIS.

This course is an abridgment of 1a and 2a and is open only to students in forestry, pharmacy and medicine. Three class periods and one laboratory period. Mr. VORIS.

5a. ELECTRICAL MEASUREMENTS. Two credits. First or second semester. Prerequisite, 2a. Two laboratory periods. Professor BRAKEL.

6a. PHYSICS OF THE HOME. Four credits. First or second semester. Prerequisite, High School Physics. Professor OSBORN.

A course for students in domestic science. Three class periods and one three hour laboratory.

NOTE.—The laboratory deposit is six dollars per year for courses 1b, 2b, 5a, and \$2.50 per semester for 6a, 3a, and 4a.

POLITICAL AND SOCIAL SCIENCE

(Office, Room 3A, Denny Hall.)

PROFESSOR SMITH, PROFESSOR BEACH, ASSISTANT PROFESSOR CUSTIS,
ASSISTANT PROFESSOR BERGLUND, ASSISTANT PROFESSOR SMITH,
ASSISTANT PROFESSOR MC MAHON, DR. JANES, MR.
LAUBE, MR. AKERMAN

The work of the department covers the allied fields of (1) Government, (2) Economics and Commerce, (3) Sociology. The courses given in each of these fields are as follows: Government, 19, 20, 24, 17, 18, 21, 22, 33, 34, 53, 55, 56; Economics and Commerce, 1, 2, 1a, 8, 10, 11, 12, 14, 15, 27, 28, 31, 32, 39, 40, 47, 48, 49, 50, 51, 35, 36, 37, 38; Sociology, 3, 4, 26, 29, 30, 44, 57, 58. A few of the courses may be considered as belonging to more than one of the three fields.

The general requirement of six credits in Political and Social Science may be satisfied by courses 1-2, 3 and 4, 19 and 20, or 1a, and any other three-hour course in Economics for which 1a is prerequisite.

INSTRUCTIONS TO STUDENTS MAJORING IN THE DEPARTMENT

The following courses are considered as Elementary, the remainder being termed Advanced.

Courses 1a, 1-2, 3-4, 19-20, 26, 28, 31, 32, 39, 47, 48. Students majoring in the department must take at least one-half their major work from the advanced group.

Unless specially sanctioned by the enrolling officer, with the approval of the head of the department, students must select one half their major work from one of the following fields: Government, Economics, Sociology, or Commerce.

OPEN TO FRESHMEN, SOPHOMORES, JUNIORS AND SENIORS

1-2. ELEMENTS OF ECONOMICS. Three credits. The year. Assistant Professor McMAHON and ———.

A study of the principles of economics and of economic problems.

1a. ELEMENTS OF ECONOMICS. Three credits. First semester. Assistant Professors BERGLUND and H. E. SMITH, Dr. JANES, Mr. LAUBE, and Mr. AKERMAN.

Course 1a is repeated in the second semester.

3. ELEMENTS OF SOCIOLOGY. Three credits. First semester. Professor BEACH and Mr. LAUBE.

4. **SOCIAL PROBLEMS.** Three credits. Second semester. Prerequisite, 3. Professor BEACH and Mr. LAUBE.

8. **INDUSTRIAL ORGANIZATION.** Three credits. Second semester. Prerequisite, 1-2 or 1a. Assistant Professor CUSTIS.

A study of modern industry with special reference to trusts and "industrial" monopolies. This course is practically a continuation of Course 11 (Transportation), but may be taken by students who have not taken that course.

10. **PUBLIC FINANCE AND TAXATION.** Three credits. Second semester. Prerequisite, 1-2 or 1a. Assistant Professor CUSTIS.

Special attention will be given to the problems now before the United States and the several states, particularly Washington.

11. **TRANSPORTATION.** Three credits. First semester. Prerequisite, 1-2 or 1a. Assistant Professor CUSTIS..

Primarily a study of railway transportation in the United States.

12. **HISTORY OF COMMERCE AND COMMERCIAL POLICIES.** Three credits. Second semester. Prerequisites, 1-2 or 1a. Assistant Professor BERGLUND.

14. **MODERN TARIFF SYSTEMS.** Two credits. Second semester. Prerequisite, 1-2 or 1a. Assistant Professor BERGLUND.

15. **MONEY AND BANKING.** Three credits. First semester. Prerequisites, 1-2 or 1a. Assistant Professor CUSTIS.

Deals chiefly with the systems of money and banking prevailing in different countries, especially the United States, and with international exchange.

19. **AMERICAN GOVERNMENT (NATIONAL).** Three credits. First semester. Professor SMITH and Mr. LAUBE.

20. **AMERICAN GOVERNMENT (STATE AND LOCAL).** Three credits. Second semester. Prerequisite, 19. Professor SMITH and Mr. LAUBE.

24. **PUBLIC INTERNATIONAL LAW.** Two credits. Second semester. Dr. JAMES.

The history and development of public international law.

26. **STANDARDS OF LIVING.** Two or three credits. Second semester. Prerequisite, Economics 1-2, 1a or 3. By undertaking a selected piece of investigation, students may receive three credits. Assistant Professor BERGLUND.

Designed for students in Home Economics, but open to others. A study of the consumption of wealth with reference to the household as an economic unit.

27. DOMESTIC AND FOREIGN MARKETS. Three credits. First semester. Prerequisite, 1-2, or 1a. Assistant Professor BERGLUND.

A study of the forces determining the movement of commodities from producing areas to consuming centers, organizations for marketing products at home and abroad and combinations formed for the control of the market.

28. THE TRADE OF THE PACIFIC. Three credits. Second semester. Prerequisites, 39, and 1-2 or 1a. Dr. JANES.

A study of lines and conditions of the trade of the Pacific, with special reference to the commercial relation of the Pacific Northwest with the Orient and with South American countries.

*31. THE DEVELOPMENT OF INDUSTRIAL SOCIETY. Three credits. First semester. Prerequisite, or concurrent, 1-2 or 1a. Assistant Professor CUSTIS.

32. ECONOMIC HISTORY OF THE UNITED STATES. Three credits. Second semester. Prerequisite, 1-2 or 1a. Assistant Professor BERGLUND.

A study of the industrial development and financial policies of the United States from the colonial period to the present time.

39. COMMERCIAL GEOGRAPHY. Three credits. First semester. Dr. JANES.

An elementary study of the geographic basis of modern commerce, including such subjects as the location, classification and transformation of raw materials, the description of trade routes and the varieties and control of natural powers.

OPEN TO JUNIORS AND SENIORS

*17. COLONIAL GOVERNMENT. Two credits. First semester.

A study of the systems of colonial government and administrations.

18. MUNICIPAL GOVERNMENT. Two credits. Second semester. Prerequisite, 1-2, 1a, 3, or 19. Professor SMITH.

40. CORPORATION FINANCE. Three credits. Second semester. Prerequisite, 6 hours in economics. Assistant Professor CUSTIS.

* Not offered in 1915-1916.

A study of the promotion and capitalization of modern corporations, their financial policies, and the market for their securities.

47-48. ACCOUNTING. Three credits. The year. Prerequisite, 1-2 or 1a. Assistant Professor H. E. SMITH.

The theory of debits and credits as applied to the keeping of single entry and double entry books. Theory of assets, liabilities, and proprietorship. The nature of individual accounts as of persons, various assets, expense, loss and gain. Columnar books and controlling accounts. Preparation of balance sheet and trading and income statement. Special reference given to the valuation of the several items of the balance sheet; classification of accounts; depreciation and appreciation; reserves; sinking fund; good will; cost accounting. Practice is given in working out complete and comprehensive series of transactions.

51. INSURANCE. Three credits. First semester. Prerequisite, 1-2 or 1a. Assistant Professor H. E. SMITH.

(a) Life Insurance: Its purpose and importance; kinds of companies and policies; mortality tables; calculation of premium and reserve; loading; investment of insurance funds; relation to public welfare; business organization of companies; buying and selling insurance.

(b) Property Insurance: Its importance in modern business; hazards; principles and difficulties of rating; business organization and finance.

49. STATISTICS. Three credits. First semester. Prerequisite, 1-2 or 1a. Assistant Professor BERGLUND.

A study of statistical forms and methods of compiling statistical data with application to industrial, commercial and social life.

50. INTERNATIONAL EXCHANGE. Three credits. Second semester. Prerequisite, 15. Assistant Professor H. E. SMITH.

A study of the instruments and methods by which international exchanges are effected, and an analysis of the financial and political principles and consequences involved.

OPEN TO JUNIORS, SENIORS AND GRADUATES

*21-22. POLITICAL THEORIES. Two credits. The year. Prerequisite, six credits in Government. Professor SMITH.

* Not given in 1915-1916.

A study of the political ideas that have influenced constitutional development and legislation in England and the United States.

55-56. **POLITICAL PROBLEMS.** Two credits. The year. Prerequisite, six credits in Government. Professor SMITH.

The theory of the separation of powers; political parties and limited government; the United States Supreme Court and democracy; division of functions between central and local government; recent tendencies in governmental organization. Courses 21-22 and 55-56 are given in alternate years.

*23. **THE GOVERNMENT OF ENGLAND.** Two credits. First semester. Prerequisite, six credits in Government. Professor SMITH.

53. **COMPARATIVE GOVERNMENT.** Two credits. First semester. Prerequisite, six credits in Government. Professor SMITH.

A study of the chief features of the governmental systems of the countries of central and western Europe.

Courses 23 and 53 are given in alternate years.

29. **SOCIAL AMELIORATION.** Three credits. First semester. Prerequisites, 3 and 4. Professor BEACH.

A study of the attempt of society under the present industrial system, to effect improvement in the life of the less fortunate classes.

30. **SOCIAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 6 hours in Sociology. Professor BEACH.

The growth and nature of custom and convention and the formation of public opinion. It is desirable that the student should have had a course in general psychology. Courses 30 and 44 are given in alternate years.

33-34. **JOINT SEMINAR.** Two credits. The year. Professor SMITH, Professor CONDON and Professor MEANY.

Designed for study and reports upon the problems in the historical, political and legal development of the state of Washington and the Pacific Northwest.

35-36. **PRINCIPLES OF ECONOMICS.** Three credits. The year. Prerequisite, 6 hours in Economics. Assistant Professor CUSTIS.

* Not given in 1915-1916.

A study of the production, distribution, exchange, and consumption of wealth with special reference to present day problems.

37. **LABOR PROBLEMS.** Three credits. First semester. Prerequisite, 1-2. Assistant Professor McMAHON.

This course covers the topics of strikes, trade unions, employers' associations, arbitration, immigration, child labor.

38. **LABOR LEGISLATION.** Three credits. Second semester. Prerequisite, 37. Assistant Professor McMAHON.

American and foreign. A study of wages, hours, accidents, industrial hygiene.

*44 **THE FAMILY.** Three credits. Second semester. Prerequisite, 6 hours in Sociology. Professor BEACH.

57-58. **SOCIAL RESEARCH.** Two or three credits. The year. Time to be arranged. Professor BEACH.

This course is intended to afford opportunity for investigation of special social problems. It is open only to graduates or advanced students, and in each case consent of the instructor is necessary.

OPEN TO GRADUATES

45-46. **SEMINAR IN POLITICAL AND SOCIAL SCIENCE.** Two credits. The year.

Primarily for graduate students majoring in the department.

PUBLIC SPEAKING AND DEBATE

(Office, Room 34, Denny Hall)

ASSOCIATE PROFESSOR GORSUCH AND MR. LA FOLLETTE

For a major, twenty-four hours, eight hours of which must be taken in freshman composition. Not more than sixteen hours in this department may be counted toward the A. B. degree.

FOR FRESHMEN AND SOPHOMORES

1-2. **PRACTICAL PUBLIC SPEAKING.** Three credits. The year. Associate Professor GORSUCH.

An introductory course. Two sections are offered the first semester; one section the second semester. Principles of public speaking are studied and short, original talks are prepared and

* Not given in 1915-1916.

delivered. The aim of the course is to accustom students to think while standing before the audience and to use definite means for definite purposes. Clear statement, sound argument, effective presentation, and development of will and personality are sought.

1. PRACTICAL PUBLIC SPEAKING. Three credits. Second semester. Associate Professor GORSUCH.

3-4. ARGUMENTATION AND DEBATING. Three credits. The year. Mr. LA FOLLETTE.

Analysis, briefing, preparation and delivery of arguments, including mental and physical requisites for efficiency.

5. DRAMATIC READING. Two credits. First semester. Prerequisite, 1-2. Associate Professor GORSUCH.

Several plays, classical and modern, are studied and read aloud.

6. DRAMATIC READING. Two credits. Second semester. Prerequisite, 5. Associate Professor GORSUCH.

Scenes from modern dramas are presented.

7-8. FORENSICS. Two credits. The year. Prerequisites, Argumentation 3-4, or by consultation. Mr. LA FOLLETTE.

Analysis of the problems of forensic speaking and practice in the preparation and delivery of forensic speeches.

9-10. ADVANCED ARGUMENTATION AND DEBATING. Three credits. The year. Prerequisites: Participation in inter-collegiate debate as principal or alternate, Argumentation 3-4, or consultation with the instructor. Mr. LA FOLLETTE.

Intended for those who wish to take part in inter-collegiate debating. A laboratory course in the preparation and delivery of formal debates.

FOR JUNIORS AND SENIORS

*11. VOCATIONAL SPEAKING. Two credits. First semester. Associate Professor GORSUCH.

Intended for those who plan to practice law, teach or enter any other field that necessitates the preparation and delivery of public addresses.

*12. VOCATIONAL SPEAKING. Two credits. Second semester. Prerequisite, 11. Associate Professor GORSUCH.

A continuation of course 11.

* Not given in 1915-1916.

15. **ADVANCED READING.** Two credits. Either semester. Associate Professor GORSUCH.

Required of English majors who expect to teach, unless excused. Scope: principles of vocal interpretation and practice in oral reading.

SCANDINAVIAN
(Room 26, Law Building)

PROFESSOR VICKNER

FOR UNDERGRADUATES

1-2. **SWEDISH LANGUAGE.** Four credits. The year.

Grammar and reading. Composition and oral exercises.

3-4. **NORWEGIAN-DANISH LANGUAGE.** Four credits. The year.

Grammar and reading. Composition and oral exercises.

5-6. **NORWEGIAN-DANISH LITERATURE.** Two credits. The year.

Representative authors are read in connection with a general survey of the Norwegian-Danish literature.

7-8. **SWEDISH LITERATURE.** Two credits. The year.

Representative authors are read in connection with a general survey of the Swedish literature.

11-12. **MODERN SWEDISH LITERATURE.** Two credits. The year.

Representative writers of the nineteenth and twentieth centuries are read, including Selma Lagerlöf, Strindberg, Fröding. Study of the culture and history of Sweden.

13-14. **MODERN NORWEGIAN-DANISH LITERATURE.** Two credits. The year.

Representative writers of the nineteenth and twentieth centuries are read, including Ibsen, Björnson, Kielland, Jacobsen, Drachmann. Study of the culture and history of Denmark and Norway.

15-16. **STUDY OF MODERN SCANDINAVIAN AUTHORS IN ENGLISH TRANSLATION.** Two credits. The year.

A study of Ibsen and Strindberg the main features of the course. Brief survey of Scandinavian culture and history.

FOR UNDERGRADUATES AND GRADUATES

9-10. **OLD ICELANDIC.** Two credits. The year.

Grammar, prose selections, poems from the Edda, lectures on Scandinavian mythology and antiquities, Scandinavian philology.

17-18. HISTORY OF THE SWEDISH LANGUAGE. Two credits. The year.

This course includes a study of the origin and development of the Swedish language.

FOR GRADUATES

19-20. SCANDINAVIAN LITERATURE IN THE NINETEENTH CENTURY. Two credits. The year.

Other graduate work with the consent of the head of the department.

SPANISH
(Denny Hall)

PROFESSOR OBER, ASSOCIATE PROFESSOR UMPHREY, ASSISTANT
PROFESSOR STRONG AND ———

For a major, 24 to 40 credits, including 7-8 and at least one year course of the second division. Course 11 is required of all those recommended as teachers.

1-2. ELEMENTARY. Four credits. The year. Professor OBER, Associate Professor UMPHREY, Assistant Professor STRONG and ———.

Course 1 is repeated in the second semester, and followed by course 2 which is repeated in the first semester. Assistant Professor STRONG and ———.

Students will please notice that Courses 3-4 and 5-6 are both open to those who have completed 1-2 or its equivalent, and that 7-8 should be taken, if possible in connection with either 3-4 or 5-6.

3. SECOND YEAR. COMMERCIAL. Three credits. First semester. Prerequisite, 1-2. Professor OBER.

Review of grammar. Readings from Spanish newspapers and magazines.

4. SECOND YEAR. COMMERCIAL. Three credits. Second semester. Prerequisite, 1-2. Professor OBER.

Commercial terms. Business correspondence. Readings from original letters in Spanish. Customs of Spanish speaking countries.

5-6. SECOND YEAR LITERARY. Three credits. The year. Spanish literature of the nineteenth century. Prerequisite, 1-2. Associate Professor UMPHREY.

7-8. COMPOSITION AND CONVERSATION. Two credits. The year. This course should be taken in connection with 3-4 or 5-6 and is open only to those who are taking or have taken one of these courses. Associate Professor UMPHREY and Assistant Professor STRONG.

FOR UNDERGRADUATES AND GRADUATES

11. TEACHERS' COURSE. Two credits. First semester. Professor OBER.

*13-14. CERVANTES. Two credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

15-16. LOPE DE VEGA AND CALDERON. Three credits. The year. Prerequisite, 5-6. Professor OBER.

17-18. THE NOVEL. Three credits. The year. Prerequisite, 5-6. Assistant Professor STRONG.

The origins of the Spanish novel and its development. Reading of selected texts; collateral reading and reports.

19-20. THE DRAMA. Three credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

History of the Spanish drama from the sixteenth century down to the present time. Reading of plays by the most important dramatists; collateral reading and reports.

*21. LYRIC POETRY. Two credits. First semester. Prerequisite, 5-6. Associate Professor UMPHREY.

*22. THE SPANISH POPULAR BALLAD. Two credits. Second semester. Prerequisite, 5-6. Associate Professor UMPHREY.

23-24. SPANISH-AMERICAN LITERATURE. Two credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

Representative writings of Spanish-American authors. Collateral reading and reports. Lectures.

FOR GRADUATES

33-34. OLD SPANISH. Two credits. The year. Philology. Associate Professor UMPHREY.

History of Spanish literature to the sixteenth century. Reading of the Poema del Cid and selections from other early Spanish writings. Reports on special topics.

* Not given in 1915-1916.

ZOOLOGY
(Science Hall)

PROFESSOR EMERITUS JOHNSON, PROFESSOR KINCAID, ASSISTANT
PROFESSOR E. VICTOR SMITH, MR. OSTERUD, DR. FASTEN

A laboratory deposit of two dollars is required for all courses except 14, 15 and 16.

1-2. **ELEMENTS OF ZOOLOGY.** Four credits. The year. Professor KINCAID, Mr. OSTERUD and Dr. FASTEN.

A general review of zoological science.

Course 1 is repeated in the second semester for the benefit of students entering at that time.

1a. **PRE-MEDICAL ZOOLOGY.** Four credits. First semester. For students entering upon a medical course. Dr. FASTEN.

1b. **ELEMENTS.** Four hours. Second semester. For students entering at the beginning of the second semester. Mr. OSTERUD.

1s-2s. **SOILS.** Four credits. The year. Not accepted for science requirement. Prerequisite, one year college chemistry; laboratory fees for course \$8.00, \$6 payable the first semester and \$2 the second. Credit given only upon completion of entire course. See chemistry 1s-2s. Professors BENSON, LANDES, KINCAID, and HOTSON.

Relation of animal life to the soil, injurious insects, insect control, insecticides.

3-4. **VERTEBRATE ANATOMY.** Four credits. The year. Prerequisite, zoology 1-2 or 11. Assistant Professor SMITH.

Comparative structure of vertebrates.

5. **NORMAL HISTOLOGY.** Four credits. First semester. Prerequisite, zoology 1-2. Mr. OSTERUD.

Mammalian histology, especially for pre-medical students.

6. **EMBRYOLOGY.** Four credits. Second semester. Prerequisite, zoology 5 or 6. Mr. OSTERUD.

Comparative developmental history of vertebrates.

7. **COMPARATIVE HISTOLOGY.** Four credits. Prerequisite, zoology 1-2. First semester. Mr. OSTERUD.

8. **NEUROLOGY.** Four credits. First semester. Prerequisite, zoology 5 or 7. Assistant Professor SMITH.

Comparative structure and genesis of sense organs and central nervous system.

10. **ELEMENTARY PHYSIOLOGY.** Four credits. First or second semester. Assistant Professor SMITH and Dr. FASTEN.

Especially for students registered in department of home economics, but open to others.

11. **GENERAL PHYSIOLOGY.** Four credits. First semester. Assistant Professor SMITH.

12. **ADVANCED PHYSIOLOGY.** Four credits. Prerequisite, zoology 10 or 11. Second semester. Assistant Professor SMITH.

13. **FOREST ENTOMOLOGY.** Four credits. First semester. Professor KINCAID.

Relation of insects to the forest.

14. **FOREST ZOOLOGY.** Two credits. Second semester. Professor KINCAID.

Habits and economic relations of typical forest animals.

15. **ETHNOLOGY.** Two credits. First semester. Professor KINCAID.

Origin, migration, distribution and customs of the races of man. Illustrated by lantern slides.

16. **EVOLUTION AND EUGENICS.** Two credits. Second semester. Professor KINCAID.

Lectures upon important biological problems related to organic evolution, including variation, selection, heredity and eugenics. Illustrated by stereopticon views.

17-18. **GENERAL ENTOMOLOGY.** Four credits. The year. Prerequisite, zoology 2. Professor KINCAID.

Introduction to study of insects, their structures, classification, ecology and economic relations.

19-20. **MUSEUM AND FIELD WORK.** Four credits. Prerequisite, zoology 4, 6 or 18. The year. Professor KINCAID.

Systematic investigation of the local fauna including studies based upon material in the state museum.

21-22. **RESEARCH.** First and second semesters. Students capable of carrying on independent research will be allowed to do so under the direction of the instructors in charge. See statement.

COLLEGE OF EDUCATION

FACULTY

HENRY LANDES, A. M., (Harvard University), Acting President.

FREDERICK ELMER BOLTON, PH. D., (Clark University), Professor of Education and Dean of the College of Education.

CAROLINE HAVEN OBER, Professor of Spanish.

TREVOR KINCAID, A. M., (University of Washington), Professor of Zoology.

FREDERICK MORGAN PADELFORD, PH. D., (Yale University), Professor of English.

ARTHUR SEWALL HAGGETT, PH. D., (Johns Hopkins University), Professor of Greek and Dean of the College of Liberal Arts.

FREDERICK ARTHUR OSBORN, PH. D., (University of Michigan), Professor of Physics and Director of the Physics Laboratories.

WILLIAM SAVERY, PH. D., (Harvard University), Professor of Philosophy.

DAVID THOMSON, A. B., (University of Toronto), Professor of Latin.

PIERRE JOSEPH FREIN, PH. D., (Johns Hopkins University), Professor of French.

THEODORE CHRISTIAN FRYE, PH. D., (University of Chicago), Professor of Botany and Acting Dean of the College of Science.

ROBERT EDOUARD MORITZ, PH. D., (University of Nebraska), PH. N. D. (Strassburg), Professor of Mathematics and Astronomy.

FREDERICK WILLIAM MEISNEST, PH. D., (University of Wisconsin), Professor of German.

DAVID CONNOLLY HALL, SC. M., M. D., (University of Chicago), Director of Physical Education.

WALTER GREENWOOD BEACH, A. M., (Harvard University), Professor of Social Science.

IRVING MACKEY GLEN, A. M., (University of Oregon), Professor of Music and Dean of the College of Fine Arts.

JOHN WEINZIRL, PH. D., (University of Wisconsin), Professor of Bacteriology.

EDWIN JOHN VICKNER, PH. D., (University of Minnesota), Professor of the Scandinavian Languages.

HERBERT GALEN LULL, PH. D., (University of California), Professor of Education.

- EDWARD MCMAHON, A. M., (University of Wisconsin), Associate Professor of American History.
- STEVENSON SMITH, PH. D., (University of Pennsylvania), Associate Professor of Orthogenics.
- EFFIE ISABEL RAITT, B. S., (Columbia University), Professor of Home Economics.
- WILLIAM PIERCE GORSUCH, A. B., (Knox College), Associate Professor in charge of Public Speaking and Debate.
- GEORGE WALLACE UMPHREY, PH. D., (Harvard University), Associate Professor of Spanish.
- EDWIN JAMES SAUNDERS, A. M., (Harvard University), Assistant Professor of Geology.
- JOSEPH KINMONT HART, PH. D., (University of Chicago), Assistant Professor of Education.
- ROBERT EVSTAFIEFF ROSE, PH. D., (University of Leipzig), Assistant Professor of Chemistry.
- ROBERT MAX GARRETT, PH. D., (University of Munich), Assistant Professor of English.
- DAVID ALLEN ANDERSON, PH. D., (University of Iowa), Assistant Professor of Education.
- ERNEST OTTO ECKELMAN, PH. D., (University of Heidelberg), Assistant Professor of German.
- FRANCES DICKEY, A. M., (Columbia University), Assistant Professor of Music.
- *ALLEN FULLER CARPENTER, A. M., (University of Nebraska), Instructor in Mathematics.
- HENRY SLATER WILCOX, A. M., (Harvard University), Instructor in Psychology.
- FLOYD THOMAS VORIS, A. M., (Columbia University), Instructor in Physics.
- GERTRUDE CRUDEN, A. B., (Smith College), B. S., (Columbia University), Instructor in Domestic Art.
- HELEN BALCH CULVER, Bachelor's Diploma, (Pratt Institute), Instructor in Design.
- ROBERT C. GIVLER, PH. D., (Harvard University), Instructor in Psychology.
- PAUL J. KRUSE, A. M., (University of Washington), Instructor in Education.
- ISABELLA AUSTIN, A. B., (University of Minnesota), Lecturer on Education, Dean of Women.

* Absent on leave.

HISTORY AND DEVELOPMENT OF THE COLLEGE OF EDUCATION

A Department of Education has been maintained in the University for many years. In recent years the growth has been so rapid and the functions have so expanded that on the recommendation of the University Faculty the Board of Regents established a School of Education, on January 21, 1913. The work was continued under that form of organization until the present year. On December 15, 1914, by faculty action the undergraduate curriculum was revised so as to begin with the freshman year. Thus in harmony with the organization of the schools and colleges of the University, the School became a College.

The growth of the Department of Education is illustrated by the statistics given in the accompanying table.

	1911-12		1912-13		1913-14		1914-15		Summer Session		
	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1st Sem.	2nd Sem.	1912	1913	1914
No. class registrations...	220	219	237	295	402	490	541	782	150	401	542
No. different students....	.....	.....	162	192	260	313	326	469	.....	221	341
No. men .....	.....	.....	27	37	51	85	79	151	.....	74	112
No. women .....	.....	.....	135	152	209	231	247	313	.....	147	234
No. graduate students...	.....	.....	19	24	33	34	41	46	.....	.....	.....
<hr/>											
No. different students, including Summer Session			431		677		.....		.....	.....	.....
<hr/>											
No. different students, excluding Summer Session			235		375		559		.....	.....	.....

SCOPE AND AIMS

The purpose of the College of Education is to bring together and correlate all of the forces of the University which contribute in a professional way to the preparation of superior teachers and other educational leaders. By the establishment of this advanced college for teachers it is hoped to set a high standard for the training of teachers in the State of Washington and in the Northwest.

The curriculum of the College is based upon the assumption that teachers should have first of all, and fundamental to all other preparation, a broad and liberal education; second, that this training should be supplemented by professional education which gives a knowledge of the pupils to be taught, the problems to be met, and new meaning to the subjects of instruction, as well as fundamental methods of teaching; and third, that they should be masters of some special subjects which they expect to teach.

The College of Education is especially fitted to provide teachers of the following types:

1. High school teachers;
2. High school principals;
3. Superintendents of public schools;
4. Grammar school principals;
5. Supervisors of primary schools;
6. Supervisors and teachers of music, drawing, manual training, home economics, physical training and other special subjects;
7. Normal school and college instructors in education;
8. Specialists in the education of defectives;
9. Playground directors;
10. Y. M. C. A. and Y. W. C. A. workers;
11. Juvenile court workers;
12. High class grade and primary school teachers.

GENERAL ACADEMIC WORK

Because of the variety of work which every teacher is likely to be required to do upon beginning to teach, and because of the requirements for state certificates, at least elementary college courses should be taken in not less than four subjects which are taught in the high schools.

SPECIALIZED ACADEMIC WORK

Each teacher should have thorough, extended preparation in one subject and reasonable preparation in at least two additional subjects. Experience has shown that the following combinations

are most frequently demanded: Latin, German; English, German; English, History, Civics; English, Latin, History; Mathematics, Physics, Chemistry; Botany, Zoology, Physiology, Physiography. In the larger schools Greek is sometimes given with Latin; and French with German; Home Economics alone or in connection with one or two other subjects; Manual Training alone or in connection with one or two other subjects; Athletics, Music, or Drawing in combination with other work. One teacher is frequently required to teach all of the sciences. Public speaking is desirable as a part of the preparation for teaching English.

PROFESSIONAL WORK

The requirements for the academic major and minors secure a proper distribution of the academic subjects. The professional work consists (a) of the courses given in the Department of Education, (b) the teachers' courses given in the various academic departments, and (c) the courses closely allied to and fundamental to those in Education, viz., those in Zoology, Psychology, and Sociology.

SPECIAL TEACHERS' COURSES

Nearly all of the academic departments have teachers' courses for the purpose of studying the problems of teaching those subjects in the high schools. Work in special methods relating to particular subjects is given by those dealing most directly with the given subject matter. Foundation principles of general method as based upon the laws of learning and teaching are developed in the subject of Education.

OBSERVATION AND PRACTICE TEACHING

By an arrangement between the University and the schools of Seattle, students in the College of Education may observe the regular work in certain schools (at present ten are used) and do cadet work under direction of the regular teachers and the professor in charge of the practice work. In this way students have an opportunity to observe and gain valuable experience under exceptionally favorable conditions. One or two semesters of such experience under guidance and expert criticism is far superior to several years of the trial and error method through which many teachers are obliged to gain their first teaching experience.

MATERIAL EQUIPMENT OF DEPARTMENT OF EDUCATION

The Department of Education occupies seven rooms on the second floor of the Education Building, comprising four offices, two lecture rooms and a seminar room. The Gatzert Foundation equipment for defective children is in a special building. The department is equipped with the standard educational works, besides many special books and monographs in English, German, and French. All the American educational journals of importance, and many English, German, and French periodicals are on file. In all about fifty journals are received. The equipment is especially good for work in educational psychology, educational tests and measurements, the education of defectives, philosophy of education, child study, educational organization and administration, and current school problems.

BAILEY AND BABETTE GATZERT FOUNDATION

A thirty thousand dollar foundation, known as the Bailey and Babette Gatzert Foundation of Child Welfare of the University of Washington, has been established by Sigmund Schwabacher and the executors of the will of the late Abraham Schwabacher. The object of the foundation is to furnish relief for defective children. The foundation represents philanthropic work of the most advanced type. The deed conveying the gift makes the following conditions concerning the purposes and management of the Foundation:

"Said sum of money shall be safely invested by the said trustees in interest-bearing securities, and the income thereof shall be used to maintain a bureau of child welfare in the department of Education of the University of Washington, the work of said bureau to consist in the promotion in various ways of education for the better care and treatment of children suffering from defects, either physically or mentally, especially such defective children as can, in spite of their defects, attend school of some sort and benefit by some form of school education and training. Said bureau to be known in perpetuity as the *Bailey and Babette Gatzert Foundation of Child Welfare of the University of Washington*, and to be at all times in charge of a competent expert, and any expense in maintaining the bureau in excess of such income to be provided out of the University or other funds."

With the facilities thus provided very thorough work in the study of defective children is made possible. One associate pro-

fessor devotes his entire time to this work. He gives two courses each year in the psychological study of defectives and two courses of equal length in the department of Education, paying special attention to educational methods of treating defectives. The remainder of his time is devoted to the clinical examination of defective children brought to the University for diagnosis, to a study of delinquents in the juvenile court, to studying the defectives in a school for subnormals, and to visiting various public schools in the state and speaking to teachers and others interested in the subject.

Not only are children tested by current standard methods, but an attempt is made to do original investigation in studying new problems. Several research students have done special work under the guidance of the Foundation. The Foundation makes possible exceptional facilities for the study of subnormal children. Few other institutions in the country offer such extensive opportunities for preparing persons to teach exceptional children or to supervise their education in the public schools or in special institutions.

EDUCATIONAL EXHIBITS

Large portions of the educational exhibits in the Educational and California Buildings, and all of the Alaska and Japanese exhibits, were turned over to the Museum at the end of the Alaska-Yukon-Pacific Exposition. These exhibits consist of over 6,000 specimens of the work done in the kindergarten and primary grades, in the grammar school and in the high school. It is planned that the Museum shall offer special facilities to the school teachers of the state in showing some of the best examples of school work and what the latest methods in teaching have developed. Included in the specimens from Alaska are many examples of art and industrial work which will be especially valuable illustrations of these up-to-date methods, and are hard to excel anywhere. There are about forty cabinets of the work done by the various grades in all departments of the school curriculum which are on exhibition or easy of access to those especially interested along these lines. The Museum was very fortunate in securing the industrial exhibit made by the Los Angeles Polytechnic High School, which attracted so much attention in the California building during the exposition, and it may be considered as one of the best examples in industrial train-

ing for boys. There are also specimens of sewing and needle-work done by pupils from the lower grades through the high school.

MANUAL AND INDUSTRIAL ARTS

While no separate department of manual and industrial arts is maintained during the regular year, special attention is devoted to this work during the summer session. During the regular year by selecting from the courses in engineering and fine arts a good course in manual training may be secured. The following courses are suggested: carpentry and wood-turning, pattern making and cabinet work, forge and foundry, engineering drawing, public school drawing, freehand drawing, and principles of design.

The theory and organization of manual training can be taken during a summer session. Because of the splendid manual and industrial arts work in the Seattle public schools students have unusual facilities for observing the best organization and equipment. A large number of industrial centers and prevocational classes are maintained in various parts of the city.

ATHLETICS AND PLAYGROUND ACTIVITIES

There is at the present time, a strong demand for teachers, both men and women, who can direct the various forms of athletics and playground activities in the high school and the grammar grades. No other teacher in a school system can wield such a powerful influence over boys and girls as the director of plays, sports, and games. Consequently school authorities are seeking young men and women who are qualified to give proper direction to this form of education. They desire those who understand the sports, but also desire trainers who understand the educational aspect and who are interested in teaching the boys and girls rather than in merely developing winning teams. Those who plan for such work should combine (a) scholastic subjects, (b) physical training courses, and (c) professional work in education.

PUBLIC SCHOOL MUSIC

Not only is there a demand for specially trained supervisors of music in the schools, but every school needs teachers who can give some assistance in the general musical activities of the school and the community. Every teacher who has any musical ability

whatsoever ought to secure some training in music and participate in some of the musical organizations of the University. A teacher who can drill a chorus, lead in the singing at the opening exercises, play in the orchestra, etc., increases many fold his chances for securing a position and greatly increases his usefulness in the community.

DEBATING, DRAMATICS, PUBLIC SPEAKING

No teacher in a small school community can be merely a specialist in some subject. Every teacher will be called upon to assist in the incidental work of the school. The small towns can not afford special teachers of public speaking and debate and consequently the teacher who can participate in some of these lines increases his usefulness very greatly. Every student should participate in some of these lines all through the college course. Definite courses in them should be taken. Cultivation in oral expression is one of the most important directions of training for every teacher.

JOURNALISM IN HIGH SCHOOLS

Newspaper writing is being introduced in some of the best high schools as a part of the English course. It seems to afford a valuable incentive to many pupils in their English work. The teacher who undertakes this work needs to be especially well trained professionally as well as in English and journalism. The subject is new and only a well trained teacher can make it yield the right educational values. For a proper combination of courses the student should consult the departments of education, English and journalism.

COMMERICAL SUBJECTS

At present the demand upon the University for teachers of commercial subjects far exceeds the supply. To prepare for this line of work the student should include courses in book-keeping, stenography, commercial law, commercial policies, commercial geography, besides courses in economics, and the professional training in education.

LIBRARY TRAINING

A demand is developing for teachers who can combine library management with some high school subjects, preferably English. By the proper selection of courses the students can secure sufficient training in library science to be able to arrange, classify, catalog and manage a school library.

TEACHING OF TECHNICAL SUBJECTS IN COLLEGE

Many students of engineering, forestry, law and other technical subjects ultimately plan to teach those subjects in colleges or technical schools. An increasing number of such students desire professional training in educational theory and methods as a part of their preparation. By electing courses in education students can accomplish the end desired.

THE STUDY OF EDUCATION AND CITIZENSHIP

Courses in education are valuable, not only for those who expect to teach, but also for those who expect to be citizens of any community. Every citizen is expected to pay taxes to support education and should understand the use to which his money is put. No other phase of taxation absorbs as much revenue as education and it is said that no other taxes are so unscientifically used. If all citizens understood the theory of educational processes, the plans of organization and administration of education, the problems of community education would be much simplified. Many of the courses in education, therefore, are rightly coming to be pursued by students not expecting to become teachers.

EXTENSION SERVICE

The Department of Education is glad to render service to the cause of education in many ways besides through the regular courses of instruction. Members frequently give addresses at teachers' institutes, parent-teachers' associations, educational associations, community centers, school dedications, etc. They are also glad to conduct educational surveys as far as time will permit. Backward and mentally defective children may be brought to the clinic under the Gatzert Foundation and studied or sometimes a representative may be sent to study those classes in a city.

EXTENSION COURSES

Because of the close relation of courses in education to the everyday work of the schoolroom, it is especially advantageous to carry extension work in education. A number of courses offered as extension courses are stated in the extension bulletin. Special courses will be arranged for those prepared to carry them.

SATURDAY AND EVENING CLASSES

To accomodate the teachers of Seattle and vicinity several classes in education are scheduled on Saturday and during the late afternoon and evening. During the past year there have been about a hundred enrolments in such classes. Several teachers have come from Tacoma, Renton, Kirkland, Bremerton, and other towns. For the courses thus arranged for the year 1915-1916, see the statement of courses in education, especially Nos. 19-20, 21-22, 27, 31-32, 33-34, 35, 37-38, 39-40, 43-44, 45-46, and 47-48.

THE HONOR EDUCATION SOCIETY

In May, 1913, a chapter of Phi Delta Kappa, the National Honor Educational Society, was installed at the University of Washington. Its membership is limited to men, elected by the society, who have specialized in education and who are planning on teaching as a career. The chapter was started with thirteen charter members. The number has increased to sixty-one, among them many city superintendents and high school principals. The resident members have meetings monthly. In pursuance of the aims of cooperative research, the society is at present conducting a study of exceptionally gifted children in schools. The data are being secured by men who are in teaching positions in the field.

TEACHERS' APPOINTMENT COMMITTEE

The University maintains an Appointment Committee for the purpose of assisting teachers to secure desirable positions. The services of this committee are entirely free to students and graduates of the University and to school officers. Calls are received at all times of the year. The head of the department of education is chairman of the committee.

ORGANIZATION OF THE WORK IN THE COLLEGE OF EDUCATION

Three lines of work are provided in the College of Education:
(a) The course leading to the degree of Bachelor of Education;

(b) The course leading to the degrees of Master of Arts in Education and Master of Science in Education; (c) Work leading to the Normal Diploma in connection with a degree from the College of Liberal Arts, the College of Science or the College of Education.

The College of Education is organized so that the student shall begin to think of the profession of teaching immediately upon entering the University. While the main work in education courses does not come until the junior and senior years, the student receives guidance and counsel from the outset in selecting his courses and is helped to get in touch with the professional atmosphere that should surround a teachers' college. The foundation work in zoology and psychology will be given as far as possible with the teaching profession in mind. It is planned to give some work of a general nature in education during the first two years that will serve as vocational guidance and will assist the student to arrange his work most advantageously and to accomplish it most economically. By the more prolonged individual acquaintance between students and the faculty of the College of Education it is hoped that the student will receive greater professional help and the faculty will be better able to judge of the teaching qualities of the students.

Under the new plan the student will not take so many required courses as formerly. The specific requirements in foreign language, physical science, mathematics, history and a half year of philosophy have been omitted. Of course, the student may elect these if he chooses. By this means the curriculum will be much more flexible and the student will be given the important educational privilege of choosing largely his own courses. This is in harmony with the idea of the greater vocationalizing of education.

The work in education and allied courses has been so extended that adequate professional preparation can now be secured. The courses in zoology, psychology, and sociology are all directly contributory to a knowledge of, and to an interpretation of, the courses in education. It is believed that the growing demand for thoroughly equipped teachers will now be met.

A degree may be obtained at the end of the fourth year, but the standard which the University encourages and hopes to establish for high school teaching is the five-year course, consisting of two years of collegiate work and three years of professional work combined with advanced academic study. Stu-

dents expecting to teach are encouraged on entering to plan their courses for the master's degree in education. While the extended period is preferred it is possible for students with adequate preparation to secure the masters' degrees in a year of graduate work. The masters' degrees in education are specifically intended as teachers' degrees representing mastery of an extensive field of scholarship plus professional training, rather than intensive research in a limited field of investigation.

COLLEGE OF EDUCATION

ADMISSION TO THE FRESHMAN CLASS

To be admitted to freshman standing in the College of Education a student must either (a) pass an examination based on a four-year high school course amounting in the aggregate to fifteen units, or (b) complete a course of the same length in an accredited high school. The required and elective units are as follows:

One Foreign Language.....	2	units
English	3	units
Algebra	1½	units
Plane Geometry	1	unit
Physics, Chemistry, Botany, or Zoology..	1	unit
A History (American preferred).....	1	unit
Or U. S. History (½) and Civics (½).		
{ Foreign Language.....	2 additional units	
	or	
{ Solid Geometry ½ unit and 1 unit in	one of the sciences listed above.	
	Optional subjects	
	3½ or 4	units
<hr/>		
Total	15	units

The two additional units of elective foreign language may be in the same language as the prescribed units, in one other or in two other foreign languages.

The following are the subjects from which electives may be chosen (with minimum and maximum amounts accepted). Agriculture or Horticulture (one unit accepted only when preceded by Botany), ½ or 1 unit; Astronomy, ½ unit; Botany, ½ or 1 unit; Chemistry, 1 unit; *Commercial Branches, ½ to 3 units;

Civics, $\frac{1}{2}$ unit; Domestic Science or Domestic Art (more than one unit accepted only when preceded by Chemistry), 1 to 3 units; *Drawing, Freehand and Mechanical, $\frac{1}{2}$ to 2 units; Economics, $\frac{1}{2}$ unit; English in excess of the 3 units required, $\frac{1}{2}$ to 1 unit; French, 1 to 4 units; Geology, $\frac{1}{2}$ to 1 unit; German, 1 to 4 units; Greek, 1 to 4 units; Higher Arithmetic, $\frac{1}{2}$ unit; History, 1 to 3 units; Latin, 2 to 4 units; *Music, 1 unit; Physical Geography, $\frac{1}{2}$ to 1 unit; Physiology, $\frac{1}{2}$ to 1 unit; *Shop Work, $\frac{1}{2}$ to 2 units; Solid Geometry, $\frac{1}{2}$ unit; Spanish, 1 to 4 units; Trigonometry, $\frac{1}{2}$ unit; Zoology, $\frac{1}{2}$ to 1 unit.

A candidate may also present for entrance any modern foreign language in which he has had a course fairly equivalent to a high school course in English, *i. e.*, which he has used as a spoken or written language and of which he has studied the grammar and literature. Credit for such work is given only on presentation of satisfactory credentials, or on examination.

REQUIREMENTS FOR GRADUATION WITH THE DEGREE OF BACHELOR OF EDUCATION

To secure the degree of Bachelor of Education the candidate must fulfill the following conditions:

1. Comply with the admission regulations as stated above.
2. Complete the requirements in college subjects as follows:

Zoology	8 credits
Psychology	4 credits
Sociology	6 credits
Physical Education	8 credits
English	0-8 credits
Education	24 credits
Teaching Subjects:	64 credits

(a) Two academic majors or

(b) One academic major and two or three
academic minors.

Free electives, depending upon the foregoing
selections

Total for Graduation.....132 credits

*The aggregate amount in subjects marked with an asterisk may not exceed 8 units.

NOTE 1. An academic major shall consist of 24 to 32 credits. At the option of the major professor this may include the teachers' course.

NOTE 2. An academic minor shall consist of 12 to 16 credits.

NOTE 3. The distribution of the 64 credits in teaching subjects shall be under the advice of the Dean of the School of Education and the head of the department in which the academic major is selected. The distribution of the majors and minors shall be considered in the light of the actual calls for teachers year by year.

NOTE 4. The teachers' course in the academic major is required, if offered.

NOTE 5. The hours of credit in English will vary according to the section in which the student is assigned. Those whose preliminary training has been poor will be required to take four hours, those whose preliminary training has been fair will be required to take three hours, those whose preliminary training has been superior will be excused from the course.

NOTE 6. The student's free electives may, therefore, vary from 0 to 24 hours according to the exemption in English and the selection of the major and minors.

NOTE 7. The teaching subjects may be selected from any subjects now recognized in the College of Liberal Arts or the College of Science.

NOTE 8. The distribution of the 24 credits in Education required for the degree of Bachelor of Education has not been determined but will be announced before the opening of the academic year, 1915-1916. In all probability the foundation of the work will consist of essentially the same work as is required for the normal diplomas. It is expected that practice teaching will be required and that the number of credits for that will be increased to five or more.

NOTE 9. The required English must be completed during the first year. The required zoology or some other year of science must be taken during the first two years. If history or foreign languages are elected one course in the ones selected must be completed during the first two years. If mathematics is elected, four credits in it must be completed during the first two years. If the foregoing courses are not completed as specified, only half credit will be allowed.

NOTE 10. Candidates for the bachelor's degree in the College of Education must receive grades of A, B, or C in at least three-fourths of the credits required for the degree. This rule does not apply to grades given before the year 1910-11.

NOTE 11. Students in the College of Liberal Arts have the right to major in the Department of Education. Students majoring in Education must take at least 24 hours in Education. Students in the College of Science, the College of Engineering, the College of Forestry, the College of Mines, the School of Law, and the College of Fine Arts, may elect courses in education according to conditions fixed by the several organizations.

FRESHMAN YEAR

<i>1st Semester.</i>	<i>Hours.</i>	<i>2nd Semester.</i>	<i>Hours.</i>
English	0—4	English	0—4
Zoology	4	Zoology	4
Physical Training	2	Physical Training	2
Elective	8—12	Elective	8—12
Total		Total	
16+ 2 (Phys. Tr.)		16+ 2 (Phys. Tr.)	

ELECTIVES OPEN TO FRESHMEN

Languages: English, French, German, Greek, Italian, Latin, Public Speaking, Scandinavian, Spanish.

Natural Sciences: Botany, Chemistry, Geology, Home Economics, Mathematics, Physics, Zoology.

Social Sciences: History, Journalism, Political and Social Science.

SOPHOMORE YEAR

<i>1st Semester.</i>	<i>Hours.</i>	<i>2nd Semester.</i>	<i>Hours.</i>
Physical Training.	2	Physical Training.	2
Psychology	4	Education	3
Major Subject ...	4	Major Subject ...	4
Elective	8	Elective	9

Total16+ 2 (Phys. Tr.) Total16+ 2 (Phys. Tr.)

The foregoing for the sophomore year is only suggestive. Physical training is the only fixed requirement in the sophomore year. If psychology is not taken the first semester it should be taken the second and the education may be postponed until the junior year. The range of electives open to sophomores is very wide. For limitations see the departmental statements.

JUNIOR AND SENIOR YEARS

During the junior and senior years about six hours of work in education will be necessary each semester. The academic major and minor should also be completed. The remainder of the work is elective.

ADMISSION OF NORMAL SCHOOL GRADUATES TO ADVANCED STANDING

Graduates from the advanced course of the Washington State Normal Schools will be admitted to the College of Education with provisional junior standing. They are given 48 scholastic credits plus 8 in physical training. The remaining work necessary to full junior standing may be made up after admission to the College of Education. Graduates from the advanced courses of other state normal schools will ordinarily receive the same standing as they would be accorded in the schools of education of their own state universities. For graduation they must complete the specific requirements tabulated above.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION OR MASTER OF SCIENCE IN EDUCATION

1. Registration in the College of Education at least one year before graduation. (The student may register in the College of Education as early as the beginning of the freshman year and is urged to do so if he plans to prepare for teaching.)

2. A bachelor's degree from this University or from some other institution of recognized standing.

3. Education, 24 credits.

4. A major academic subject, 24 to 32 credits at the option of the major professor.

5. Two academic minors of at least 16 credits each.

6. A teachers' course in the academic major, maximum 6 credits.

7. At least 3 credits in psychology.

8. Total 158 credits, including the undergraduate credits.

9. Upon completion of the course for the degree of M. A. in Education or M. S. in Education the candidate shall be examined in the academic major, the two academic minors and in Education under regulations which apply to the examination of candidates for masters' degrees in the graduate school.

NOTE 1. Such of the above requirements as have been included in the work taken for the bachelor's degree need not, of course, be taken a second time.

NOTE 2. Upon approval of the professor in charge of the academic major a part of the work for the major may be taken in allied lines.

REQUIREMENTS FOR THE NORMAL DIPLOMAS AND LIFE DIPLOMAS

The University is authorized by law to issue teachers' diplomas, valid as teachers' licenses in all public schools of the state, as described below. Candidates for these diplomas should file an application with the Dean of the College of Education as early as possible after the beginning of the junior year, and should consult with him from time to time regarding their work for the diploma and their preparation for teaching.

I. THE UNIVERSITY FIVE-YEAR NORMAL DIPLOMA, valid in all public schools in the state for a period of five years from date of issue, is granted on the following conditions:

1. (a) Graduation from this University from the College of Liberal Arts, the College of Science, or the College of Education. (The candidate must present 132 credits for graduation.) (b) Completion of at least twelve credits (semester hours) in the Department of Education, including Principles of Education, 3 credits; History of Education, or History of Education in the United States, 3 credits; Childhood and Adolescence, or American Secondary Education, 3 credits; and Observation and Teaching or Methods of Instruction, 3 credits. The Department reserves the right to adjust these requirements to individual cases. Variations will sometimes need to be made in the case of normal school students, persons who have taken education courses in summer sessions, and teachers with considerable experience. No deviations will be permitted except on approval of the Dean of the College of Education. (Candidates for the University five-year diploma who have done part of their education work in other colleges or universities than the University of Washington shall be required to earn not less than 8 credits in education in this University. The amount of exemption shall be determined in each case by the Dean of the College of Education.) (c) Completion of a teachers' course in the major academic subject, if offered: maximum, 6 credits. (d) Evidence of such general scholarship and personal qualities as give promise of success and credit in the profession of teaching. Legible handwriting, good spelling, and correct English are indispensable. Active interest in the prospective work as a teacher will be considered.

2. Persons who have received the masters' or doctors' degree from this University shall be eligible to the University

five-year normal diploma, provided they have fulfilled the specific professional requirements exacted of those with the bachelors' degree.

3. Graduates from other accredited colleges or universities than the University of Washington who desire the University five-year normal diploma shall be required to be in residence in this University at least one semester subsequent to graduation and to earn not less than 16 credits in approved courses, at least 8 hours of which shall be in education. They must have secured at least 3 credits in psychology, a total of 12 credits in education, and have completed a teacher's course in an academic subject.

4. Graduates of the advanced courses of state normal schools who subsequently graduate from this University and who become candidates for the University five-year diploma must earn at least 8 credits in education in this University.

II. THE UNIVERSITY LIFE DIPLOMA is granted to candidates who fulfill the requirements for the University five-year diploma and also give satisfactory evidence of having taught successfully for at least twenty-four months.

COURSES IN EDUCATION

(Office, Room 4, Education Building)

PROFESSOR BOLTON, PROFESSOR LULL, ASSOCIATE PROFESSOR SMITH,
ASSISTANT PROFESSOR HART, ASSISTANT PROFESSOR ANDERSON,
MR. KRUSE, MISS AUSTIN.

Elementary psychology is prerequisite to all courses. Some knowledge of ethics, sociology, and zoology is also very desirable. The last two are required of candidates for the bachelor's degree in the College of Education. The courses in principles of education, history of education, childhood and adolescence, or secondary education, and in observation and teaching or methods of instruction, are fundamental and prerequisite to all others in education. They fulfill the requirements for the teachers' diplomas. Students should take psychology and principles of education in the sophomore year, and follow the next year with childhood and adolescence, or secondary education. It is desirable to take the observation and teaching in the senior year, but this may be taken after completing the work in the principles of education and one other course. History of education should not come until after the

principles, but for the present may be taken at any time. Deviation will doubtless sometimes be necessary to arrange schedules, also in the case of normal school students, persons who have taken some work in education during summer sessions, and experienced teachers. Deviations and changes from the foregoing may be made only with approval of the head of the department. Students who major in the department should take all of the fundamental courses and then elect enough to total 24 hours in the department. Candidates for the master's degree should have at least one-third of the work in strictly graduate courses. (Group C.)

A. COURSES FOR UNDERGRADUATES

1-1. PRINCIPLES OF EDUCATION. Three credits. Either semester. Professor BOLTON and Assistant Professor ANDERSON.

Education considered from the standpoint of (1) biology, (2) neurology, (3) psychology, (4) anthropology, (5) sociology. Representative topics: educational bearings of instinct, heredity, habit, culture epochs, individual differences, imitation, suggestion; training of senses, memory, imagination, emotions, will, motor activities, moral nature; formal discipline, educational aims and values, social education; relation of the foregoing to the school curriculum. Text: Bolton's *Principles of Education*.

3-3. HISTORY OF EDUCATION. Three credits. Either semester. Assistant Professor HART and Mr. KRUSE.

A general survey of educational forces, institutions, theories and practices in the development of the past, and their integration in the present.

4. THE HISTORY OF MODERN EDUCATION WITH EMPHASIS UPON AMERICAN EDUCATION. Three credits. First semester. Professor LULL.

American education before the beginning of the nineteenth century will be treated mainly as a part of the contemporaneous educational history of England and the continent. With the beginning of the graded elementary school, the high school and the university the course will deal distinctively with the history of American education. From this point on, the following topics will be important: The common school revival; the rise and growth of the American high school; the development of the American college and university; American secular school systems; and the development of state and city systems of adminis-

tration and supervision of instruction; the Pestalozzian movement in America; the influence of Herbart, Froebel, Herbert Spencer, William James, John Dewey, G. Stanley Hall, and others upon American education. History of industrial education from 1830 to the present.

5-5. METHODS OF INSTRUCTION. Three credits. Either semester. Professor LULL and Mr. KRUSE.

Those psychological elements which have direct application to teaching problems. Methods of instruction in secondary and in elementary branches. A study of text-books. A small amount of observation in the city schools of Seattle will be required in connection with this course.

7-7. OBSERVATION AND TEACHING. Three credits. Either semester or the entire year. Students electing this course should have free two consecutive hours in the forenoon or in the afternoon. The class will meet the instructor once a week, Wednesday at 4 o'clock. Assistant Professor ANDERSON.

Observation and teaching in the elementary and high schools of Seattle.

9-9. CHILDHOOD AND ADOLESCENCE. Three credits. Either semester. Professor BOLTON.

Scope, methods, literature, problems, relation to education; value for parents and teachers. Illustrative special topics; physical, intellectual, emotional, moral and religious growth periods and appropriate education; imitation, play, imagination, language, adolescence, the high school period. A study of the educational theories and methods of some of the great leaders in child study, including Froebel, Pestalozzi, Hall, Dewey, Montessori.

11-11. AMERICAN SECONDARY EDUCATION. Three credits. Either semester. Professor LULL.

Development and tendencies of secondary education briefly traced to aid in understanding current problems of secondary education. Organization of the socialized high school. The relation of the high school to higher educational institutions. The relation of the high school to the elementary school. The relation of the high school to the industrial life of the community. Socialized curricula and courses of study. Direction of study. Value of home study versus school study. Home and school association. The school's co-operative agencies. Internal government of the high school. Administration of the social activities of

the students. High school athletics and gymnastics, debating activities, vocational guidance and continuation work. Much attention will be given to the organization of the branches of instruction in the high school. In this connection the students will be given the opportunity to make a special study of branches which they are preparing to teach. This part of the subject connects very closely with the academic training and teachers' courses given by other departments of the University.

12a-12b. EDUCATION AND THE CITIZEN. One credit. The year, or either semester. Assistant Professor HART.

A survey of the field of educational activity and reconstruction for the general student, and with special reference to the problems of citizenship in relation to the schools. Open to general election without prerequisites in Education.

13-13. THE PRIMARY SCHOOL. One credit. Either semester. Dean AUSTIN.

A consideration of the aims, practices, and curriculum of the primary school. Intended for those who may teach in or supervise primary schools. Lectures, readings, discussions and visits to primary schools.

B. COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

At least twelve hours in Education and an elementary course in psychology are prerequisite to all courses in this group (B) and the following (C). Mature students with considerable teaching experience may be admitted to these groups without the specific number of hours of prerequisites by consent of the head of the department.

15. PROBLEMS IN VOCATIONAL EDUCATION. Two credits. First semester. Assistant Professor HART.

The vocational movement, its meaning and purpose; relation to liberal education; psychological considerations; social phases; vocational guidance.

16. EDUCATIONAL PROBLEMS OF THE STATE. Two credits. Second semester. Assistant Professor HART.

A study of the problems that confront the educational forces in the state; general and theoretical, social and practical.

17. SOCIAL ASPECTS OF EDUCATION. Three credits. First semester. Assistant Professor HART.

The social institutions and conditions which form the background of all the work of the school, reinforcing and limiting that work. The real task of the school.

*18. SCHOOL GROUNDS, BUILDINGS AND EQUIPMENT. Two credits. Second semester. Assistant Professor HART.

19-20. THE ELEMENTARY SCHOOL CURRICULUM. Two credits. The year. Assistant Professor ANDERSON.

The function, character, and organization of the elementary school curriculum. A consideration of what subject matter and experiences are of greatest worth for the individual. Adaptation of the curriculum to growth periods. The curriculum from the standpoint of the immediate interests, needs, and future efficiency of the child. Minimum essentials in and possibilities for the enrichment of the courses of study. The time is especially arranged for teachers of Seattle and vicinity.

21-22. EXPERIMENTAL EDUCATION. Two credits. The year or either semester. Mr. KRUSE.

(a) A survey of the extensive literature of recent experimental studies in education. (b) Methods of investigation and interpretation of results. (c) Problems suitable for class and individual experimentation. Data will be obtained from various public schools. Problems will deal with questions such as modes of learning various activities, economy in memorizing, habit formation, the learning of arithmetic, spelling, writing, type-writing, stenography, etc.

*23-24. EPOCHS OF EDUCATIONAL HISTORY. Two credits. The year. Assistant Professor HART.

26. THE FUNDAMENTALS OF TEACHING. Two credits. Second semester. Professor LULL.

This course is designed especially for teachers in Seattle and vicinity. A study of the fundamental principles of method as related to actual practice in the schoolroom. The problem of the course will be how to increase the teaching efficiency of each member of the class.

28. SUPERVISION AND MANAGEMENT. Three credits. Second semester. Professor LULL.

For those who are preparing for supervision, principalships or teaching positions. Practical problems of school organization and administration, such as the making and administration of courses of study; functions of school boards, superintendents, and principals; supervision of class work, teachers' meetings, student organizations.

29. SCHOOL HYGIENE. Two credits. First semester. Professor WEINZIERL.

Problems of school hygiene, including: heating, lighting, and ventilation; school diseases and medical inspection of schools; hygiene of various school activities.

30. THE EDUCATION OF EXCEPTIONAL CHILDREN. Three credits. Second semester. Prerequisite, Philosophy 45, besides the general regulations pertaining to this group. Associate Professor SMITH.

Methods of instruction for backward, feeble-minded, and deaf children, and for those suffering from speech defects and physical defects. The course will include motor training, preception training and introduction to reading and number work.

31-32. ADOLESCENCE AND THE HIGH SCHOOL. Two credits. The year. Professor BOLTON.

A critical consideration of the physical, intellectual, emotional, moral and social characteristics of adolescence and the educative activities suited to the period of secondary school education. Especially designed for teachers of Seattle.

33-34. PRINCIPLES OF EDUCATION. (Advanced Course.) Two credits. The year. Professor BOLTON.

A course for mature students who have taught considerably or who have done some previous work in the subject and can therefore progress more rapidly and also do more critical work than the beginner. Especially designed for teachers of the Seattle schools. Text: Bolton, Principles of Education.

C. COURSES FOR GRADUATES ONLY

Concerning prerequisites see note under "B."

35. ADMINISTRATION OF EDUCATION IN THE UNITED STATES. Two credits. First semester. Professor LULL.

The important problems of educational administration in the United States, national, state and local; relation to the other branches of civil administration. The financing of public educa-

tion. The administration of the different forms of vocational education. Each student will be assisted in giving special attention to his own problems of school administration. Special reference to the educational problems of the Northwest.

37. STATE SCHOOL SYSTEMS. Two credits. First semester. Professor LULL.

An intensive study of the organization and administration of public education in various state school systems. Special attention will be given to the county unit and county supervision.

38. CITY SCHOOL SYSTEMS. Two credits. Second semester. Professor LULL.

An intensive study of the organization and administration of education in large and in small cities.

39-40. FOREIGN EDUCATIONAL SYSTEMS. Two credits. The year. Professor BOLTON and Assistant Professor ANDERSON.

A critical study of current educational organization and practice in foreign countries, especially in Germany, France, England, Norway, Sweden and Canada. Texts: Bolton, Secondary School System of Germany, Farrington, the Public Primary School System of France and French Secondary Schools, and Anderson, The School System of Norway.

41. LABORATORY COURSE IN THE EDUCATION OF EXCEPTIONAL CHILDREN. Two credits. First semester. Associate Professor SMITH.

The training of typical cases. Two hours of laboratory work and a one-hour conference each week. The students will be supervised in the instruction of children with various mental peculiarities. The methods considered in Course 30 in Education will be applied.

*42. MORAL EDUCATION. Two credits. Second semester. Professor BOLTON.

43-44. ADVANCED EDUCATIONAL PSYCHOLOGY. Two credits. The year. Assistant Professor HART.

A study of special problems in the field of educational psychology; expression and impression, the social nature of perception, the nature and development of ideas, "motive" in educational practice, etc. Time arranged for Seattle teachers.

45-46. **INDIVIDUAL RESEARCH AND THESIS WORK.** Three credits. The year.

Intensive study and original investigation of special problems. Results are reported in the Seminar and when especially meritorious may be published. The special problems are directed by different members of the department. Consult head of the department regarding registration.

47-48. **GRADUATE SEMINAR.** Two credits. The year. Professor BOLTON, Mr. KRUSE.

For graduate students doing intensive study and research. Critical consideration of technical educational literature and of modern educational problems. Reports on individual problems. Technique of research, interpretation of results and thesis writing.

49-50. **SEMINAR IN ENGLISH EDUCATION.** Two credits. The year. May be elected for either semester. Professor LULL and Associate Professor BENHAM.

PSYCHOLOGY

General Psychology, course 31, four credits, is required as prerequisite to all courses in Education. The other courses in Psychology listed below are very closely related to the work in Education and should be liberally elected by candidates for advanced degrees in Education.

2. **ELEMENTS OF ETHICS.** Four credits. First or second semester. Three lectures, one or two discussion hours. Professor SAVERY, Dr. DUCASSE.

Study of value, the good, duty, virtue. Application of ethical principles to problems of economic life, government, law, art, and religion.

31. **GENERAL PSYCHOLOGY.** Four credits. First or second semester. Three lectures, one recitation, and one laboratory period. Required for all courses in education. Laboratory deposit, \$2.00. Dr. GIVLER and Mr. WILCOX.

The facts and laws of consciousness and behavior and their connection with the nervous system. Three lectures, one recitation, one laboratory period.

34. **EXPERIMENTAL PSYCHOLOGY.** Four credits. Second semester. Prerequisite, 31. One lecture, one recitation and two laboratory periods. Laboratory deposit, \$1.00. Dr. GIVLER.

Qualitative and quantitative aspects of reaction in the various sense fields and higher processes. Such phenomena as thresholds, latent period, after-image, summation, fusion, perception of time and space in sensation are studied, as well as the functions of memory and the unifying processes of selective attention.

35-36. PRINCIPLES OF PSYCHOLOGY. Three credits. The year. Prerequisite, 31.

A systematic study. Students are urged to precede this by physiological or experimental psychology.

37. ANIMAL BEHAVIOR. Three credits. First semester. Prerequisite, 31. Mr. WILCOX.

The evolution of mind in animals.

38. EDUCATIONAL PSYCHOLOGY. Three credits. Second semester. Prerequisite, 31. Dr. GIVLER.

The psychological basis of education. Perception, the learning processes, practice, memory, habit, judgment, attention and motor functions, with reference to sex, age, race and individual differences.

40. ABNORMAL PSYCHOLOGY. Three credits. Second semester. Prerequisite, 31. Mr. WILCOX.

Sleep, dreams, hypnotism, mediumships, possessions, hallucinations, motor automatisms, double personality and the subconscious.

45. THE PSYCHOLOGY OF EXCEPTIONAL CHILDREN. Three credits. First semester. Prerequisite, 31. Associate Professor SMITH.

The nature and cause of mental defects and peculiarities of children, with special reference to methods of diagnosis and to physical pathology. Prerequisite to the course in the Education of Exceptional Children.

46. METHODS OF MENTAL AND PHYSICAL TESTS AND METHODS OF MEASUREMENT. Two credits. Second semester. Prerequisite,

45. Laboratory deposit, \$1. Associate Professor SMITH and Miss WILKINSON.

Laboratory course with conferences. The student will be given practical training in Clinical Psychology and in Experimental Child Psychology.

Physiological Psychology (Phil. 33), and Research in Psychology (Phil. 49, 50), are also open to students in Education.

SOCIOLOGY

An approved course in sociology is required of all candidates for the degree of Bachelor of Education and is recommended for all candidates for the normal diploma and the degree of M. A. in Education and the degree of M. S. in Education. The following course is recommended:

SOCIOLOGY 3. ELEMENTS OF SOCIOLOGY. Three credits. First semester. Professor BEACH.

ZOOLOGY

One year of zoology is required of candidates for the degree of Bachelor of Education, and is recommended for all candidates for the normal diploma and for the degrees of M. A. in Education or M. S. in Education. The following course, or its equivalent, will be required:

ZOOLOGY 1. Four credits. The year. Professor KINCAID, Mr. OSTERUD.

A general review of zoological science. This course is repeated in the second semester for the benefit of students entering at that time.

TEACHERS' COURSES IN ACADEMIC DEPARTMENTS

Besides the foregoing courses there are teachers' courses in the following academic departments: English, French, German, History, Home Economics, Latin, Mathematics, Music, Physical Training, Physics, Spanish. Others will doubtless be offered soon. A candidate for the University Normal Diploma must include a teachers' course in his major, if offered.

DRAWING 1-2. Public School Drawing. Two credits. The year. Mrs. CULVER.

ENGLISH 35-36. Two credits. The year. Assistant Professor GARRETT, Mr. CHITTICK.

Required of students who wish the recommendation of the department for the normal diploma. A consideration of methods and problems in the teaching of English in the high school.

FRENCH 33-34. Two credits. Prerequisites, 6 and 8. The year. Professor FREIN.

Considerable attention is given to pronunciation and the methods by which inaccuracies may be corrected. Review of the grammar from the standpoint of the teacher. Beginners' classes will be visited by the class.

GERMAN 29-30. Two credits. The year. Professor MEISNEST.

Phonics, drill in stage pronunciation, methods of teaching, review of grammar. Required of students preparing to teach German.

HISTORY 43. Two credits. First semester. Required of advanced students who expect to teach history. Associate Professor McMAHON.

Text-books, assigned readings, courses of study and the best method of presentation will be considered.

HOME ECONOMICS 27-28. Two credits. The year. Prerequisites, 3, 8, 15, 21, 22, 24, and Education 1. Miss RAITT, Miss

Lesson plans and organization of courses of study in foods, nutrition, textiles, clothing and the home. Adaptation to different grades and types of schools. Equipment.

LATIN 9-10. Three credits. The year. Prerequisites, 5-6 or 7-8; or may be taken along with either of these. Assistant Professor SNEY.

Selected portions of Caesar, Bell. Gall. V-VII and Bell. Civile; Suetonius; Julius Caesar; Cicero's Letters; Vergil, Bucolics and Georgics; Ancient Lives of Vergil. Review of the Caesar, Cicero and Vergil usually read in high schools. Methods of teaching Latin and discussion of the problems likely to arise in the classroom. Teaching by members of the class, under the supervision of the instructor. Visits to schools where Latin is taught and reports on the teaching observed.

MATHEMATICS 30. Four credits. Second semester. Prerequisite, Math. 5. Required of juniors and seniors who make mathematics their major study and who are applicants for the teachers' certificate. Mr. CARPENTER.

MUSIC 21-22. Public School Music. Two credits. The year. Assistant Professor DICKEY.

PHYSICS 11. Two credits. The year. Open only to seniors. Prerequisites, not less than 8 hours of Physics and 24 hours of other science. Professor OSBORN.

SPANISH 11. Two credits. First semester. Professor OBER. Discussion of methods of teaching Spanish; outlines of practical lessons. Practice work. Conversation.

COLLEGE OF ENGINEERING

FACULTY

HENRY LANDES, A. M. (Harvard), ACTING PRESIDENT.

ALMON HOMER FULLER, M. S., C. E. (Lafayette), Professor of Civil Engineering, DEAN.

HORACE G. BYERS, PH. D. (Johns Hopkins), Professor of Chemistry.

FREDERICK MORGAN PADELFORD, PH. D. (Yale), Professor of English.

FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics and Director of the Physics Laboratories.

ROBERT EDOUARD MORITZ, PH. D., PH. N. D. (Strassburg), Professor of Mathematics and Astronomy.

CARL EDWARD MAGNUSSON, PH. D., E. E. (Wisconsin), Professor of Electrical Engineering.

EVERETT OWEN EASTWOOD, B. S., C. E., M. A. (Virginia), Professor of Mechanical Engineering.

CHARLES CHURCH MORE, M. S., C. E. (Lafayette), Professor of Civil Engineering.

HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Industrial Chemistry.

JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.

EDWARD EUGENE McCAMMON, First Lieutenant, Third Infantry, U. S. A., Professor of Military Science and Tactics.

WILLIAM FRANKLIN ALLISON, B. S., C. E. (Cornell), Professor of Municipal and Highway Engineering.

SAMUEL LATIMER BOOTHROYD, B. S., M. S. (Colorado), Associate Professor of Astronomy and Mathematics.

GEORGE SAMUEL WILSON, B. S. (Nebraska), Associate Professor of Mechanical Engineering.

CHARLES W. HARRIS, C. E. (Cornell), Assistant Professor of Civil Engineering.

GEORGE IRVING GAVETT, B. S., C. E. (Michigan), Assistant Professor of Mathematics.

EDGAR ALLEN LEOW, B. S. E. E. (Wisconsin), Assistant Professor of Electrical Engineering.

JOSEPH DANIELS, S. B., M. S. (Lehigh), Assistant Professor of Mining Engineering and Metallurgy.

ORVILLE PORTER COCKERILL, A. B., LL. B. (Ohio), Assistant Professor of Law.

ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.

HORACE JAMES MACINTIRE, M. M. E. (Harvard), Assistant Professor of Mechanical Engineering.

JOHN WILLIAM MILLER, B. S., C. E. (Nebraska), Assistant Professor of Civil Engineering.

FRANK EDWARD JOHNSON, E. E. (Minnesota), Instructor in Electrical Engineering.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

SANDY MORROW KANE, Instructor in Metalwork.

LEWIS IRVING NEIKIRK, PH. D. (Pennsylvania), Instructor in Mathematics.

CHARLES E. NEWTON, E. M. (Michigan School of Mines), Instructor in Civil Engineering.

HARLAN LEO TRUMBULL, PH. D. (Chicago), Instructor in Chemistry.

SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Instructor in Physics.

LESLIE FORREST CURTIS, B. S. (Tufts), Instructor in Electrical Engineering.

THOMAS WITHERS, C. E. (Virginia), Instructor in English.

CHARLES CULBERTSON MAY, B. S. (C. E.), (Washington), Instructor in Civil Engineering.

EDWIN LEONARD STRANDBERG, B. S. (C. E.) (Washington), Instructor in Civil Engineering.

FRANK M. WARNER, B. S. (M. E.), (Wisconsin), Instructor in Engineering Drawing.

WILLIAM E. DUCKERING, B. S. (C. E.) (Washington), Instructor in Civil Engineering.

CHARLES PAUL KUSCHKE, PH. D. (California), Instructor in Mathematics.

RUDOLPH RIEDER, A. B. (Wisconsin), Instructor in German.

HARRY KELLY RUBEX, B. S., (C. E.), (Illinois), Instructor in Civil Engineering.

CHARLES EVAN FOWLER, M. Am. Soc. C. E., Lecturer on Specifications and Bridge Construction.

SPECIAL LECTURES

During the past year special lectures have been delivered before the students of the College of Engineering as follows:

MR. J. C. RALSTON, Consulting Engineer, Spokane.

"Parallelograms of Engineering Education."

MR. A. H. DIMOCK, City Engineer, Seattle.

"The Cedar River Dam."

MR. JOHN LYLE HARRINGTON, Contracting Engineer, Kansas City, Mo.

"Heavy Bridge Construction."

DR. E. R. KELLEY, State Commissioner of Health.

"Public Water Supplies."

MR. C. E. FOWLER, Consulting Engineer, Seattle.

"Superintendence of Engineering Work."

"Bridge Erection."

"Bridge Architecture."

"Harbor Improvements."

"Foundations." (Two lectures.)

"Movable Bridges."

"Engineering Law."

MR. E. I. PEASE, Electrical Engineer with U. S. Government.

"Electrical Features of the Government Locks at Ballard, Washington."

MR. M. T. CRAWFORD, Supt. of Transmission, P. S. T. L. & Power Co.

"Continuity of Service in Long Distance Transmission."

MR. A. A. MILLER, Electrical Engineer, Westinghouse Elec. & Mfg. Co.

"The Commercial Engineer."

MR. JOHN R. KING, Asst. Electrical Engineer, P. S. T. L. & Power Co.

"Rate Making for Electrical Service."

MR. CHARLES HALL, Electrical Engineer, Railway Equipment Co., New York.

"Energy, Consumption in Electric Traction."

MR. W. A. DANIELSON, Manager Olympic Power Co.

"The Elwha River Power Plant."

CURRICULA

The College of Engineering offers two four-year curricula in each of the departments of chemical, civil, electrical and mechanical engineering. One of these leads to the degree of bachelor of science in the respective branches of engineering, as B. S. in civil engineering. The other is offered to meet the need for a broader foundation of general training than is possible in the regular four-year curricula. This curriculum in each department leads to the degree of bachelor of science (B. S.), and is followed by a

year of graduate work which, under the University regulations for advanced degrees, leads to the degree of master of science in the respective lines.

Thus in five years it will be possible to cover all of the subjects in a regular engineering curriculum and add nearly a year's work in general training and a certain amount of advanced engineering work. This should insure greater efficiency in all of the work as well as broaden the general education.

The freshman work in the several departments is identical, thus making it possible for a student to delay the definite choice until the beginning of the sophomore year.

All freshman and much sophomore work will be repeated each semester. Additional courses will be repeated whenever practicable, provided the demand is sufficient to warrant full sections, but not for less than six students. Thus freshmen may enter in February with the assurance of continuity of work for at least two years. This plan provides a possibility for taking some desirable elective courses for a semester, or for engaging in practical work for a semester and a summer consecutively before completing the curriculum.

Attention is called to the fact that all curricula, as announced in last year's bulletin and in this, differ somewhat from those in force for the preceding few years.

The essential changes are that a certain amount of elective work is made available and, in the department of civil engineering, that a portion of surveying and railroad engineering is transferred to a six weeks' summer camp of surveying to be established in the summer of 1916.

The remaining work of the classes of 1916 and '17 will be arranged to conform as closely as possible to the new curricula, but it cannot follow them literally. The courses to be offered each semester may, as a rule, be noted from the announcements under Departments of Instruction. Replies will gladly be made to any questions of doubt that may be asked. The summer camp of surveying will not be required for the above mentioned classes.

DEGREE WITH HONORS

A degree with honors in engineering may be conferred upon any student of the College of Engineering who, upon recommendation of the engineering faculty, of the honors committee and upon vote of the university faculty, may be declared worthy of unusual distinction.

ADVANCED DEGREES

The degree of master of science in civil engineering (M. S. in C. E.), master of science in electrical engineering (M. S. in E. E.), master of science in mechanical engineering (M. S. in M. E.), and master of science in chemical engineering (M. S. in Ch. E.), respectively, will be conferred upon those who complete the year of graduate work following the respective curriculum leading to the degree of bachelor of science and maintain a grade of A, B, or C in all subjects, pass a formal examination open to all members of the faculty, and submit a satisfactory thesis.

The degree of master of science in the various departments of engineering, as indicated in the preceding paragraph, will be conferred upon graduates of this College, or other engineering colleges of recognized standing, who complete a year (32 credit hours) of graduate work, including a satisfactory thesis, with the grade of A, B or C. The candidate must also pass a formal examination open to all members of the faculty. The selection of work for this degree must, in each case, be approved by the head of the department in which the student majors.

The professional degrees, civil engineer (C. E.), electrical engineer (E. E.), and mechanical engineer (M. E.), will be conferred in two years on graduates of this college holding the degree (M. S.) and in three years on those with (B. S.) in their respective lines, who give evidence of having been engaged continuously in acceptable engineering work and who present satisfactory theses.

ADMISSION

The requirements for admission to the freshman class are:

English	3	units*
Algebra	1½	units
Plane geometry	1	unit
Solid geometry	½	unit
Physics	1	unit
Chemistry	1	unit
A foreign language.....	2	units
History (American history preferred) or		
U. S. History and civics.....	1	unit
Elective	4	units
<hr/>		
Total.....	15	

* The term unit means the equivalent of five recitations per week, in periods of not less than forty-five minutes, in one branch of study, for a school year of not less than thirty-six weeks.

For the curricula leading to the degree of Bachelor of Science and to the degree of Master of Science in Chemical Engineering, Master of Science in Mechanical Engineering, etc. (the five-year courses) one optional unit may be substituted for the fixed requirement in Chemistry.

Students entering the college of engineering must have a *working knowledge* of the fundamentals of arithmetic, algebra and geometry. It is therefore desirable for the student to review his preparatory mathematics *just before entering college*. By such a step much time will be saved and the work of the college will be rendered far more valuable to him.

THESIS

The graduating thesis will consist of research or design in some branch of engineering, or the review of some existing construction. The subject must be approved by the professor in charge of the department under which it is classified, not later than the first of January in the senior year.

GOVERNMENT TIMBER TESTING SERVICE

The United States government through its forest service has located at the University of Washington a government timber testing station. Three timber testing engineers of the forest service are stationed here, and actual work in the investigation of the mechanical properties of Northwest timber is regularly carried on. The structural materials testing laboratory is used jointly for this work and for University instruction and investigation.

CURRICULUM IN CHEMICAL ENGINEERING

Leading to the Degree of Bachelor of Science in Chemical Engineering.

(For description of each subject, see page 233, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a plane trig. and algebra	4	Mathematics 2a (analytical geometry)	4
Chemistry 1a (general)	4	Chemistry 2a (general)	4
Civil Eng. 1 (drawing)	2	Civil Eng. 3 (drawing)	4
English 1a	2	Civil Eng. 20 (surveying)	4
Elective (restricted)	3	Drill 2	2
Drill	2	Mechanical Eng. 2 (shop)	2
Mechanical Eng. 1 (shop)	2		
	15+4		16+4

Freshman Electives:

Continuation of the foreign language studied in the High School, 4 hours; Economics, 1a, 3 hours; U. S. History, 4 hours; Sociology 3, 3 hours; Geology 1a, 4 hours; or any course approved by the head of the department.

SOPHOMORE YEAR

Mathematics 3a (calculus) ..	4	Mathematics 4a (calculus) ..	4
Physics 1a, 1b	6	Physics 2a, 2b	5
Chemistry 8 (qualitative) ..	4	Mechanical Eng. 21 (steam) ..	2
Civil Eng. 4 (drawing)	2	Chemistry 9 (quantitative) ..	4
Mechanical Eng. 3 (shop) ..	2	English 2a	2
Drill	2	Mechanical Eng. 4 (shop) ..	2
		Drill	2
	16+4		17+4

JUNIOR YEAR

Civil Eng. 41 (Mechanics) ..	4	Mechanical Eng. 10 (Mach. design)	3
Chemistry 3 (organic)	4	Chemistry 4 (organic)	4
Chemistry 13 (industrial) ..	4	Chemistry 14 (industrial) ..	4
Electrical Eng. 5	4	Mechanical Eng. 40 (exp.) ..	2
		Elective	4
	16		17

SENIOR YEAR

Chemistry 22 (physical)	5	Chemistry 23 (Electro)	4
Metallurgy 1 (fire assaying) ..	4	Thesis	4
Mech. Eng. 15 (Chem., Mach.)	2	Elective	8
Elective	5		
	16		16

Junior and Senior Electives:

Chemistry 15 (water exam.), 3 hours; Geology 1a 9, 8 hours; Bacteriology 103, 104, 8 hours; Civil Eng. 50 (hydraulics), 4 hours; Economics, 1, 2, 6 hours; Civil Eng. 65 (struct. materials), 3 hours; Civil Eng. 56, 3 hours; Chemistry 25 (adv. physical), 4 hours; Chemistry 9a (adv. quant.), 4 hours; Chemistry 5-6 (adv. organic), 8 hours; Chemistry 27 (theory), 4 hours; Foreign Language, 4 hours; Law, 2 hours; Sociology 3-4, 6 hours; mathematics 5a, 2 hours.

CURRICULUM IN CHEMICAL ENGINEERING

Leading to the Degree of Bachelor of Science and to the Degree of Master of Science in Chemical Engineering.

Requirements for B. S. degree:

	Hours
Mathematics 1a, 2a, 3a, 4a.....	16
Civil Engineering 1, 3, 4 (drawing).....	8
English 1a, 2a.....	4
Physics 1a, 1b, 2a, 2b.....	11
Civil Engineering 20, 41.....	8
Chemistry 1, 2, 8.....	12
Mechanical Engineering 1, 2, 3, 4, 10, 21.....	5 + 8
Military Training 1, 2, 3, 4.....	+ 8
Electives:	
Prescribed from junior and senior electives....	24
From the Department of Chemistry.....	20
General	20

128+16

NOTE.—A maximum of 48 hours from the department of chemistry will be allowed for the B. S. degree.

Requirements for M. S. in Ch. E. degree:

(a) The degree of B. S. in chemical engineering or the degree of B. S. as above.

(b) The completion of the following supplemental work:

	Hours
Chemistry 27, 28.....	4
Thesis	8
Elective	20
	32

(c) The equivalent of 9 weeks of work in some chemical industry approved by the department of chemistry.

CURRICULUM IN CIVIL ENGINEERING

Leading to the Degree of Bachelor of Science in Civil Engineering.

(For description of each subject, see page 233, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a (plane trig. and algebra)	4 ✓	Mathematics 2a (anal. geom.)	4 ✓
Chemistry 1a	4 ✓	Chemistry 2a	4 ✓
English 1a	2 ✓	Civil Eng. 3 (drawing).....	4 ✓
Civil Eng. 1 (drawing).....	2 ✓	Civil Eng. 20 (surveying)...	4 ✓
Elective (restricted)	3	Military training 2.....	2
Military training 1	2	Mechanical Eng. 2 (shop)...	2
Mechanical Eng. 1 (shop)...	2		
	15+4		16+4

Freshman Electives:

Continuation of the foreign language studied in the High School, 4 hours; Economics 1a, 3 hours; U. S. History, 4 hours; Sociology 3, 8 hours; Geology 1a, 4 hours; or any course approved by the head of the department.

16
35

COLLEGE OF ENGINEERING

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SOPHOMORE YEAR

Mathematics 3a (calculus) ..	4 ✓	Mathematics 4a (calculus) ..	4 ✓
Physics 1a, 1b	6 ✓	Physics 2a, 2b	5 ✓
✓Geology 1a	4 ✓	Chemistry 12 (engineering) ..	8 ✓
Civil Eng. 4 (drawing) ..	2 ✓	English 2a	1 ✓
Military training 3	2	Civil Eng. 7 (drawing)	2 ✓
		Civil Eng. 21 (surveying) ..	2 ✓
		Military training 4	2
	<hr/> 16+2		<hr/> 17+2

Surveying in summer camp between the sophomore and junior years 6 weeks, 6 credits, beginning with the summer of 1916.

JUNIOR YEAR

✗ Mathematics 5a (calculus) .. 2	✗ Civil Eng. 32 (rail. const.) .. 2
Civil Eng. 8 (drawing) .. 1	Civil Eng. 42 (mechanics) .. 3 ✓
✗ Civil Eng. 23 (surveying) .. 2	✗ Civil Eng. 45 (masonry
✗ Civil Eng. 31 (railway operation) .. 2	const.) .. 5
Civil Eng. 41 (mechanics) .. 4 ✓	Civil Eng. 50 (hydraulics) .. 4 ✓
Civil Eng. 70 (highways) .. 2 ✓	* Elective .. 8
Electrical Eng. 5 .. 4 ✓	
<hr/> 17	<hr/> 17

* The electives in the junior year are restricted in the consideration of the head of the department. The following subjects are suggested: Political science, general bacteriology, a continuation of language, philosophy, logic, ethics.

SENIOR YEAR

Civil Eng. 51 (hydraulic power).....	3 ✓	Civil Eng. 56 (sanitary engineering).....	3
Civil Eng. 55 (water supply and irrigation).....	3 ✓	* Civil Eng. 62 (bridges)....	3
* Civil Eng. 61 (bridges)....	4 ✓	Law 80 (contracts and spec.)	2 ✓
Civil Eng. 65 (structural materials).....	3	Thesis or elective.....	3
Elective	4	Elective	4
	<hr/> 17		<hr/> 15

The senior electives will be chosen with the consent of the class adviser from the following groups:

GROUP 1

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Astronomy 3a (elementary geodesy)	4	Astronomy 4a (geodetic astronomy)	2
		Astronomy 5 (observations) ..	2

GROUP 2

Civil Eng. 71 (highway construction)	4	Civil Eng. 72 (city streets and pavements)	2
		Chem. 18 (road materials) ..	2

GROUP 3

Civil Eng. 43 (advanced mechanics)	2	Civil Eng. 44 (advanced mechanics)	2
Civil Eng. 63 (bridges).....	2	Civil Eng. 64 (bridges).....	2

GROUP 4

Civil Eng. 57 (water supply and irrigation design)....	2	Civil Eng. 58 (sanitary engineering design)	2
Chemistry 15 (water anal.)	3	Bacteriology 110	2

GROUP 5

Civil Eng. 33 (railway transportation)	2	Civil Eng. 34 (tunneling and track elevation)	2
Electrical Eng. 44 (electric railways)	3	Civil Eng. 35 (yards and terminals)	2

GROUP 6

Eight hours of advanced work in any department in the University approved by the head of the department of civil engineering.

CURRICULUM IN CIVIL ENGINEERING

Leading to the Degree of Bachelor of Science and to the Degree Master of Science in Civil Engineering.

<i>Requirements for the B. S. degree:</i>	Hours
Math. 1a, 2a, 3a, 4a, 5a.....	18
Chem. 1a, 2, 8b, 12.....	15
Phys. 1, 1b, 2a, 2b.....	11
Geol. 1, 2	8
Pol. Sci.	6
Eng. 1a, 2a.....	4
E. E. 5, 15.....	8
M. E. 1, 2, 10, 21.....	5+ 4
C. E. 1, 3, 4, 20, 21, 23, 31, 32, 41, 42, 45, 50, 70...	38
*Surveying in summer camp 6 weeks.....	+ 6
Elective Group A.....	17
Drill 1, 2, 3, 4.....	+ 8
	<hr/> 130+18

<i>Requirements for the M. S. in C. E. degree:</i>	Hours
C. E. 51, 55, 56, 61, 62, 65.....	19
Law 80	2
Thesis	3
Elective Group B.....	8
	<hr/> 32

GROUP A—ELECTIVES

Continuation of a foreign language—8, 12 or 16 hours; bacteriology, chemistry, geology, history, mathematics, philosophy, physics, political and social science, mechanical and electrical engineering.

GROUP B—ELECTIVES

Same as arranged for degree of B. S. in C. E.

* To follow Course 21 and to precede Course 23.

CURRICULUM IN ELECTRICAL ENGINEERING

Leading to the Degree of Bachelor of Science in Electrical Engineering.

(For description of each subject, see page 233, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a (plane trig. and algebra)	4	Mathematics 2a (analytical geometry)	4
Chemistry 1a	4	Chemistry 2a	4
Civil Eng. 1 (drawing).....	2	Civil Eng. 3 (drawing).....	4
English 1a	2	Civil Eng. 20 (surveying)...	4
*Elective (restricted)	3	Mechanical Eng. 2 (shop)...	2
Mechanical Eng. 1 (shop)...	2	Military training 2.....	2
Military training 1.....	2		
	15+4		16+4

*Freshman Electives:

Continuation of the foreign language studied in the High School, 4 hours; Economics 1a, 3 hours; U. S. History, 4 hours; Sociology 3, 3 hours; Geology 1a, 4 hours; or any course approved by the head of the department.

SOPHOMORE YEAR

Mathematics 3a (calculus)...	4	Mathematics 4a (calculus)...	4
Physics 1a, 1b	6	Physics 2a, 2b	5
Civil Eng. 4 (drawing).....	2	Mech. Eng. 10 (machine design)	3
Mech. Eng. 20 (mechanism)...	2	English 2a	2
Chem. 12 (engineering).....	3	Mech. Eng. 21 (steam engineering)	2
Mech. Eng. 3 (shop).....	2	Mech. Eng. 4 (shop).....	2
Military training 3.....	2	Military training 4.....	2
	17+4		16+4

JUNIOR YEAR

E. E. 1 (direct currents)...	3	E. E. 3 (direct currents)...	3
E. E. 2 (dynamo laboratory)...	2	E. E. 4 (dynamo laboratory)...	3
C. E. 41 (mechanics).....	4	C. E. 42 (mechanics).....	3
M. E. 11 (machine design)...	2	C. E. 50 (hydraulics).....	4
Mathematics 5a	2	M. E. 40 (steam laboratory)...	2
Political Science 1a.....	3	Physics 5a (elec. meas.)...	2
	16		17

SENIOR YEAR

E. E. 21 (alternating cur.)...	4	E. E. 23 (alt. currents)....	4
E. E. 22 (alt. cur. lab.).....	3	E. E. 24 (alt. cur. lab.)....	3
E. E. 36 (dynamo design)....	2	E. E. 59 (thesis).....	3
E. E. 58 (thesis).....	1	*Elective (restricted)	6
*Elective (restricted)	6		
	16		16

Total hours—129 plus 16.

GROUP A

Math. 7, 8; Physics 5a, E. E. 27, 31, 32, 37, 41, 44, 46, 48, 51, 52, 58, 59; C. E. 21, 53, 65; M. E. 25, 30, 33, 41.

GROUP B

Political and Social Science; Law; History; and advanced courses in English and Foreign Languages.

CURRICULUM IN ELECTRICAL ENGINEERING

Leading to the degree of Bachelor of Science, and to the degree of Master of Science in Electrical Engineering.

(For description of each subject, see page 233, and following.)

<i>Requirements for the B. S. degree:</i>	Hours
Math. 1a, 2a, 3a, 4a, 5a.....	16
Chem. 1, 2, 8b.....	12
Phys. 1a, 1b, 2a, 2b.....	11
Eng. 1a, 2a.....	4
Political Science 1a.....	3
M. E. 1, 2, 3, 4, 20, 21, 10, 11.....	9+8
E. E. 1, 2, 3, 4, 21, 22, 36.....	22
C. E. 1, 3, 4, 20, 41, 42, 50.....	23
Drill or Phys. Cul. 1, 2, 3, 4.....	+8
*From Group A.....	10
*Elective.....	16
	<hr/> 128+16

Requirements for the M. S. in E. E. degree:

(a) For students having completed the B. S. course.	
E. E. 23, 24, 51, 52.....	10
Thesis.....	4
*From Group A.....	1
*Elective.....	10
	<hr/> 32
(b) For students having completed the B. S. in E. E. course.	
E. E. 51, 52.....	4
Thesis.....	4
*From Group A.....	8
*Elective.....	16
	<hr/> 32

Electives:

The student must elect at least 8 hours from Group A. It is recommended that 4 hours be elected from Group B. The choice of electives must in all cases be approved by the head of the department.

CURRICULUM IN MECHANICAL ENGINEERING

Leading to the degree of Bachelor of Science in Mechanical Engineering.

(For description of each subject, see page 233, and following.)

FRESHMAN YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a (plane trig. and algebra)	4	Mathematics 2a (analytical geometry)	4
Chemistry 1a	4	Chemistry 2a	4
Civil Eng. 1 (drawing).....	2	Civil Eng. 3 (drawing).....	4
English 1a	2	Civil Eng. 20 (surveying)...	4
*Elective	3	Mechanical Eng. 2 (shop)...	2
Mechanical Eng. 1 (shop)...	2	Military training	2
Military training	2		
	<hr/> 15+4		<hr/> 16+4

SOPHOMORE YEAR

Mathematics 3a	4	Mathematics 4a (calculus)..	4
Physics 1a, 1b	6	Physics 2a, 2b	5
Mechanical Eng. 20 (mechanism)	2	Mechanical Eng. 10 (machine design)	3
Chemistry 12 (engineering)..	3	English 2a	2
Civil Eng. 4 (drawing).....	2	Mechanical Eng. 21 (steam)	2
Mechanical Eng. 3 (shop)...	2	Mechanical Eng. 4.....	2
Military training	2	Military training	2
	<hr/> 17+4		<hr/> 16+4

JUNIOR YEAR

Mechanical Eng. 22 (engines and boilers)	2	Civil Eng. 42 (mechanics)..	3
Civil Eng. 41 (mechanics)..	4	Electrical Eng. 15.....	4
Electrical Eng. 1, 2.....	4	Civil Eng. 50 (hydraulics)..	4
Mechanical Eng. 11 (machine design)	2	Mechanical Eng. 23 (engine and boiler design)	3
Mechanical Eng. 41 (experimental)	3	Mechanical Eng. 24 (valve gears)	2
Mathematics 5a (calculus)..	2	Mechanical Eng. 6 (shop)...	2
Mechanical Eng. 5 (shop)...	2		
	<hr/> 17+2		<hr/> 16+2

*Freshman Electives:

Continuation of the foreign language studied in the High School, 4 hours; Economics 1a, 3 hours; U. S. History, 4 hours; Sociology 3, 3 hours; Geology 1a, 4 hours; or any course approved by the head of the department.

SENIOR YEAR

Civil Eng. 53 (hydraulic design)	2	Mechanical Eng. 25 (gas engines)	2
Mechanical Eng. 12 (machine design)	2	Mechanical Eng. 13 or 26 (machine design)	2
Mechanical Eng. 30 (steam turbines)	2	Mechanical Eng. 29 (mechanical refrigeration)	2
Mechanical Eng. 33 (thermodynamics)	2	Mechanical Eng. 31 (heating and ventilating)	2
Civil Eng. 65 (structural materials)	2	Mechanical Eng. 32 (power plants)	2
Mechanical Eng. 42 (experimental)	3	Mechanical Eng. 43 (experimental)	2
*Electives	3	Elective	4
	<hr/> 16		<hr/> 16

CURRICULUM IN MECHANICAL ENGINEERING

Leading to the degree of Bachelor of Science and to the degree
Master of Science in Mechanical Engineering.

Requirements for the B. S. degree:

	Hours
Math. 1a, 2a, 3a, 4a, 5a.....	18
Chem. 1, 2, 8b, 12.....	15
English 1a, 2a.....	4
Phys. 1a, 1b, 2a, 2b.....	11
C. E. 1, 2, 3, 20, 41, 42, 50, 53.....	25
E. E. 1, 2, 15.....	9
Mech. Eng. 10, 11, 12, 20, 21, 22, 23, 24, 32, 33, 41, 42	28
*Elective	18
Mech. Eng. 1, 2, 3, 4, 5, 6.....	12
Mil. Training	8
	<hr/> 128+20

Additional Requirements for the M. S. in M. E. degree:

	Hours
Mech. Eng. 13, 25, 26, 28, 30, 31, 34, 43.....	16
Elective	12
Thesis	4
	<hr/> 32

* Electives must be approved by the head of the department.

DEPARTMENTS OF INSTRUCTION**CHEMISTRY**

(Bagley Hall)

PROFESSOR BYERS, PROFESSOR BENSON, ASSOCIATE PROFESSOR DEHN,
ASSISTANT PROFESSOR ROSE, DR. TRUMBULL, DR. BELL, MRS. DAVIS

1-2. GENERAL CHEMISTRY. Four credits. The year. Freshman engineers. Professor BYERS, Dr. TRUMBULL and Instructors.

To meet the needs of students who have not had chemistry in the preparatory schools, a course is offered consisting of two lectures and six hours laboratory work per week. Textbooks: Smith's College Chemistry and Laboratory Manual.

1a-2a. GENERAL CHEMISTRY. Four credits. The year. Freshman engineers. DR. TRUMBULL.

Two lectures and six laboratory hours per week. At least one of these laboratory hours will be devoted to quiz work upon the subject-matter of the lectures. Textbooks: Smith's General Chemistry, Smith's Laboratory Manual, and Byers and Knight's Qualitative Analysis.

1b. GENERAL CHEMISTRY. Four credits. Second semester. Assistant Professor ROSE.

Repetition of 1a. Strong students or those carrying light course will be permitted to elect this course without the prerequisite high school course; but to satisfy the required work of the engineering curricula, such students must elect some other four-hour course in the department of chemistry.

2b. GENERAL CHEMISTRY. Four credits. First semester. Assistant Professor ROSE.

Continuation of 1b.

3-4. ORGANIC CHEMISTRY. Four credits. The year. Junior chemical engineers. Associate Professor DEHN.

Bernthsen-Sudborough's text is used as a reference book in connection with the lectures and Sudborough-James' laboratory manual is used as a laboratory guide.

8. ADVANCED QUALITATIVE ANALYSIS. Four credits. First semester. Sophomore chemical engineers. Professor BYERS.

Lectures on the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations of the subject-matter of the lectures. Two lectures and six laboratory hours per week.

8b. **ELEMENTARY QUALITATIVE ANALYSIS.** Four credits. Either semester. Sophomore chemical engineers. Mrs. DAVIS.

Chemistry 1-2 is followed by a course in qualitative analysis. The course consists of two lectures and six laboratory hours per week. Textbook: Byers and Knight.

9. **QUANTITATIVE ANALYSIS.** Four credits. The year. Sophomore chemical engineers. Dr. BELL.

Gravimetric and volumetric analysis. Moody's Quantitative Analysis. Twelve laboratory hours and one recitation per week.

12. **ENGINEERING CHEMISTRY.** Three credits. Either semester. Sophomore engineers. Prerequisite, 2a, 2b or 8b. Professor BENSON.

Chemistry of the materials of engineering. Two lectures and one laboratory period. Textbook: Benson's Industrial Chemistry for Engineering Students.

13-14. **INDUSTRIAL CHEMISTRY.** Four credits. The year. Junior chemical engineers. Prerequisite, Chemistry 9. Professor BENSON.

A course dealing with a detailed study of chemical industries. Two lectures and two laboratory periods.

15. **WATER EXAMINATION.** Three credits. First semester. Professor BENSON.

Option for students in Chemical and Civil Engineering. Two lectures and one laboratory period. The course deals with the sanitary aspects of water supplies and the chemistry of water purification.

16. **FOREST PRODUCTS.** Three credits. First semester. Option for students in Forestry. Two lectures and one laboratory period. Professor BENSON.

A detailed study of the chemical processes involved in the utilization of wood.

18. **ROAD MATERIALS.** Two credits. Second semester. Option for students in Civil Engineering. One lecture and one laboratory period. Professor BENSON.

Textbooks: Hubbard's Dust Preventatives and Road Binders and Bulletin 38, Office of Public Roads, Method for Examination of Bituminous Road Materials.

2. PHYSICAL CHEMISTRY. Five credits. First semester. Senior and graduate chemical engineers. Prerequisites, 8, 9, college physics. Dr. TRUMBULL.

An elementary course dealing with fundamental theories of chemistry based upon physical measurements. Three lectures and one laboratory period per week.

23. ELECTRO CHEMISTRY. Four credits. Second semester. Senior and graduate chemical engineers. Prerequisites, 8 and college physics. Professor BYERS and Dr. TRUMBULL.

The lecture course deals with the historical development of electro chemistry, the theories of electrolysis, migration of ions, concentration cells, solution pressure, etc. The laboratory work consists of the preparation of compounds by electrolysis and electro synthesis, electro-plating, etc., and of illustrations of the subject-matter of the lecture work.

27. CHEMICAL THEORY. Two credits. The year. Chemical engineers. Professor BYERS.

All graduate students registering in the department of chemistry will be expected to take a two-hour course throughout the year in the historical development of fundamental laws and theories.

CIVIL ENGINEERING

(Engineering Building)

PROFESSOR FULLER, PROFESSOR MORE, PROFESSOR ALLISON, ASSISTANT

PROFESSOR HARRIS, ASSISTANT PROFESSOR MILLER, MR. NEWTON

MR. MAY, MR. STRANDBERG, MR. WARNER, MR.

DUCKERING, MR. RUBEX, MR. FOWLER.

1. ENGINEERING DRAWING. Two credits. Either semester. All freshman engineers. Prerequisites, plane geometry. Mr. WARNER, Mr. MAY, Mr. STRANDBERG and Mr. DUCKERING.

Linear drawing, Roman and Gothic capital letters; free hand lettering.

3. ENGINEERING DRAWING. Four credits. Either semester. All freshman engineers. Prerequisites, solid geometry, drawing

1. Mr. WARNER, Mr. STRANDBERG and Mr. RUBEX.

The elements of descriptive geometry, including the principles of shades, shadows and perspective. Practical problems.

4. **ENGINEERING DRAWING.** Two credits. Either semester. All sophomore engineers. Prerequisite, 3.

Continuation of drawing 3. Problems and tracings.

7-8. **ENGINEERING DRAWING.** One credit. The year. Sophomore civil engineers. Prerequisite, 4. Mr. WARNER, Mr. MAY.

Working drawings, including tracings.

17. **FOREST SURVEYING.** (Short session in Forestry, first year. Jan.-Mar.). Laboratory deposit, three dollars. Mr. NEWTON.

Engineering drawing, topographical and map drawing. Instructions and field practice in the use of the chain, hand compass, and Forest Service compass, hand level, clinometer and transit in direct application to the requirements of the U. S. Forest Service.

18. **FOREST SURVEYING.** (Short session in Forestry, second year, Jan.-Mar.). Laboratory deposit, three dollars. Mr. NEWTON, Mr. DUCKERING.

Traversing by various conventional methods, mining claim surveys, plane triangulation and topographical work. U. S. Public Land Subdivision.

19. **MINE SURVEYING.** (Short session in Mining, Jan.-Mar.). Laboratory deposit, three dollars. Mr. NEWTON.

Instruction and field practice in the use of simple instruments for making surface and underground surveys. The elements of drawing, lettering, sketch mapping and field work. Judicial functions of the mine surveyor and the rules governing mineral surveys.

20. **ELEMENTARY PLANE SURVEYING.** Four credits. Either semester. All freshman engineers. Prerequisites, Math. 1a and C. E. 1. Laboratory deposit, three dollars. Two recitations and two three-hour laboratory periods. Assistant Professor MILLER, Mr. DUCKERING, Mr. RUBEY.

Adjustment of instruments, trigonometric computations, mapping of simple surveys, and a brief introduction to the U. S. system of Public Land surveying.

21. **FIELD GEOMETRY AND CONSTRUCTION SURVEYING.** Two credits. Second semester. Sophomore C. E. Prerequisites,

Math. 2a and C. E. 20. Laboratory deposit, three dollars. Two three-hour laboratory periods. Assistant Professor MILLER.

Theory of circular and parabolic curves. Staking out engineering work and the computation of earth work. Use of mass diagram and construction profiles.

22. SURVEYING CAMP. Six credits. Six weeks following the second semester sophomore work. Class will start for camp immediately following the commencement in June. Required of all C. E. students, beginning with the summer 1916. Prerequisites, C. E. 21 and C. E. 7. Assistant Professor MILLER and

Railway and topographic surveying. Elementary triangulation and the use of the plane table and stadia. Precise measurement of short base lines with the steel tape. Railway preliminary and location surveys. Cross sectioning and referencing the line and making the necessary right of way surveys.

*23. SURVEYING OFFICE WORK. Two credits. First semester. Junior C. E. Prerequisite C. E. 22. Assistant Professor MILLER. Computations and maps of summer camp surveys.

24-25. FOREST SURVEYING. Six credits. The year. Sophomore and junior Forestry. Prerequisites, Math. 1a and Forestry 2. Laboratory deposit, three dollars. Mr. NEWTON.

Engineering lettering and map drawing. Chain, compass, transit and level surveying, with reference to work in forest. United States subdivision of public lands.

26. FOREST TOPOGRAPHY. Four credits. First semester. Junior Forestry. Prerequisite, C. E. 25. Laboratory deposit, three dollars. Mr. NEWTON.

Topographic surveys as applied to forestry. Reconnaissance and sketch maps, and exercises in reading and adjusting triangulation systems. Filling in topographic details with plane table and transit. Beginning of elementary railroad surveying.

27. LOGGING RAILROADS. Four credits. Second semester. Junior Forestry. Prerequisites, C. E. 26. Laboratory deposit, three dollars. Assistant Professor MILLER.

Elementary railroad engineering including curves and earth-work and the economic location of logging railways. Cost estimates.

* For the year 1915-16 this course will be: 23—Topographic Surveying. Three credits. First semester.

23. MINE SURVEYING. Three credits. First semester. Sophomore mining engineers. Prerequisite, C. E. 20. Laboratory deposit, three dollars. Mr. NEWTON.

Surface and underground practice. Observation for meridian. Topography. Mining claim surveys. Plane triangulation. Tunnel and vertical shaft work and connections. Mapping.

31. RAILWAY OPERATION. Two credits.* First semester. Junior C. E. Prerequisites, 22, accompanied by 41. Assistant Professor MILLER.

Economics of the operation of railways from an engineering standpoint. Train weights and resistances, costs, etc. Maintenance of way and equipment.

32. RAILWAY CONSTRUCTION. Two credits. Second semester. Junior C. E. Prerequisite, 31. Assistant Professor MILLER.

The economics of railway location and the relation of location to operation. Contracts and specifications.

33. RAILWAY TRANSPORTATION. Two credits. First semester. Senior and graduate C. E. Prerequisite, 32. Assistant Professor MILLER.

The economics of railway transportation from an engineering standpoint. Traffic statistics and the choice of route and motive power.

34. TUNNELLING AND TRACK ELEVATION. Two credits. Second semester. Senior and graduate C. E. Prerequisite, 32. Assistant Professor MILLER.

The problems confronting the engineer in track elevation and the construction of subways.

35. YARDS AND TERMINALS. Two credits. First semester. Senior and graduate C. E. Prerequisite, 32. Assistant Professor MILLER.

The design and operation of the large yards of modern railway organizations, and the control of trains by means of signaling and interlocking.

41-42. MECHANICS. 41, either semester. Four credits. All junior engineers. Prerequisites, mathematics 4a, physics 1a. Professor MORE, Assistant Professor MACINTYRE, Mr. MAY, Mr. DUCKERING.

Statics, dynamics and mechanics of materials.

* Three credits for the year 1915-16.

43-44. ADVANCED MECHANICS. Two credits. The year. Senior and graduate engineers. Prerequisites, 42 and 45. First semester. Professor MORE.

General theories of flexure, elasticity and least work, with applications.

45. MASONRY CONSTRUCTION. Five credits. Second semester. Junior C. E. Prerequisites, 8, preceded or accompanied by 42. Professor MORE and Mr. MAY.

Foundations, piers, retaining walls, dams and arches. Reinforced concrete.

47-48. MECHANICS. Four credits. The year. For architects. Professor MORE.

50. HYDRAULICS. Four credits. Either semester. All junior engineers. Prerequisite, 41. Assistant Professor HARRIS and Mr. STRANDBERG.

Flow of water through pipes and orifices, over weirs and in open channels; energy, impulse and reaction of jets with application to impulse wheels. Review of hydrostatics.

51. HYDRAULIC POWER. Three credits. First semester, Senior and graduate C. E. Prerequisite, 50. Assistant Professor HARRIS.

Stream flow, storage and generation of power. Development and theory of turbines, design of a spillway, penstock and turbines; test of an existing power plant.

53. HYDRAULIC MOTORS. Two credits. First semester. Senior and graduate E. E. and M. E. Prerequisite, 50. Assistant Professor HARRIS.

Development and theory of water wheels and turbine pumps; design of a reaction turbine.

54. HYDRAULIC MINING. (Short session in Mining, Jan.-Mar.) Professor ALLISON.

A course of two lectures per week on theory and practice of hydraulic mining.

55. WATER SUPPLY AND IRRIGATION. Three credits. First semester. Senior and graduate C. E. Prerequisite, 50. Professor ALLISON.

A study of the principal engineering operations necessary to secure suitable water supplies for cities and towns and water for irrigation. The purification of water supplies.

56. **SANITARY ENGINEERING.** Three credits. Second semester. Senior and graduate C. E. Prerequisite, 55. Professor ALLISON.

A study of the design and construction of sewerage systems, both combined and separate. Sewage treatment.

57. **WATER SUPPLY AND IRRIGATION PROBLEMS.** Two credits. First semester. Senior and graduate C. E. Professor ALLISON.

Supplementary to course 55, with special problems and investigations.

58. **SEWAGE TREATMENT.** Two credits. Second semester. Senior and graduate C. E. and Chem. E. Professor ALLISON.

Supplementary to course 56, with special problems in matters relating to public health.

61-62. **BRIDGES.** Four credits first semester. Three credits second semester. Senior and graduate C. E. Prerequisite, 45. Professor FULLER.

Stresses, design and deflection of simple trusses. Detail drawings. Estimates.

63-64. **HIGHER STRUCTURES.** Two credits. The year. Senior and graduate C. E. Prerequisite, preceded or accompanied by 61-62. Professor FULLER.

Primary and secondary stresses. Design.

65. **STRUCTURAL MATERIALS.** Three credits. First semester. Senior and graduate C. E. and M. E. and graduate E. E. Prerequisite, 42. Laboratory deposit, three dollars. Professor FULLER and Mr. MAY.

An experimental study of the physical properties of materials of construction.

70. **HIGHWAYS.** Two credits. Second semester. Junior C. E. Professor ALLISON.

A general survey of the location, construction and maintenance of country roads and city streets, with special emphasis upon the construction of the cheaper roads; *i. e.* earth, sand, clay and gravel up to \$5,000 per mile.

71. **HIGHWAY CONSTRUCTION.** Four credits. First semester, Senior and graduate C. E. Prerequisites, 32 and 70. Professor ALLISON.

The economics of highway location, construction, and maintenance of the more permanent character, *i. e.* \$5,000 per mile and up. All standard laboratory tests of highway metals.

72. CITY STREETS AND PAVEMENTS. Two credits. Second semester. Senior and graduate C. E. Prerequisite, 71. Professor ALLISON.

A study of city streets and pavements, including estimates and inspection; also, a study of the manufacture and testing of materials of paving.

ELECTRICAL ENGINEERING

(Engineering Building)

PROFESSOR MAGNUSSON, ASSISTANT PROFESSOR LOEW, MR. JOHNSON,
MR. CURTIS, MR. KING.

1. ELECTRICAL ENGINEERING. Three credits. Either semester. Junior E. E. and M. E. Prerequisites, Mathematics 4a, physics 2a, 2b. Assistant Professor LOEW and Mr. CURTIS.

Theory of the electric and magnetic circuits; construction, operation and characteristics of direct current generators and motors.

2. DYNAMO LABORATORY. Two credits. Either semester. Junior E. E. and M. E. Prerequisites, Mathematics 4a, physics, 2a, 2b. First semester. Assistant Professor LOEW and Mr. CURTIS.

Laboratory work on direct current machinery to be taken in connection with Course 1.

3. ELECTRICAL ENGINEERING. Three credits. Either semester. Junior E. E. Prerequisites, E. E. 1 and 2. Assistant Professor LOEW.

Continuation of Course 1 in direct current machinery. Storage batteries. Regulation and control of direct current systems.

4. DYNAMO LABORATORY. Three credits. Either semester. Junior E. E. Prerequisites, E. E. 1 and 2. To be taken in connection with Course 3. First semester. Assistant Professor LOEW.

Experimental work on direct current dynamo machinery and storage batteries.

5. ELECTRICAL ENGINEERING. Four credits. Either semester. Junior C. E. and Ch. E., Forestry and Mining. Prerequisites, Mathematics 4a, physics 2a, 2b. Assistant Professor LOEW, Mr. CURTIS and Mr. JOHNSON.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

10. **ELEMENTARY ELECTRICAL ENGINEERING.** Four credits. First semester. Electricians. Mr. KING.

The laws of the electric and magnetic circuits with application to direct current machinery without the use of advanced mathematics. For students having at least two years of practical experience with electrical machinery and appliances.

15. **ALTERNATING CURRENTS.** Four credits. Second semester. Junior M. E. and electricians. Prerequisites, E. E. 5 or 10. Assistant Professor LOEW and Mr. CURTIS.

An introduction to alternating current theory with experimental work on alternating current machinery.

FOR UNDERGRADUATES AND GRADUATES

21. **ALTERNATING CURRENTS.** Four credits. First semester. Senior E. E. Prerequisites, E. E. 3 and 4. Professor MAGNUSSEN.

The theory of the generation of single phase and polyphase currents. Energy storage in the magnetic and dielectric fields. Vector diagrams and symbolic methods of analysis. Power factors and the measurement of power. The theory of the transformer, polyphase induction motors, synchronous motors, rotary converters, and transmission lines.

22. **ALTERNATING CURRENT LABORATORY.** Three credits. First semester. Prerequisites, E. E. 3 and 4. Senior E. E. Mr. CURTIS.

Experimental work on alternating current machinery. To be taken in connection with Course 21.

23. **ALTERNATING CURRENTS.** Four credits. Second semester. Prerequisites, E. E. 21 and 22. Professor MAGNUSSEN.

Continuation of course 21. The theory of the single phase induction and commutator motors. The effects of induction and synchronous motors on transmission systems. Phase control and regulation. Interlinked polyphase systems.

24. **ALTERNATING CURRENTS LABORATORY.** Three credits. Second semester. Prerequisites, E. E. 21 and 22. Seniors in E. E. To be taken in connection with course 23. Mr. CURTIS.

A continuation of course 22 with tests on large commercial machines.

27. **ELECTRIC LIGHTING.** Three credits. First semester. Senior E. E. Professor MAGNUSSEN.

Electric lamps. Commercial photometry. Wiring. Adaptation of electric lighting to commercial requirements.

31. **TELEPHONES.** Two credits. Either semester. Junior and senior E. E. Prerequisites, E. E. 1 and 2, or 5. Mr. JOHNSON.

Theory, construction and operation of telephone systems. Central station practice.

32. **TELEPHONES AND TELEGRAPHS.** Two credits. Second semester. Prerequisite, E. E. 31. Seniors in E. E. Mr. JOHNSON.

Details of automatic and manual switchboards. Testing and locating faults. Multiplex and wireless telegraphy. Railway signal systems.

36. **DYNAMO DESIGN.** Two credits. First semester. Prerequisites, E. E. 3 and 4. Seniors in E. E. Assistant Professor LOEW.

Complete design of one direct current generator or motor.

37. **DESIGN OF ELECTRICAL APPARATUS.** Two credits. Second semester. Prerequisite, E. E. 36. Seniors in E. E. Assistant Professor LOEW.

Design of switchboards, transformers, alternators or a. c. motors.

41. **METERS.** Two credits. Second semester. Prerequisites, E. E. 3 and 4. Seniors in E. E. Mr. JOHNSON.

Detail study of different types of meters and the problems arising in the measurements of electrical energy for various commercial requirements.

44. **ELECTRIC RAILWAYS.** Three credits. First semester. Prerequisites, E. E. 3, 4 or E. E. 5. Seniors in E. E. and C. E. Mr. CURTIS.

Electrical equipment and rolling stock; roadbed; construction and operation of direct current, single phase, and polyphase systems.

46. **CENTRAL STATIONS.** Two credits. Second semester. Prerequisites, E. E. 21 and 22. Seniors in E. E. Mr. CURTIS.

Location, design and operation of electric central stations.

48. **POWER TRANSMISSION.** Two credits. Second semester. Prerequisites, E. E. 21 and 22. Seniors and graduates in E. E. Assistant Professor LOEW.

Location, design and operation of electric power transmission systems.

51-52. TRANSIENT ELECTRICAL PHENOMENA. Two credits. The year. Prerequisites, E. E. 21 and 22. Graduate E. E. Professor MAGNUSON.

The exponential law of simple transients. Single and double energy transients. Current oscillations and traveling waves. Natural periods of transmission lines. Short circuits transients. Surges. Corona. Lightning phenomena.

58, 59. THESIS. Four credits. The year. Senior and graduate E. E. Professor MAGNUSON and Assistant Professor Loew.

After consultation with the head of the department each student selects a suitable problem for investigation. Reports of progress are made weekly to the instructor in charge of the work selected. A complete report of the semester's work is typewritten and bound and one copy deposited in the University library.

MECHANICAL ENGINEERING

(Engineering Building)

PROFESSOR EASTWOOD, ASSISTANT PROFESSOR WILSON, ASSISTANT PROFESSOR MACINTYRE, MR. BEATTIE, MR. KANE.

1. CARPENTRY AND WOOD-TURNING. Two credits. The year. Freshman and sophomore M. E., C. E., E. E., and Ch. E. First semester. Mr. BEATTIE.

2. PATTERN MAKING AND CABINET WORK. Two credits. The year. Freshman and sophomore M. E., C. E., E. E., and Ch. E. First semester. Mr. BEATTIE.

3. FORGE AND FOUNDRY. Two credits. The year. Sophomore and junior M. E., E. E., and Ch. E. Mr. KANE.

4. MACHINE WORK. Two credits. The year. Sophomore and junior M. E., E. E. and Ch. E. First semester. Mr. KANE.

5. MACHINE WORK. Two credits. First semester. Junior and senior M. E. First semester. Mr. KANE.

Advanced.

6. MACHINE WORK. Two credits. Either semester. Junior and senior M. E. Mr. KANE.

Advanced.

7. **MANUAL ARTS, WOODWORK.** Two credits. The year. Mr. BEATTIE.

For teachers.

8. **MANUAL ARTS, METALWORK.** Two credits. The year. Mr. KANE.

For teachers.

9. **MINE TIMBER FRAMING.** Two credits. Second semester. Sophomore mining engineers. Mr. BEATTIE and Assistant Professor DANIELS.

10. **MACHINE DESIGN.** Three credits. The year. Sophomore and junior M. E., E. E., Ch. E. and junior C. E. Prerequisite, engineering drawing 4. First semester. Assistant Professor MACINTIRE.

A study of the design of machine details, giving practice in the application of modern formulae and manufacturers' standards.

11. **MACHINE DESIGN.** Two credits. The year. Sophomore and junior M. E. and E. E. Prerequisite, 10, preceded or accompanied by mechanism 20. Assistant Professor MACINTIRE.

A continuation of course 10, consisting in the design of gearing, cone pulleys and belt transmission. Practice in tracing and blue-printing.

12. **DESIGN OF SPECIAL MACHINERY.** Two credits. First semester. Senior M. E. Prerequisites, 11 and mechanics 41. Assistant Professor MACINTIRE.

Special problems in the design of hoisting and pumping machinery.

13. **ADVANCED MACHINE DESIGN.** Two credits. Second semester. Senior and graduate M. E. Prerequisites, 12, 20, and mechanics 42. Assistant Professor MACINTIRE.

Special problems in the design of machine tools, and automatic machinery.

15. **CHEMICAL MACHINERY.** Two credits. First semester. Senior Ch. E. Prerequisites, 10 and mechanics 41. Assistant Professor MACINTIRE.

Special problems in the design of chemical machinery.

20. **MECHANISM.** Two credits. First or second semester. Sophomore and junior M. E. and E. E. Associate Professor WILSON.

A study of the operation of machines involving the transmission of forces and the production of determinate motions.

21. **STEAM ENGINEERING.** Two credits. The year. Junior M. E. and C. E.; junior and senior E. E.; sophomore and junior Ch. E. Professor EASTWOOD.

The various forms of steam apparatus used in modern power plants, considering the construction, use and reasons for installing such apparatus.

22. **ENGINES AND BOILERS.** Two credits. First semester. Junior and senior M. E. Prerequisite, 21. Assistant Professor MACINTIRE.

The generation and use of steam in boilers and engines; valve gears; governors; the conditions necessary for maximum efficiency; the influence of economizers, feed-water heaters, etc., upon the engine and boiler performance.

23. **ENGINES AND BOILER DESIGN.** Three credits. Second semester. Senior M. E. Prerequisites, 11, 22 and mechanics 41. Professor EASTWOOD.

One complete problem will be assigned for solution in the class room.

24. **VALVE GEARS.** Two credits. Second semester. Junior M. E. Prerequisite, 21 or 22. Associate Professor WILSON.

The theory and practice of designing the various kinds of valve gears for steam engines.

25. **GAS ENGINES.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, 21. Associate Professor WILSON.

The development of gas engineering, including the different types of gas engines, and gas producers and methods of testing.

26. **GAS ENGINE DESIGN.** Two credits. First semester. Graduate M. E. Prerequisite, 25. Associate Professor WILSON.

Calculations and plans for the design of a given type of gas engine.

29. **MECHANICAL REFRIGERATION.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, physics 2a and 2b. Assistant Professor MACINTIRE.

The theory and application of mechanical refrigeration.

30. **STEAM TURBINES.** Two credits. First semester. Senior and graduate M. E. and E. E. Prerequisite, 21. Professor EASTWOOD.

The theory, construction and design of steam turbines.

31. **HEATING AND VENTILATING.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, 21. Professor EASTWOOD.

The various systems of heating and ventilating, methods of design and tests.

32. **POWER PLANTS.** Two credits. Second semester. Senior M. E. Prerequisite, 22. Professor EASTWOOD.

The design of power plants involving their location, buildings, prime movers, power transmission, etc.

33. **THERMODYNAMICS.** Two credits. First semester. Senior M. E. Prerequisites, 21 or 22, physics, 2a, and mathematics 4b. Professor EASTWOOD.

The fundamental principles underlying the transformation of heat into work, with reference to the steam engine, the gas engine and hot air engine, and the operation of refrigerating machinery; efficiency of the simple, compound, and multiple expansion engine.

34. **GRAPHIC STATICS OF MECHANISM.** Three credits. First semester. Graduate M. E. Prerequisite, mechanics 41. Professor EASTWOOD.

The graphic determination of the forces acting at different points in machines used for hoisting, crushing, punching and power transmission. The effects of friction and the stiffness of ropes and belts.

40. **EXPERIMENTAL ENGINEERING.** Two credits. First or second semester. Junior and senior E. E., junior and graduate Chem. Eng. Prerequisite, preceded or accompanied by 21. Associate Professor WILSON.

Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine. One complete engine and boiler test with report.

41. **EXPERIMENTAL ENGINEERING.** Three credits. First semester. Junior and senior M. E. Same as 40 except an additional laboratory period is provided. Associate Professor WILSON.

42. **EXPERIMENTAL ENGINEERING.** Two credits. First semester. Senior M. E. Prerequisite, 41. Associate Professor WILSON.

A continuation of course 40, involving more extended and complete investigations. Special attention is given to the theory involved and previous experiments. Gas and fuel analysis.

UNIVERSITY OF WASHINGTON

43. **EXPERIMENTAL ENGINEERING.** Two credits. Second semester. Senior and graduate M. E. Prerequisite, 42. Professor EASTWOOD and Associate Professor WILSON.

An advanced course in commercial testing.

45. **STEAM LABORATORY.** Two credits. First semester. Prerequisite, 21. Associate Professor WILSON.

Arranged especially for students in the College of Forestry. Consists of two laboratory periods and is intended to familiarize the students with the fundamental equipment for steam generation and use. Practice will be given in the care and manipulation of the steam engine and boiler, and auxiliary apparatus.

50. **NAVAL ARCHITECTURE.** Two credits. First semester. Elective. Professor EASTWOOD.

The calculations common to ship construction, accompanying regular drafting room work.

51. **SHIP DRAWING AND DESIGN.** Two credits. Second semester. Elective. Professor EASTWOOD.

An application of the principles of naval architecture to the design of a steamship for a definite purpose.

SUBJECTS PRESENTED BY THE FACULTIES OF OTHER COLLEGES OF THE UNIVERSITY

ASTRONOMY

(See Mathematics and Astronomy)

BACTERIOLOGY

(Science Hall)

103. **GENERAL BACTERIOLOGY.** Four credits. First semester. For chemical engineers. Prerequisites, junior standing; botany or zoology, 1 year; chemistry, 1 year. Professor WEINZIRL and Mr. NICKSON.

Methods of growing bacteria and studying their structure, functions and distribution.

104. **SANITARY AND INDUSTRIAL BACTERIOLOGY.** Four credits. Second semester. For chemical engineers. Prerequisite, bacteriology 3. Professor WEINZIRL and Mr. NICKSON.

A brief survey of disease bacteria. Most of the time is given to sanitation and industry. Inspection trips.

110. BACTERIOLOGY FOR ENGINEERS. Two credits. Second semester. Laboratory deposit, \$2.50. Professor WEINZIRL.

General course. Application to sewage disposal and water supplies.

ENGLISH

(Office, Rooms 45 and 42, Denny Hall)

1a-2a. FRESHMAN COMPOSITION. Two credits. First semester of freshman and second semester of sophomore year. Associate Professor MILLIMAN in charge.

No students will be excused from the course, but a section will be provided for those whose training has been exceptionally good.

GEOLOGY

(Science Hall)

1-2. GENERAL GEOLOGY. Four credits. The year. Three recitations and one 2-hour laboratory period per week, with occasional one-half day field trips. Laboratory fee \$1 per semester. Assistant Professors SAUNDERS and CULVER.

1a. GEOLOGY FOR ENGINEERING STUDENTS. Four credits. Either semester. Required course for sophomore civil engineers; elective for freshmen. Laboratory fee, \$1.00. Assistant Professor CULVER.

9. MINERALOGY. Four credits. Second semester. Laboratory fee, \$2.00. Junior chemical engineers and for students in mining. Assistant Professor CULVER.

LAW

(Office, Law Building)

156. ENGINEERING CONTRACTS. Two credits. Second semester. Senior and graduate C. E. Assistant Professor COCKERILL and special lecturers.

MATHEMATICS AND ASTRONOMY

(Office, Science Hall)

I. MATHEMATICS

O. SOLID GEOMETRY. Three credits. Either semester. Prerequisite, plane geometry.

Required during the freshman year of all students in the Colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

1a. TRIGONOMETRY AND ALGEBRA. Four credits. First or second semester. All freshmen engineers. Prerequisites, algebra $1\frac{1}{2}$ entrance units, plane geometry 1 unit.

2a. ANALYTICAL GEOMETRY AND ALGEBRA. Four credits. First or second semester. All freshman engineers. Prerequisite, Math. 1a.

3a. CALCULUS FOR ENGINEERS. Four credits. First or second semester. All sophomore engineers. Prerequisite, Math. 2a.

4a. CALCULUS FOR ENGINEERS. Four credits. First or second semester. All sophomore engineers. Continuation of Math. 3a.

5a. APPLICATIONS OF CALCULUS FOR ENGINEERS. Two credits. First and second semester. Junior engineers. Prerequisite, Math. 4a.

II. ASTRONOMY.

(Office, the Observatory)

3a. ELEMENTARY GEODESY. Three credits. First semester. Prerequisites, preceded or accompanied by mathematics 3-4 or by mathematics 3a-4a. Associate Professor BOOTHROYD.

Precise surveying methods and elements of geodesy, mapping and map projection. This course is planned especially for civil engineers who desire a knowledge of precise surveying methods such as are used in the survey of the larger cities and in geodetic surveying and in all survey work where the highest accuracy is necessary, as well as some acquaintance with the more elementary principles underlying the science of geodesy. Some practice will be given in precise surveying methods.

4a. GEODETIC ASTRONOMY. Three credits. Second semester. Prerequisites, preceded or accompanied by mathematics 3-4 or by mathematics 3a-4a. Associate Professor BOOTHROYD.

The elements of practical astronomy are first taken up, after which they are applied to the problems of the determination of time, latitude, longitude and azimuth with the sextant and surveyor's transit. Each student is required to make the necessary observations and computations for these problems and the more precise methods required in geodetic work are illustrated with

the instruments of the observatory. Engineers are, however, urged to take astronomy courses 1, 1a, and 4 in place of this if they can possibly afford the time.

***6. ADJUSTMENTS OF OBSERVATIONS.** Three credits. First semester. Open to seniors, graduates and engineers. Prerequisites, astronomy 3a or astronomy 4. Associate Professor BOOTHROYD.

The best methods for the adjustment of observations. For engineering students the applications to surveying will be especially considered.

7. ANALYTICAL MECHANICS. Three credits. First semester. Open to juniors, seniors and graduates. Prerequisites, astronomy 1-2 and preceded or accompanied by mathematics 5 or mathematics 4a, physics 1-2. Associate Professor BOOTHROYD.

MILITARY SCIENCE AND TACTICS

(The Armory)

EDWARD E. MCCAMMON, LIEUTENANT THIRD INFANTRY, U. S. A,
COMMANDANT

A course of two years in military training is required. All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take the course which by regulation of the University is required during the first and second year. Three hours a week are devoted to military training, for which two credits are given each semester.

PHYSICS

(Basement, Denny Hall)

1a. MECHANICS AND WAVE MOTION. Two credits. First or second semester. Prerequisite, 8 hours in mathematics. All sophomore engineers. Assistant Professor BRAKEL and Dr. ANDERSON.

This course must be accompanied by 1b.

1b. PHYSICS MEASUREMENT. Two credits. First or second semesters. All sophomore engineers. One four-hour laboratory period. Six dollars deposit per year. Mr. VORIS.

* Not given 1915-16.

2a. LIGHT, HEAT, ELECTRICITY. Four credits. First or second semester. Sophomore engineers. Prerequisite, 1a. Assistant Professor BRAKEL and Dr. ANDERSON.

This course must be accompanied by 2b.

2b. PHYSICS MEASUREMENTS. One credit. First or second semester. Sophomore engineers. One three-hour laboratory period. Six dollars deposit per year. Mr. VORIS.

5a. ELECTRICAL MEASUREMENTS. Two credits. First or second semester. Junior E. E. Two laboratory periods. Prerequisite, 2a. Laboratory deposit six dollars per year. Assistant Professor BRAKEL.

POLITICAL AND SOCIAL SCIENCE.

(Office, Room 3A, Denny Hall)

1a. ELEMENTS OF ECONOMICS. Three credits. First or second semester. Sophomore and junior E. E. and M. E.; senior C. E.

18. MUNICIPAL GOVERNMENT. Two credits. Second semester. Prerequisite, 1-2, 1a, 3, or 19. Professor SMITH.

COLLEGE OF FINE ARTS

(Office, Room 5 Meany Hall)

HENRY LANDES, A. M., (Harvard), ACTING PRESIDENT.

IRVING MACKEY GLEN, A. M., (Oregon), Professor of Music, DEAN.

ARTHUR SEWALL HAGGETT, PH. D., (Johns Hopkins), Professor of Greek.

EVERETT OWEN EASTWOOD, C. E., A. M., (Massachusetts Institute and University of Virginia), Professor of Mechanical Engineering.

DAVID CONNOLLY HALL, Sc. M., M. D., (Brown, Chicago), Director of Physical Education.

WALTER GREENWOOD BEACH, A. M., (Harvard), Professor of Social Science.

CHARLES CHURCH MORE, M. S., C. E., (Lafayette), Professor of Civil Engineering.

THOMAS KAY SIDEY, PH. D., (Chicago), Associate Professor of Latin.

DAVID ALLEN ANDERSON, PH. D., (Iowa), Assistant Professor of Education.

ERNEST GEORGE ATKIN, A. M., (Harvard), Assistant Professor of French.

JOEL MARCUS JOHANSON, A. B., (Washington), Assistant Professor of English.

ERNEST OTTO ECKELMAN, PH. D., (Heidelberg), Assistant Professor of German.

WALTER EDMUND SQUIRE, M. G., (Northwestern), A. A. G. O. Assistant Professor of Music.

MORITZ ROSEN, (Warsaw Conservatory), Assistant Professor of Music.

ALBERT FRANZ VENINO, (New York College, Stuttgart Conservatory, Leschetizky), Assistant Professor of Music.

FRANCES DICKEY, A. M., (Columbia), Assistant Professor of Music.

CARL FREELINGSUYSEN GOULD, A. B., (Harvard), Assistant Professor of Architecture.

ATTILIO FILIPPO SEEDICO, PH. D., (Pennsylvania), Instructor in French and Italian.

SAMUEL HERBERT ANDERSON, PH. D., (Illinois), Instructor in Physics.

ERIO TEMPLE BELL, PH. D., (Columbia), Instructor in Mathematics.

ADA DEIGHTON HILLING, (Trinity College, London), Instructor in Music.

GRACE LOOMIS TERRY, Bachelor of Music, (Knox), Instructor in Music.

HELEN BALCH CULVER, (Columbia, Pratt Institute), Instructor in Design and Drawing.

ROBERT CHENAULT GIVLER, PH. D., (Harvard), Instructor in Psychology.

HAROLD OGDEN SEXSMITH, (Armour Institute), Instructor in Architecture.

MARIE GASHWEILER, A. B., (Colorado College), Assistant in Music.

ANNE VOLKER, (Oberlin, Michigan), Assistant in Music.

ALBERT PORTER ADAMS, Bandmaster.

ADMISSION TO THE FRESHMAN CLASS

To be admitted to freshman standing in any of the courses leading to a degree in the College of Fine Arts, a student must either pass an examination based on a four-year course amounting in the aggregate to fifteen units, or complete a course of the same length in an accredited school. The required and elective units are as follows:

One foreign language.....	2	units
English	3	units
Algebra	1½	units
Plane Geometry	1	unit
Physics, Chemistry, Botany, or Zoology....	1	unit
A history	1	unit

Or U. S. History (½) and Civics (½).

{	Foreign language	2 additional units
	or	
{	Solid Geometry ½ unit and 1 unit in one	
	of the sciences listed above.	

Optional subjects 3½ or 4 units

Since all the courses in fine arts leading to a degree require four years of foreign language before graduation, it is advisable to elect as much of this work in preparatory years as possible. For students intending to enter the course in architecture this is especially desirable as provision is made in the architecture course for but two years of foreign language. Architecture students should also present on entrance, credits for courses in physics, chemistry, trigonometry and free hand drawing.

Students intending to enter any of the music courses leading to a degree must satisfy the director that they have completed in addition to the usual high school preparation the equivalent of four years' work in music of the following character:

First Year: Rudiments of music. Melody and rhythm. Principles of touch and technique. Major scales. Studies by Gurlitt, Gaynor, Martin, Lambert, etc.

Second Year: Continuation of work in melody and technique. All major scales. Begin the study of chords in three tones. Studies by Lynes, Behr, Lambert, Tschalkowski, etc.

Third Year: Begin minor scales, essential chords of scales in three positions. Studies by Bertini, Berens, Czerny, Kohler, Clementi, Moszkowski, etc.

Fourth Year: Scales, chords of scales in all positions. Studies by Bertini, Czerny, Loeschorn; easier Mozart and Haydn sonatas, Bach (Little Preludes and Fugues), Schumann.

NORMAL DIPLOMA

Graduates in music may receive in addition to their bachelor of music degree a normal diploma, entitling them to teach music in the public schools, by meeting the requirements of the department of education and such departmental requirements as the department of music may see fit to institute. This will necessitate a total of at least 132 credits.

CERTIFICATES OF PROFICIENCY FOR MUSIC SUPERVISORS

These may be issued by the head of this department to students who may not have completed the requirements for the degree, but who have satisfactorily completed certain stipulated courses at the discretion of the department. These courses include History of Music, Musical Theory, Elementary Harmony, Education, Public School Music, Vocal Music and Drawing.

CURRICULA IN THE DIVISION OF FINE ARTS
CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
MUSICAL MUSIC MAJOR

FRESHMAN		Cr.	SOPHOMORE		Cr.
Vocal Music	6		Vocal Music	6	
History of Music	4		Harmony	4	
English	8		Choral Study	2	
Modern Language	8		Modern Language	8	
Fundamentals	4		Physics	8	
Sight Reading	4		Form and Analysis	4	
			Adv. Mus. Hist.	2	
Phys. Trg. or Drill plus		34	Phys. Trg. or Drill plus		34
JUNIOR			SENIOR		
Vocal Music	6		Vocal Music	6	
Harmony	4		Choral Study	2	
Choral Study	2		Musical Appreciation	4	
Modern Language	8		Program	2	
Political Science	6		Composition	4	
Counterpoint	4		Philosophy	4	
			Elective	8	
		30			30

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
INSTRUMENTAL MUSIC MAJOR

FRESHMAN		Cr.	SOPHOMORE		Cr.
Instrumental Music	8		Instrumental Music	8	
History of Music	4		Harmony	4	
English Composition	8		Modern Language	8	
Fundamentals	4		Physics	8	
Modern Language	8		Adv. Mus. Hist.	2	
Choral Study or Elective	2		Form and Analysis	4	
Phys. Trg. or Drill plus		34	Phys. Trg. or Drill plus		34
JUNIOR			SENIOR		
Instrumental Music	8		Instrumental Music	8	
Harmony	4		Musical Appreciation	4	
Modern Language	8		Philosophy	4	
Political Science	6		Program	2	
Counterpoint	4		Composition	4	
			Elective	6	
		30			30

CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
A MAJOR IN MUSICAL THEORY

FRESHMAN		Cr.	SOPHOMORE		Cr.
English Composition	8		Modern Language	8	
Modern Language	8		Physics	8	
Harmony	4		Advanced Harmony	4	
Form and Analysis	4		Adv. Mus. History	2	
History of Music	4		Analysis	2	
Choral Study or Elective	2		Composition	2	
Applied Music	4		Choral Study or Elective	2	
			Applied Music	4	
Phys. Trg. or Drill plus		34	Phys. Trg. or Drill plus		34

JUNIOR		SENIOR	
Modern Language	8	Philosophy	4
Political Science	6	Vocal Composition	4
Counterpoint	4	Instrumental Composition	4
Vocal Composition	4	Canon and Fugue.....	2
Applied Music	4	Applied Music	4
Analysis	2	Choral Study or Elective.....	2
Choral Study or Elective.....	2	Elective	10
<hr/>		<hr/>	
30		30	

**CURRICULUM LEADING TO THE BACHELOR OF MUSIC DEGREE WITH
A MAJOR IN PUBLIC SCHOOL MUSIC**

FRESHMAN		SOPHOMORE	
English Composition	8	Modern Language	8
Modern Language	8	Physics	8
Notation and Terminology 21..	2	Harmony	4
(First Semester)		Musical History	4
Ear Training and Dictation 22..	2	School Music	4
(Second Semester)		Applied Music	4
Tone Thinking and Melody		Choral Study	2
Writing	4		
Sight Singing	2	Phys. Trg. or Drill plus	34
Folk Dancing	2		
Applied Music	4		
Choral Study	2		
<hr/>		<hr/>	
Phys. Trg. or Drill plus		34	

JUNIOR		SENIOR	
Modern Language	8	Philosophy	4
Political Science	6	Form and Analysis	4
Education	6	Counterpoint	4
Harmony	4	Music Education and Supervision	4
Music Education	4	Musical Appreciation	4
Applied Music	4	Applied Music	4
		Education	6
<hr/>		<hr/>	
32		30	

NOTE.—A total of two years of German and two years of French pursued either in high school or in the University is required for the degree. If a student has finished this language work in the high school he shall substitute electives in the University. If he presents neither French nor German for admission he must supply the deficiency above the sixteen hours allowed for in the outlined courses, without credit.

If a student has had two years of Latin he may be excused from the second required year of French or German, at the discretion of the head of the department of music.

**CURRICULUM IN ARCHITECTURE LEADING TO THE DEGREE
"BACHELOR OF ARCHITECTURE."**

FRESHMAN

(First Semester)		Cr.	(Second Semester)		Cr.
Hist. and Elements of Arch.	2		Hist. and Elements of Arch.	2	
Arch. Draw.	3		Arch. Draw	3	
Freehand Drawing and Modelling	1		Freehand Drawing and Modelling	1	
Mechanics	4		Shades and Shadows	1	
Eng. Composition	2		Mechanics	4	
French or German	4		Eng. Composition	2	
Hist. of Civilization	1		French or German	4	
Phys. Tr. or Drill	2		Hist. of Civilization	1	
			Phys. Tr. or Drill	2	
		<hr/> 17+2			<hr/> 17+2

SOPHOMORE

Hist. and Elements of Arch.	2		Hist. and Elements of Arch.	2	
Arch. Drawing	3		Arch. Drawing	3	
Freehand Drawing	1		Freehand Drawing	1	
Perspective Drawing	1		Perspective Drawing	1	
Descriptive Geometry	2		Descriptive Geometry	2	
Mathematics	4		Mathematics	4	
French or German	4		French or German	4	
Phys. Tr. or Drill	2		Phys. Tr. or Drill	2	
		<hr/> 17+2			<hr/> 17+2

JUNIOR

Hist. of Arch.	2		Hist. of Arch.	2	
Arch. Design	3		Arch. Design	3	
Freehand Drawing from living model	1		Freehand Drawing from living model	1	
Mechan. of Material	2		Mechan. of Material	2	
Practical Problems			Practical Problems		
Heating and Ventilation			Heating and Ventilation		
Sanitation, Elec. Appli.	2		Sanitation, Elec. Appli.	2	
Physics	4		Physics	4	
Elective	3		Elective	3	
		<hr/> 17			<hr/> 17

SENIOR

History of Modern Arch.	2		History of Modern Arch.	2	
Building Construction (wood steel, concrete)	3		Building Construction (wood steel, concrete)	3	
Illumination and Acoustics	4		Elective	4	
Elective	3		Elective	3	
		<hr/> 17			<hr/> 17

***CURRICULUM IN ART FOR CERTIFICATES OF PROFICIENCY FOR
SUPERVISORS OF ART**

FIRST YEAR	Cr.	SECOND YEAR	Cr.
English Composition	8	Applied Design	4
Design	4	Water Color	4
Water Color	4	Pose Drawing and Sketching... 4	4
Drawing	4	Education	6
Construction	4	Methods	4
Modern Language	8	Modern Language	8
Art History and Appreciation.. 2	2	Mechanical Drawing	2
		Art History and Appreciation.. 2	2
	<hr/>		<hr/>
Phys. Trg. or Drill plus	34	Phys. Trg. or Drill plus	34

I. MUSIC

**PROFESSOR GLEN, ASSISTANT PROFESSOR SQUIRE, ASSISTANT PROFESSOR
ROSEN, ASSISTANT PROFESSOR VENINO, ASSISTANT PROFESSOR
DICKEY, MRS. HILLING, MISS TERRY, MISS GASHWEILER,
MISS VOLKEE, MR. ADAMS.**

These courses are open to all qualified students in the University.

1-2. FUNDAMENTALS OF MUSIC. Two credits. The year. Mr. SQUIRE.

A lecture course in the fundamentals of musical composition and criticism, dealing with elementary theory. This course aims to show development of musical forms from the traditional chant to the symphony, and is intended to make music more intelligible to the listener.

3-4. HARMONY. Two credits. The year. Mrs. HILLING.

Scale construction, intervals, triads and inversions, chord connections, cadences, near modulations, dominant seventh, exercises in two, three, and four part in close position, laws of chord connection.

5-6. MUSIC FORM. Two credits. The year. Mrs. HILLING.

An essential study of music leading directly to composition.

7-8. ADVANCED HARMONY. Two credits. The year. Mrs. HILLING.

Harmony in open position. Figured basses, melodies and original progressions. All forms of separate chords—dominant,

* Only those courses for which there is the greatest demand will be given in 1915-1916.

diminished, and secondary. Altered chords and notes foreign to the harmony. Chords of the ninth, suspension, organ point, modulation. Text—Foote and Spalding or G. W. Chadwick.

9-10. HISTORY OF MUSIC. Two credits. The year. Professor GLEN.

A survey course, covering the progress of musical development from the primitive period to the modern.

9a-10a. HISTORY OF MUSIC—ADVANCED. Two credits. The year. Professor GLEN.

A detailed study of important periods and composers of modern music.

11-12. MUSICAL APPRECIATION. Two credits. The year. Professor GLEN.

A course planned to make music contribute to liberal culture. Actual presentation of musical masterpieces of different periods, by mechanical devices.

13-14. CHORAL STUDY. One credit. The year. Professor GLEN.

The University chorus provides the opportunity, for those qualified, to study the more serious as well as the lighter forms of choral composition. Candidates must satisfy the director as to the extent of their musical ability.

13a. CHORAL STUDY. Two credits. Professor GLEN.

This course provides the opportunity for the study of part songs for men's voices. Candidates admitted only upon examination.

15-16. APPLIED MUSIC. One to four credits. The year.

- (a) Piano.....Assistant Professor SQUIRE, Assistant Professor VENINO, Miss GASHWEILER, Miss VOLKER
- (b) Violin.....Assistant Professor ROSEN
- (c) Voice.....Miss GRACE TERRY

B. A. students may earn one or two credits a semester; Mus. Bac. students carry a larger number of credits—two to four—as indicated in the set courses. Students enrolled in these courses will be given opportunity, upon demonstration of the required ability, to participate in the public recitals of the department.

Unless excused by reason of advanced standing upon entrance, students who major in courses in applied music will require two lessons a week, ordinarily, in order to cover the work necessary for a degree.

17-18. ORCHESTRAL STUDY. One credit. The year. Professor GLEN.

The University orchestra affords an unusual opportunity for the study of the various forms of orchestral composition. None admitted without the recommendation of the director.

17a-18a. UNIVERSITY BAND. Two credits. The year. Mr. ADAMS.

Competent players of band instruments are admitted to the band upon consent of the band master.

19-20. SIGHT READING. Two credits. The year. Assistant Professor DICKEY.

A course for prospective grade teachers and for music students. This course will be conducted in two sections—one for beginners and the other for students who have had some experience in sight singing.

21. NOTATION AND TERMINOLOGY. Two credits. First semester. Assistant Professor DICKEY.

Musical terms and their concise meanings. Acquisition of accurate and definite knowledge of notation. A brief survey of the history of notation, of musical instruments and of acoustics. For students who have had some musical training.

22. EAB TRAINING. Two credits. Second semester. Assistant Professor DICKEY.

Students must have a fair knowledge of musical notation and scales to undertake this course. Course 21 or equivalent work is prerequisite.

23-24. MELODY WRITING. Two credits. The year. Assistant Professor DICKEY.

The purpose of this course is to make students familiar with the simplest principles of melodic invention. Analysis of song material used in the public schools will supplement the practice in writing.

25-26. SCHOOL MUSIC. Two credits. The year. Assistant Professor DICKEY.

A course for supervisors. The first semester will include the study of material for the primary grades especially. Some time devoted to the study of the child voice.

The work of the second semester will cover a study of material for the upper grammar grades, the high school and glee clubs. Appreciation courses for such grades and high school will also be considered.

27-28. MUSIC EDUCATION. Two credits. The year. Assistant Professor DICKEY.

A study of psychological and pedagogical principles and their application to the teaching of music. The work for the eight grades will be outlined and methods for such work will be developed. This course will include the planning and presentation of individual lessons or topics as well as the observation of music work in the schools.

29-30. MUSIC EDUCATION AND SUPERVISION. Two credits. The year. Assistant Professor DICKEY.

This course is for seniors or students of experience. A study of principles and methods. A consideration of the problems of supervision as well as of music teaching. High school, normal, and institute music.

31-32. CHAMBER MUSIC. One credit. The year. Assistant Professor ROSEN.

Advanced students in the study of stringed instruments may have the opportunity of studying the musical literature for string trios, quartets and quintets.

33-34. ENSEMBLE SINGING. One credit. The year. Miss TERRY.

A choral course for women. Only advanced students will be admitted to this course.

35-36. COUNTERPOINT. Two credits. The year. Assistant Professor SQUIRE.

Simple counterpoint in two, three and four parts. Canon in the octave and fifth for two voices. Exercises using alto and tenor clefs. Text by Sir Frederick Bridge or Ebenezer Prout. Two years of harmony, a prerequisite for entering this course.

37-38. COMPOSITION. Two credits. The year. Mr. ———. Unaccompanied settings of poems for three, four, and five voices. Chants, hymns and chorals—simple and du figural. Songs and instrumental compositions in primary forms. Songs with

more elaborate accompaniment. Dance and romantic forms with trio. The rondo. Courses 3, 4, 7, 8, 35, 36, or their equivalents, are prerequisite for this course.

COLLEGE COURSES IN APPLIED MUSIC

The courses outlined are not necessarily arbitrary. They simply indicate the amount and character of the work that the student is expected to cover for his musical degree. Credit will be given for equivalent courses pursued elsewhere prior to entering the University.

PIANO

Freshman: All major and minor scales, chords, in four-note forms, diminished seventh, arpeggios of all common chords, major and minor fundamental position. Studies, Czerny, Op. 299; selected studies of Cramer, Berens, Op. 61; sonatas, Reinecke, Krauss, Mozart, Haydn; two part inventions, Mendelssohn songs, Schuman, Op. 15, McDowell, etc.

Sophomore: Chords in inversions. Studies of Cramer, Czerny, two and three-part inventions of Bach, Haydn, and Mozart, Sonatas; Weber, Schubert, Mendelssohn, Greig, and Moszkowski.

Junior: Scales in thirds, sixths, and tenths. Studies, Op. 740 Czerny, Clementi, Gradus ad Parnassum; Bach's French and English suites and fugues; Beethoven, Schumann; easier concertos of Mozart, Mendelssohn; Chopin nocturnes and waltzes.

Senior: Studies in Chopin, Clementi, Bach; Well-tempered Clavichord, Brahms, Greig, Korsakow, MacDowell, etc.

VOCAL MUSIC

The course in vocal music is even more flexible than that outlined for piano study. The purpose is to develop the voice and musical understanding so that the best in vocal music may be faithfully interpreted. The fact of having studied vocal music for four years will not necessarily entitle a student to graduation.

Freshman: Practical work in voice placing, breathing, studies from among the following: Concone, Op. 9; Marchesi, Op. 1; Panofka, Op. 85; Vaccai, Book I; simple Italian and English songs.

Sophomore: Progressive tone work; Bordogni, Concone, Marchesi, Panofka, simple Italian arias, Italian and English songs.

Junior: Tone work; advanced technique. Arias from Italian, French and German operas. German song, classics; modern French and English songs.

Senior: Tone work and technique. Repertoire in opera and oratorio. Recitals; Senior Program.

VOLIN

Freshman: Violin schools, Dancla, DeBeriot; Exercises, Wohlfahrt, Op. 45; Etudes, Kayser.

Sophomore: Scales, Hirnaly; Studies, Blumenstengel Op. 33, Mazas, Books I and II; Concerto, Accoly; Scene de Ballet, DeBeriot.

Junior: Exercises, Schraedieck, Books I and II; Etudes, Kreutzer, Fiorillo; Rode. Concertos, DeBeriot 7 and 9, Sophr 2 and 8.

Senior: Scales, Rosen; Etudes, Gavini; Dont, Op. 35; Bach Sonata for violin alone; Concertos, Bruch, Mendelssohn, Wieniawski, D-Minor, Vieuxtemps, No. 4.

NOTE.—In the last semester the student is obliged to memorize one sonata by Bach for violin alone and one of the concertos given in the fourth year.

FEES. Since most of the work in the courses in applied music must necessarily be of the character of private or individual instruction, the student will be required to pay tuition fees for this work in addition to the general University tuition fee. These fees are payable to the University Bursar and are collected in advance for the entire semester. No rebate will be made for the loss of lessons falling on national or University holidays nor will such lessons be made up by the teacher. The rate charged takes these into consideration. The following quotations are based on one lesson per week. More than one lesson per week will be charged for at the same rate. All lessons are one-half hour in length:

Piano: Assistant Professor Squire or Assistant Professor Venino, \$24.00 per semester; Miss Gashweiler, \$20.00 per semester; Miss Volker, \$16.00 per semester.

Vocal Music: Miss Terry, \$24.00 per semester.

Violin: Assistant Professor Rosen, \$24.00 per semester.

Band and Orchestra Instruments: Mr. Adams, \$16.00 per semester.

It has been necessary in some cases, and for special reasons, for the dean to give private instruction in singing and repertoire. In such instances the fee is \$40 per semester for one lesson weekly. Arrangements may be made for individual instruction in other musical courses if necessary or desirable.

Piano for practice may be rented at the Music department at the following rates:

One hour daily, \$4.00 per semester.

Two hours daily, \$7.50 per semester.

Additional hours, \$2.50 per semester.

All rental charges must be paid in advance. No rebate in these charges will be allowed. Lessons lost through enforced absence may not be made up unless the teacher in charge has been previously notified of the intended absence and is willing to accept the excuse for the absence.

II. ARCHITECTURE.

ASSISTANT PROFESSOR GOULD AND MR. SEXSMITH

I. Requirements of admission are the same as those for admission to the College of Liberal Arts of the University. A student should have some previous training in freehand drawing and he will be required to confer with the head of the department as to his special qualifications for taking the subject. It is desirable that a student shall have had in addition trigonometry, algebra, plane geometry, elementary physics or chemistry and two years of either French or German. Four years of Modern Language will be required before graduation. Provisions for two years' work is made in the curriculum. A student offering his entire four years on entrance may elect 16 credits on approval of his advisor. Students offering no modern language on entrance will be obliged to do two years' work, or 16 credits in modern language in addition to the set course in Architecture.

METHOD OF INSTRUCTION

II. The plan of study recognizes that architecture is essentially a fine art, the practice of which must be based upon a thorough knowledge of construction and of the practical requirements of buildings. Technical training which has not recognized the importance of the knowledge of the principles of design has failed notably to raise the skilled draughtsman to the position of an architect.

The University recognizes that its function in teaching the profession is to equip men to obtain not only a general knowledge of the subject of architecture but that they may become able to cope with the problems that occur in actual practice.

DESIGN

III. The program of studies is so arranged as to allow students to give the greater part of their afternoons to the work in the draughting room. This work will be largely problems in architectural design presented as far as possible with the object of developing the technical skill without hindering the individuality in expression. The problems after the freshman year will be judged by a visiting committee of architects appointed by the dean and the head of the department.

CONSTRUCTION

IV. The theory and practice of construction is taught as a necessary basis for and in connection with architectural design and is such as to prepare students in the best way for architectural practice. It is strongly recommended that the student supplement his University training by working in an architect's office and three months of office work at least will be required of students before obtaining a degree.

DESCRIPTION OF COURSES

1-2. HISTORY AND ELEMENTS OF ARCHITECTURE, DOMESTIC ARCHITECTURE. Two credits. The year. Required of all students majoring in Architecture and all juniors in Home Economics. Two hours a week. Lecture. Two laboratory hours except for Architectural students. Assistant Professor GOULD.

Instruction is given by means of illustrated lectures and exercises in drawing the simpler elements of buildings—walls, roofs, door and plans. A general survey of the history of dwellings will be given. Excursions will be made to buildings both completed and in process of construction and to builders' supply houses. Illustrated lectures will be supplemented by visits to buildings of various periods and types.

3-4. ARCHITECTURAL DRAWING. Three credits. The year. Assistant Professor GOULD and Mr. SEXSMITH.

The purpose of this course is to teach the practical methods of presenting an architectural problem by means of plan, section, and elevation. Individual instruction is given with occasional

conferences. Simple problems in the orders will be given with occasional design problems which are intended to develop individuality in expression and a general understanding of the different materials of construction, stone, wood and iron.

This course is recommended to students in engineering and will be open to all students in the engineering school.

5-6. FREEHAND DRAWING. One credit. The year. Mr. SEXSMITH.

Drawing from geometrical solids and from still life subjects. The mediums will be pencil and charcoal. Studies in clay of the simpler architectural ornament.

8. SHADES AND SHADOWS. One credit. Second semester. Mr. SEXSMITH.

Construction by descriptive geometry of all shadows commonly found in the presentation of architectural renderings. Frequent examinations will be given.

47-48. MECHANICAL ENGINEERING. Four credits. The year. For freshman architects. No prerequisites. Professor MORE.

Statics, dynamics, and mechanics of materials.

9-10. HISTORY AND ELEMENTS OF ARCHITECTURE. Two credits. The year. Required of all students in architecture and open to all students in the University. Regular sophomore course, but may be taken as a half course the first semester. Mr. ———.

By means of illustrated lectures Egyptian, Greek and Roman architecture will be studied the first semester—notes, diagrams and drawings will be required of the student. The study of history of architecture is given in order to obtain an intelligent understanding of the principles of design by an analysis of the evolution of architectural form and its application. The student will be required to study the outline of general history concurrent with the lecture and also by assignments in books on architectural history.

The second semester Byzantine, Romanesque, and Gothic architecture will be studied and analyzed in the same manner.

11-12. ARCHITECTURAL DRAWING. (Sophomore). Three credits. The year. Mr. ———.

Problems in design and simple problems in planning will be given. Society of Beaux Arts Architects program will be used as the work of the pupils progresses.

13-14. **FREEHAND DRAWING.** (Sophomore). One credit. The year. Mr. _____.

Drawing in charcoal or crayon of architectural ornament and studies from casts of the human figure. Drawing from costumed model in charcoal. Sketches from life with reference to structure. When the weather permits, the class will do out of door sketching with water color and pen and ink.

15-16. **PERSPECTIVE DRAWING.** One credit. The year. Mr. _____.

The theory of perspective from simple problems up to and including the more complicated methods will be studied. The office methods will be compared frequently with the theory.

*17-18. **HISTORY OF ARCHITECTURE.** Two credits. The year.

This course follows the same method of instruction as that for the sophomore year. The architecture of the Renaissance will be studied; problems in ornamental design and planning will be discussed.

*19-20. **ARCHITECTURAL DESIGN.** Three credits. The year.

More advanced problems will be given in ornamental design and in planning. Ornamental design as applied to different materials, terra cotta, iron and stone will be studied. Problems of industrial layouts, city squares, playgrounds, etc., will be given.

*21-22. **FREE HAND DRAWING.** (Junior). One credit. The year. One three-hour period.

*23-24. **HISTORY OF MODERN ARCHITECTURE.** Two credits. The year.

*25-26. **ARCHITECTURAL DESIGN.** (Senior). Three credits. The year.

The student will be required to select some special design work from the list of elective subjects. The problems will be given during the first half year and the second half year will be given over to presenting a complete thesis of some approved architectural problem.

A complete set of specifications, full sized details and structural drawings will be required and showing proper methods of representing mechanical equipment.

* Not given in 1915-1916.

Required for the degree of Bachelor of Architecture.

Since the subject of Architecture is of such a varied nature the course of study is so arranged that in the junior and senior years students may select courses which will serve their special purpose.

It must be recognized, however, that knowledge of design is the most essential subject in a course preparing students for the profession of architecture.

ELECTIVES

Electives may be chosen from among the following named subjects:

- Analytical Geometry
- Calculus
- Architectural Rendering
- Language
- Music
- Labor Problems
- Architectural Design. Elementary.
- Architectural Rendering
- Perspective, Birds-eye in line and color
- Acoustics
- Naval Architecture
- Stone Masonry
- Economics
- Psychology
- Labor Problems
- Public Speaking
- History of Sculpture and Painting

III. DESIGN AND DRAWING

MRS. CULVER, MR. SEXSMITH.

1-2. PUBLIC SCHOOL DRAWING. Two credits. The year. Mrs. CULVER.

A course, which combined with regular work in methods, is primarily intended for those who wish to teach or supervise drawing in the public schools. The course includes: drill in line drawing; placing and proportion; comparative measurements; free hand practice; principles of perspective; drawing from ob-

* Not given in 1915-1916.

jects and nature; use of pencil and charcoal; water color theory of color; painting from nature; elementary design and composition; principles of design; practice in simple, abstract designs; landscape and flower composition; free hand lettering.

3-4. PRINCIPLES OF DESIGN. Two credits. The year. Mrs. CULVER.

A study of line, dark, and color. To develop power of appreciation and creation of good design. Two laboratory periods a week. This course will be repeated the second semester.

5-6. FREEHAND DRAWING. Two credits. The year. Mrs. CULVER.

A course planned for a progressive growth in appreciation and power of expression, developing freedom and skill in drawing and painting.

7-8. ADVANCED DESIGN. Two credits. The second semester. Mrs. CULVER.

A continuation of the work begun in courses 1 and 2 which are prerequisites. Design applied to wood block color printing, painting. Massing in full values, posters, illustrations and decorations.

COLLEGE OF FORESTRY

FACULTY

- HENRY LANDES, A. M. (Harvard), ACTING PRESIDENT.
HUGO WINKENWERDER, M. F. (Yale), Professor of Forestry, DEAN.
TREVOR KINCAID, A. M. (Washington), Professor of Zoology.
HENRY KREITZER BENSON, PH. D. (Columbia) Professor of Industrial Chemistry.
BURT PERSONS KIRKLAND, A. B. (Cornell), Associate Professor of Forestry.
GEORGE SAMUEL WILSON, B. S. (Nebraska), Associate Professor of Mechanical Engineering.
ELIAS TREAT CLARK, M. F. (Yale), Assistant Professor of Forestry.
GEORGE IRVING GAVETT, B. S. (C. E.), (Michigan), Assistant Professor of Mathematics.
ABRAHAM BERGLUND, PH. D. (Columbia), Assistant Professor of Economics.
JOHN WILSON HOTSON, PH. D. (Harvard), Assistant Professor of Botany.
HAROLD EUGENE CULVER, PH. D. (Wisconsin), Assistant Professor of Geology.
BROB LEONARD GRÖNDAL, M. S. F. (Washington), Instructor in Forestry.
L. A. NELSON, Instructor in Scaling.
CONRAD W. ZIMMERMAN, A. B. (Washington), Lecturer in Timber Physics.
DAVID CONNOLLY HALL, SC. M. M., M. D. (Chicago), Director of Physical Education.
CHARLES EDWARD NEWTON, E. M. (Michigan College of Mines), Instructor in Civil Engineering.
RUDOLF RIEDER, A. B. (University of Wisconsin), Instructor in German.
FLOYD THOMAS VORIS, A. M. (Columbia), Instructor in Physics.

SPECIAL LECTURERS

- R. E. BENEDICT, Forest Inspector, Canadian Forest Service, Lecturer on Forest Protection.
R. H. MACMILLAN, Chief Forester, British Columbia, Lecturer on Forest Administration.

THORNTON T. MUNGER, Chief of Silvics, District 6, United States Forest Service, Lecturer on Silvics and Planting.

CHAS. H. FLORY, Assistant District Forester, District 6, United States Forest Service, Lecturer on Forest Fires.

C. J. BUCK, Assistant District Forester, District 6, United States Forest Service, Lecturer on Forest Law.

LEWIS SCHWAGER, Schwager-Nettleton, Inc., Lecturer on Sawmilling.

JOHN ADAMS, Insurance Appraiser, Lecturer on Lumber Insurance.

J. P. VAN ORSDELL, Supt. of Logging, Portland Lumber Co., Lecturer on Scientific Logging.

THORP BABCOCK, Secretary West Coast Lumberman's Association, Lecturer on Milling and Association Work.

LUMBERMEN'S ADVISORY COMMITTEE

GEO. S. LONG, Weyerhaeuser Timber Co., Tacoma.

J. J. DONOVAN, Bloedel-Donovan Lumber Mills, Bellingham.

EDW. P. BLAKE, Wash. Log. Brokerage Co., Seattle.

PURPOSE AND LOCATION

The school of Forestry was established in 1907. It has a two-fold purpose; first, to afford instruction in the principles and practice of forestry; second, to promote the interests of forestry in the State of Washington by encouraging the right use of forest resources.

The school has exceptional advantages in its location. The University campus comprises 355 acres, a portion of which is in timber, and offers splendid opportunities for field work in silviculture and forest measurements. Other excellent forests are within walking distance of the campus. The University also owns large forest tracts in various parts of the state, where students may conduct extensive research work. The immense national forests within a few hours' ride of Seattle afford practical object lessons in the art of forest management. The city of Seattle is in the center of the timber industry of Washington and the Northwest. In its many sawmills and wood-working industries, the student has unrivalled opportunities for studying wood utilization.

ADMISSION

FRESHMAN CLASS	Credits*
English	3
Algebra	1½
Plane geometry	1
Solid geometry	½
Physics	1
United States history and civics, or a history...	1
Botany	1
One foreign language.....	2
Elective	4
Total.....	15

Students may be admitted:

- (1) By presenting a certificate of graduation from an accredited school covering the above subjects.
- (2) By passing a satisfactory examination in the above subjects.

ADVANCED STANDING

Credit will be given for subjects pursued at other colleges of recognized rank upon presentation of certificates that such subjects have been satisfactorily completed, or upon examination. Graduates of this institution and others of similar rank are admitted to graduate standing.

SPECIAL STUDENTS

Persons twenty-one years of age or over, who are not regularly qualified for admission, but who have pursued special lines of studies related to forestry may be admitted as special students, on giving satisfactory evidence of their ability to pursue the work.

SPECIAL SHORT COURSES FOR FOREST RANGERS AND LUMBERMEN

(See page 25).

Applicants must be at least twenty years old and show ability to carry the work with profit to themselves. Admission to classes is without examination.

* A unit of credit in a given subject means that it is taught five times a week in forty-five minute periods for a school year of not less than thirty-six weeks.

FOREST LABORATORIES

DENDROLOGY. Individual lockers, compound microscopes, gas and water. An herbarium of fruits, twigs and trunk sections of tree is well under way.

LUMBERING. Field work at logging camps and sawmills. A complete equipment for exercises in logging engineering; for demonstration, collections of lumber, showing grades, and defects, planing mill products, saws, axes, cables and other apparatus used in logging and milling. There are mills and camps about Seattle.

MENSURATION. Equipment selected to show all principal types of instruments in use. Those particularly adapted to the north-west provided in quantities sufficient for all practice work by students in cruising, and volume, growth and yield studies.

SILVICULTURE. Greenhouse space and a forest tree nursery are provided on the campus. The forests about Seattle offer wide opportunities for other practical studies and demonstrations.

TIMBER PHYSICS. The magnificently equipped Government Timber Testing Laboratory, operated in cooperation with the University is used.

WOOD TECHNOLOGY. Same room as Dendrology laboratory. Individual lockers, gas, water, Lietz and B. & L. compound microscopes and all apparatus necessary for sectioning and preparing microscopic sections in the study of woody tissue. Extensive collections of domestic and foreign commercial timbers, including collections of South American and Philippine hardwoods, and microscopic preparations. Research laboratory; equipped with microtome, water baths, drying ovens, balances, camera and apparatus required for photomicrography and all apparatus required for the detailed study of woody tissue.

WOOD PRESERVATION AND UTILIZATION. A modern open tank preservation plant and accessories. All equipment required for commercial testing of wood preservatives. Four large creosoting plants, several smaller treating plants, and plants for the manufacture of paper, veneers, wood pipe, cooperage stock, excelsior, boxes, and numerous other secondary wood products are located in or near Seattle and are available for study. A wood-distillation plant of one-half cord capacity is also located on the campus.

ASSEMBLY ROOM. Supplied with Lietz lantern for episcopic, diascopic and microscopic projection.

LABORATORY DEPOSITS

Forestry courses 1, 4, and 19, \$1.00; forestry courses 5, 6, 7, 7a, 7b, and 18, \$2.00; botany, \$3.00; chemistry, \$10.00; geology 1d, \$1.00; physics, \$2.50; zoology, \$2.00.

NOTE.—The laboratory deposits in each case are for materials used and cover repairs of apparatus. The student is entitled to a refund for such portion of the fee as is not used.

FIELD EXCURSIONS

Much of the instruction in technical forestry is given in the field, necessitating frequent field excursions in nearby forests, logging camps and sawmills. The expenses of these excursions are about \$10.00 for the freshman year, \$15.00 for the sophomore year, \$20.00 for the junior year, and \$50.00 for the senior year.

SUMMER WORK

Students of forestry are urged to spend their summer vacations in some line of practical work connected with the forest industry. Situated, as the school is, in the heart of a great lumbering section and near extensive national forests, ample opportunity is offered for summer employment. Students not only acquire valuable experience in this way, but earn a considerable portion of their University expenses.

FOREST CLUB

The Forest Club is an organization open to all students of the College of Forestry. It aims—To secure full acquaintance and good fellowship among students and instructors—To keep in touch with everyday problems in forestry and lumbering, and the men who are doing things worth while in these industries—To interest the public in the College of Forestry and in the forestry problems of the state.

Officers of the Club for the year 1914-1915 are: President, Harold Foran; vice president, Henry Schmitz; secretary treasurer, Frank Waterhouse.

The Club puts out every May "The Forest Club Annual," a publication which contains articles and illustrations descriptive of the school, of scientific interest, and a complete roster of students, ex-students, and alumni.

COURSES AND DEGREES

In accordance with the announcement in the Bulletin of 1913-14, the College of Forestry, beginning with September, 1914, abandoned its fixed four-year groups of study and will hereafter offer only one five-year course with a liberal allowance for electives. As technical forestry has now reached a stage where some specialization is almost necessary, this new arrangement will give the student ample opportunity for specialization along three distinct lines (1) Forest Service and State Work, (2) Logging Engineering, (3) Forest Products, and (4) The Lumber Business. *This course may, however, be pursued for only four years and on the completion of four years of the work the students will be awarded the degree of bachelor of science.* It should be emphasized that this arrangement will allow the student to receive practically as broad a training in four years as heretofore, but that if he desires to specialize he should pursue the work for five years.

REQUIREMENTS FOR GRADUATION

UNDERGRADUATE WORK

For the degree of Bachelor of Science the student shall have completed, in addition to the required subjects outlined in the curriculum, at least 28 hours in subjects selected from forestry, engineering, or the botanical, chemical, zoological, geological or economic sciences, the subjects to be approved by the students' class advisor, but in no case shall more than 18 elective credits in forestry or 12 in any other department, be allowed toward graduation. The total number of credits required for graduation shall be 130 exclusive of shop and military training. Candidates for the degree must furthermore receive grades of "A," "B," or "C" in at least three-fourths of the credits required for the degree. (This requirement does not apply to grades given before the year 1913-1914.)

GRADUATE WORK

For the degree of Master of Science in Forestry, the student, in addition to being a graduate of this university or other institution of equal rank, and having a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, shall have been credited at this University with 166

hours, of which at least 52 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration, management, lumbering, wood preservation, forest economics, and thesis. Only grades of "A," "B," and "C" can be counted toward a graduate degree.

Attention is called to the special advanced courses for graduate students. They are dendrology, silviculture, wood technology, timber physics, wood preservation, and research. Special facilities and apparatus are provided for advanced work of this nature. Emphasis is placed upon the fact that a graduate from a college of forestry of equal rank with the College of Forestry of this University may complete the requirements for the advanced degree in one year. Graduates from other institutions of equal rank, but giving no courses in technical forestry, may complete the required work in two years.

OUTLINE OF CURRICULUM

RECOMMENDATIONS FOR CHOICE OF STUDIES

For specialization in Forest Management, the following electives are recommended: C. E. 26, Botany 16, Zoology 14, Elementary Law, and Forestry, 9, 13, 14, 19, 21, 22, 24, 25, 32, and 36.

For specialization in Logging Engineering: C. E. 26 and 27, Elementary Law, Zoology 14, Electrical Engineering 5, Mech. Engineering 21, Mechanical Engineering 45 and Forestry 14, 17, 18, 19, 21, 22, and 32.

For specialization in Forest Products: Chem. 3 and 4, or Chem. 8b and 14, Botany 16, Electrical Engineering 5, Mechanical Engineering 21 and 45, and Forestry 7b, 13, 16, 19, 21 and 22.

For specialization in the Business of Lumbering: Pol. Science, 15, 27, 39, 47; Journalism 21, 22; Forestry 9, 16, 19, 21, 22, 33, 34.

FRESHMAN YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a.....	4	Mathematics 2a.....	4
English 1c.....	2	English 2c.....	2
Botany 11 (Gen. Botany)...	4	Botany 12 (Morphology)...	4
Forestry 1 (El. Dendrology)...	4	Geology 1d (Gen. Geology)...	4
Forestry 2.....	2	Forestry 3.....	2
Forestry 15 (Woodcraft)...	1	Drill.....	2
Drill.....	2		
	<hr/> 16+3		<hr/> 16+2

SOPHOMORE YEAR

Modern Language.....	4	Modern Language.....	4
C. E. 24 (Surveying).....	6	C. E. 25 (Surveying).....	6
Chemistry 1 (Gen. Chem.)...	4	Chemistry 2 (Gen. Chem.)...	4
Forestry 5 (Mensuration)...	4	Forestry 6 (Mensuration)...	4
Elective M. E. (Shop).....	2	Elective M. E. (Shop).....	2
Drill.....	2	Drill.....	2
	<hr/> 18+2		<hr/> 18+2
Required.....	18+2	Required.....	18+2

JUNIOR YEAR

Physics 3a.....	4	Physics 4a.....	4
Zoology 13 (Forestry Entomology).....	4	Forestry 4 (Silviculture)...	6
Political Science 1a.....	3	Botany 16 (Tree diseases)...	4
Elective		Elective	
Chemistry 3 (Organic).....	4	Chemistry 4 (Organic).....	4
C. E. 26 (Topography).....	4	M. E. 4.....	2
M. E. 2.....	2	C. E. 27 (R. R. Surveying)...	4
Pol. Sci. 39.....	3	Pol. Sci.....	3
Pol. Sci. 47.....	3		
	<hr/> 17		<hr/> 18
Required.....	17	Required.....	18

SENIOR YEAR

Forestry 11 (Management)...	4	Forestry 12 (Management)...	5
*Forestry 35 (Gen. Lumbering).....	4	Forestry 8 (For. Economics) 2	
Elective		Electives	
M. E. 45.....	2	Elect. Eng. 5.....	4
M. E. 21.....	2	Elementary Law.....	2
Forestry 9 (Hist. & Policy)...	2	Chemistry 17.....	3
Chemistry 8b.....	4	Forestry 32 (Cruising and scaling).....	2
Botany 43.....	4	Zoology 14.....	2
Forestry 24 (Adv. Silviculture).....	2	Jour. 22.....	3
Pol. Sci. 15.....	3		
Jour. 21.....	3		
	<hr/> 16		<hr/> 17
Required.....	16	Required.....	17

* The change from the three-group system to the new five-year course will need to be adjusted gradually. Therefore, starred courses will not be given as here outlined until such time when the conditions warrant it. Course 21 in Utilization will be a four-hour course for the first semester. Course 16 will be given as a three-hour course; courses 19 and 19a will not be combined. Courses 22 and 35 will be given each year providing there is sufficient demand. Otherwise they, together with courses 32 and 36, will not be given in 1915-1916.

GRADUATE YEAR

Forestry 7 (Technology).....	3	All electives	
Thesis	4	Forestry 10 (Administration)	2
Elective		Forestry 22 (Sc Management)	2
Forestry 18 (Adv. Den.).....	3	Forestry 21 (Utilization)....	5
Forestry 19 (Tim. Phys.)....	4	Forestry 14 (Field Mensura-	
Forestry 17 (Log. Eng.).....	4	tion)	4
Forestry 25 (Seminar).....	1	*Forestry 36 (Adv. For. Man-	
Forestry 33 (Adv. For. Prod-		agement)	6
ucts)	2	Forestry 18 (Log. Engineer-	
Forestry 27 (Research).....	2	ing)	6
Pol. Sci. 27 (Markets).....	3	*Forestry 16 (Preservation).	4
		Forestry 26 (Seminar).....	1
		Forestry 34 (Adv. For. Prod-	
		ucts)	2
		Forestry 28 (Research).....	2
Required.....	17	Required.....	16

Students wishing to specialize on the business side of lumbering are advised to elect nine hours of work in Commerce.

* The change from the three-group system to the new five-year course will need to be adjusted gradually. Therefore, starred courses will not be given as here outlined until such time when the conditions warrant it. Course 21 in Utilization will be a four-hour course for the first semester. Course 16 will be given as a three-hour course; courses 19 and 19a will not be combined. Courses 22 and 35 will be given each year providing there is sufficient demand. Otherwise they, together with courses 32 and 36, will not be given in 1915-1916.

DEPARTMENT OF INSTRUCTION

SUBJECTS PRESENTED BY THE DEPARTMENT OF FORESTRY

1. **ELEMENTARY DENDROLOGY.** Four credits. Either semester. Required of freshmen. Two recitations, four hours laboratory work, field trips additional. Prerequisite, H. S. botany. Laboratory deposit, \$1.00. Professor WINKENWERDER and Mr. GRÖNDAL.

The nomenclature and classification of trees. The use of keys. A study is made of one type species of each genus of the important timber trees of North America. Identification and distribution of the species of the Northwest. Texts: Sargent's Manual of the Trees of North America; Sudworth's Trees of the Pacific Slope; Winkenwerder's Keys to Trees of Oregon and Washington.

Course 1 is repeated in the second semester for students entering at that time.

2-3. **INTRODUCTION TO FORESTRY.** Two credits. The year. Required of all freshmen. Professor WINKENWERDER.

A course of lectures intended to familiarize the student with the general nature of the field of work he is about to enter.

15. **WOODCRAFT.** One credit. First semester. Required of all freshmen in forestry. Assistant Professor CLARK and Dr. HALL.

Food lists, camp cooking, woods clothing, camp equipment, camp sanitation, packing a horse, general woodcraft. Course concludes with a half dozen lectures on first aid to the injured.

A special section in Forestry 15 will be arranged for students not regularly enrolled in Forestry providing at least six students apply for the course.

4. **SILVICULTURE.** Six credits. Second semester. Required of all juniors and graduates. Four recitations, one-half day field work. Prerequisites, For. 1, 5, 6. Laboratory deposit, \$1.00. Professor KIRKLAND.

A study of the individual tree; forest ecology; the forest as a whole; treatment of the forest regions; forest types; silvical characters of trees; seed collecting; nursery practice; transplanting. Text: Graves' Princ. of Handling Woodlands.

5. **FOREST MENSURATION.** Four credits. First semester. Two recitations and six hours field or laboratory work. Prerequisites, For. 1 or 30 and Math. 8 hrs. Laboratory deposit, \$2.00. Required of all sophomores and graduate students. Assistant Professor CLARK and Mr. GRÖNDAL.

The construction and use of common types of log rules and hypsometers; methods of computing volumes of logs and trees; the principles involved in the use of form factors; the construction and use of volume tables; the elements of scaling and cruising. Texts: Graves' Forest Mensuration, Winkenwerder and Clark's Exercises in Forest Mensuration.

6. **FOREST MENSURATION.** Four credits. Second semester. Two recitations, six hours field or laboratory work. Laboratory deposit, \$2.00. Required of all sophomores and graduate students. Professor WINKENWERDER and Mr. GRÖNDAL.

Methods of studying growth in diameter, height and volume. Sample plot methods. The construction of growth and yield tables. Texts: Same as For. 5.

7. **WOOD TECHNOLOGY.** Three credits. First semester. Primarily for seniors and graduate students. Prerequisites, For. 1 or 30, Univ. Botany, 8 hours. Laboratory deposit, \$2.00. Professor WINKENWERDER and Mr. GRÖNDAL.

Wood structure, leading to the identification of the commercial timbers of the United States. The physical properties of wood. Each student is required to prepare permanent microscopic mounts of fifty species. Text: Record's Economic Woods.

7a. **WOOD IDENTIFICATION.** Two credits. First semester. Open to students in other departments of the University who upon consultation can show ability to carry the work. Professor WINKENWERDER and Mr. GRÖNDAL.

This course includes only the laboratory work of course 7. Two three-hour laboratory periods a week. Laboratory deposit, \$2.00. Text: Record's Economic Woods.

8. **FOREST ECONOMICS.** Two credits. Second semester. Required in junior or senior year. Prerequisite, Pol. Sci. 1 or 1a. Associate Professor KIRKLAND.

The forest as a natural resource; the forest compared with other natural resources; history of the conservation movement; the special relation of forests to conservation problems; the relation of forests to climate, soil, erosion, irrigation, water-power,

navigation, grazing, public health, industry and labor; forest taxation, and tariff on timber. Open to all students in other departments.

9. **FOREST HISTORY AND POLICY.** Two credits. First semester. Prerequisite, For. 4. Associate Professor KIRKLAND.

Forest policy of the United States; forestry in the states and our island possessions; the rise of forestry abroad. Text: Fernow, History of Forestry.

10. **FOREST ADMINISTRATION.** Two credits. Second semester. Assistant Professor CLARK.

Objects of forest administration; regulations and instructions governing disposal of timber, range, and all other forest resources; use and disposal of land; rights-of-way; protection against fire, and trespass; improvement work; fiscal matters; principles and details of each subject, including investigations, reports, permits, use of all forms, supervision of work; suggestions and demonstrations.

11-12. **FOREST MANAGEMENT.** Four credits, first semester. Five credits, second semester. Required of all students in senior year. Prerequisites, For. 4, 5, 6. Associate Professor KIRKLAND.

Economic management of forest lands; consideration of the normal forest; forest valuation; forest finance; regulation of the yield; working plans; forest administration; forest management on national forests. In the second half of the second semester the work is transferred to the field. Texts: Chapman, Forest Finance; Roth, Forest Regulation; Recknagel, Working Plans.

13. **ADVANCED DENDROLOGY.** Three credits. First semester. Primarily for graduate students. Professor WINKENWERDER.

An extension of course 1 covering the identification and distribution of all important commercial tree species of the United States. Text: Sargent's Manual Trees of North America.

14. **FIELD FOREST MENSURATION.** Two credits. Second semester. For seniors or graduates. Prerequisite, For. 17. Associate Professor CLARK.

This course will be given in the field the second half of the semester in connection with the field work in lumbering and forest management. It supplements and enlarges upon the work of timber estimating and mapping as given in courses 5 and 6.

16. WOOD PRESERVATION. Three credits. Second semester. Required of seniors and graduates. Prerequisites one year of chemistry and For. 7. Mr. GRÖNDAL.

Nature of the decay of timber. Preservative processes. Design and practical operation of wood preserving plants. Commercial testing of preservatives. Economics of wood preservation. Laboratory work with College of Forestry treating plant and report work on local creosoting plants.

17-18. LOGGING ENGINEERING. Five credits first semester. six credits second semester. Required of all seniors and graduates. Prerequisites, For. 5, 6, C. E. 27, M. E. 21, 45. Assistant Professor CLARK.

The construction and use of all types of logging machinery and equipment. The organization of logging companies, capital required. Construction of logging railroads, landings, camps, water systems, etc. Topographic and railroad surveying applied to logging operations. Organization and cost of operations. Lectures, demonstrations at plants manufacturing logging machinery, field work in nearby logging camps. During the second half of the second semester the work is transferred to the field where extensive work in logging engineering is carried on. Text: Bryant's Logging.

19. TIMBER PHYSICS. Three credits. First semester. For seniors and graduate students. Prerequisites, Math. 1f, 2f. Laboratory deposit, \$1.00. Mr. ZIMMERMAN.

Various stresses which wood must resist; methods of making tests; theory of flexure; relation between moisture and strength; between specific gravity and strength; mechanical properties of wood.

19a. ADVANCED TIMBER PHYSICS. Two credits. Either semester. For seniors and graduates. Elective. Prerequisite, For. 19. Mr. ZIMMERMAN.

A laboratory course which enlarges upon the work offered in course 19.

21. FOREST UTILIZATION. Four credits. First semester. Required of seniors and graduates in all groups. Prerequisites, For. 7, and 1 year Chem. Mr. GRÖNDAL.

Secondary forest products; harvesting; conversion and marketing of same. Use of wood in the manufacture of boxes, mill work, and other special articles. Rubber culture, paper making,

wood distillation, utilization of waste. Classroom work supplemented by visits to industries engaged in the utilization of secondary forest products.

***22. SCIENTIFIC MANAGEMENT.** Two credits. Second semester. Associate Professor KIRKLAND.

Fundamental principles of scientific management, with special reference to the lumber industry.

***24. ADVANCED SILVICULTURE.** Two credits. First semester. For seniors and graduates. Prerequisite, forestry 4. Associate Professor KIRKLAND.

Advanced work for students who desire to specialize in silviculture and management.

25-26. SEMINAR. One credit. The year. For seniors and graduates. Professor WINKENWERDER, Associate Professor KIRKLAND, Mr. GRÖNDAL.

Reviews, assigned readings, reports, and discussions on current periodical literature and the more recent Forest Service publications.

27-28. RESEARCH. Two credits. Either semester or both. For seniors and graduates.

29. GENERAL FORESTRY. Two credits. First semester. Offered only to students not regularly enrolled in the College of Forestry, and may be taken at the University or as extension course by correspondence. Professor WINKENWERDER.

The natural history of the tree and of the forest; the forests of Oregon and Washington; the forest as an economic factor (including forest influences); the nature and control of forest fires; harvesting the forest crop; the utilization of forest and wood waste; the status of forestry in the United States; forestry in the Pacific Northwest. Lectures, assigned readings and reports.

30. CHARACTERISTICS OF TREES. Two credits. Second semester. Offered only to students not regularly enrolled in the College of Forestry, and may be taken at the University or as a correspondence course. Professor WINKENWERDER.

The identification, distribution, life-habits, and uses of the trees of the Pacific Northwest. Lectures supplemented by laboratory work and field trips.

* Given only in alternate years. For. 22 will be offered in 1915-16 only in case there is sufficient demand.

31. **TEACHER'S COURSE.** One credit. Either semester. Offered only as a correspondence course. Must be accompanied or preceded by course 29. Professor WINKENWERDER.

32. **SCALING AND CRUISING.** Two credits. Second semester. Assistant Professor CLARK, Mr. NELSON.

33-34. **ADVANCED FOREST PRODUCTS.** Two credits. The year. For seniors and graduates. Prerequisites For. 7, 16. Mr. GRÖNDAL.

Advanced studies in wood preservation and wood technology. Special problems with reference to the needs of the individual student.

35. **GENERAL LUMBERING.** Four credits. First semester. Assistant Professor CLARK and Special Lecturers.

36. **ADVANCED FOREST MANAGEMENT.** Six credits. Second semester. For graduate students only. Prerequisite Forestry 11 and 12. Associate Professor KIRKLAND.

The following additional changes made in the new five year course will not be in effect in 1915-1916.

Courses 16 and 16a in Wood Preservation will be combined into one four-hour course. Likewise courses 19 and 19a in Timber Physics. Course 21 will be made a five-hour course with laboratory work. Course 17 will be changed from five to four hours.

**SUBJECTS PRESENTED BY OTHER DEPARTMENTS OF THE
UNIVERSITY.****BOTANY**
(Science Hall)

1. **ELEMENTARY BOTANY.** Four credits. First semester. Dr. Rigg and Assistants.

The structure and functions of roots, stems, leaves and seeds. Only for those who have had no botany in the high school.

10. **TAXONOMY.** Four credits. Second semester. Prerequisite, botany 1 or its equivalent except for teachers and seniors. To take the place of botany 2 for those who expect to take botany 5 or 11. Dr. FRYE and Assistant.

The science of the classification of plants. Plant analysis.

11-12. **FORESTERS' BOTANY.** Four credits. The year. Prerequisite, botany 1, and 10 or 2. For forestry students. Dr. HOTSON and Assistant.

A study of types of plants to illustrate the advance in complexity. The structure of the higher plants, especially of the stem.

43. **PLANT PHYSIOLOGY.** Four credits. First semester. Prerequisites, chemistry 1 and 2; botany 1 and 2, or 9 and 10, or 1 and 10. Dr. Rigg.

The physical and chemical processes in plants so far as the latter may be comprehended without organic chemistry.

16. **FOREST PATHOLOGY.** Four credits. Second semester. Prerequisites, botany 5 or 11. Dr. HOTSON.

The fungus and bacterial diseases of trees.

CHEMISTRY
(Bagley Hall)

1-2. **GENERAL CHEMISTRY.** Many students come from accredited schools in which chemistry is not required. To meet the needs of such students, a course is offered consisting of two lectures and six hours laboratory work per week. Textbooks: Smith's College Chemistry and Laboratory Manual. Deposit ten dollars per semester. Professor BYERS, Instructors and Assistants.

3-4. **ORGANIC CHEMISTRY.** Four credits. The year. Assistant Professor DEHN.

Lecture course. Laboratory work on the preparation and testing of representative compounds. Bernthsen-Sudborough's text used in connection with Sudborough-James laboratory manual as laboratory guide.

8b. **ELEMENTARY QUALITATIVE ANALYSIS.** Four credits. Either semester. Two lectures and six laboratory hours per week.

17. **CHEMISTRY OF FOREST PRODUCTS.** Three credits. First semester. Option for students in forestry. Professor BENSON.

A detailed study of the chemical process involved in the utilization of wood. Two lectures and one laboratory period.

CIVIL ENGINEERING.

(Engineering Building)

17. **FOREST SURVEYING.** (Short session in Forestry, first year, January-March.) Two lectures and two four-hour laboratory periods. Laboratory deposit, three dollars. Mr. NEWTON.

Engineering drawing, topographical and map drawing. Instructions and field practice in the use of the chain, hand compass, and forest service compass, hand level, clinometer and transit in direct application to the requirements of the U. S. Forest Service.

18. **FOREST SURVEYING.** (Short session in Forestry, second year, January-March.) Two lectures and two four-hour laboratory periods. Laboratory deposit, three dollars. Mr. NEWTON and Mr. DUCKERING.

Traversing by various conventional methods, June 11th and mining claim surveys, plane triangulation and topographical work. U. S. Public Land Subdivision.

24-25. **FOREST SURVEYING.** Six credits. First and second semesters. Sophomore and junior forestry. Two recitations and one four-hour laboratory period. Prerequisites, math. 1a. Laboratory deposit \$3.00. Mr. NEWTON.

Engineering lettering and map drawing. Chain, compass, transit and level surveying, with reference to work in forest. United States subdivision of public lands.

26. **FOREST TOPOGRAPHY.** Four credits. First semester. Prerequisite, C. E. 25. Laboratory deposit, \$3.00. Mr. NEWTON.

Topographic surveys as applied to forestry. Reconnaissance and sketch maps, and exercises in reading and adjusting triangu-

lation systems. Filling in topographic details with plane table and transit. Beginning of elementary railroad surveying.

27. **LOGGING RAILROADS.** Four credits. Second semester. Junior Forestry. Prerequisite, C. E. 26. Laboratory deposit \$3.00. Mr. MILLER.

Elementary railroad engineering including curves and earth-work and the economic location of logging railways. Cost estimates.

JOURNALISM (Education Building)

21-22. **PRINCIPLES OF ADVERTISING.** Three credits. The year. Laboratory deposit, \$1.00. Mr. AGNEW.

ELECTRICAL ENGINEERING

5. **ELECTRICAL ENGINEERING.** Four credits. The year. Prerequisites, math. 4a, physics 2a, 2b. Mr. CURTIS and Mr. JOHNSON. Assistant Professor LOEW.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

ENGLISH (Office, Rooms 45 and 42, Denny Hall)

1c-2c. **FRESHMAN COMPOSITION.** Two credits. The year. For students in the College of Forestry.

GEOLOGY (Science Hall)

1d. **GEOLOGY FOR FORESTRY STUDENTS.** Four credits. Second semester. Laboratory deposit, \$1.00. Assistant Professor CULVER.

LAW (Office, Law Building)

156. **ENGINEERING CONTRACTS.** Two credits. Second semester. Assistant Professor Cockerill and special lecturers.

MATHEMATICS

(Science Hall)

O-O. SOLID GEOMETRY. Three credits. Either semester. Three sections. Prerequisite, plane geometry.

Required during the freshman year of all students in the Colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

1f-2f. FORESTER'S COURSE. Four credits. The year. Prerequisites, same as for math. 1. Assistant Professor GAVETT.

A year's course in numerical and graphic methods, solution of plane triangles, the elements of coordinate geometry, and derivatives and integrals with applications to problems involving maxima and minima, rectifications, quadratures and cubatures.

MECHANICAL ENGINEERING

2. PATTERN MAKING AND CABINET WORK. Two credits. First semester. Second semester. Mr. BEATTIE.

3. FORGE AND FOUNDRY. Two credits. Mr. KANE.

4. MACHINE WORK. Two credits. The year. Mr. KANE.

21. STEAM ENGINEERING. Two credits. Either semester. Professor EASTWOOD.

The various forms of steam apparatus used in modern power plants, considering the construction, use and reason for installing such apparatus.

45. STEAM ENGINEERING LABORATORY. Two credits. A laboratory course to accompany course 21. Assistant Professor WILSON.

PHYSICS

(Basement, Denny Hall)

3a-4a. GENERAL PHYSICS. Four credits. First and second semesters. This course is an abridgment of 1a, 2a, and is open only to students in forestry, pharmacy, and medicine. Three class periods and one laboratory period. Prerequisite, mathematic, 4 hours. Mr. VORIS.

NOTE.—The laboratory deposit is \$2.50 a semester.

MODERN LANGUAGE

NOTE.—One year of modern language is required. Although German is recommended, any modern language will be accepted.

POLITICAL AND SOCIAL SCIENCE

(Denny Hall)

1a. ELEMENTS OF ECONOMICS. Three credits. First or second semester.

39. COMMERCIAL GEOGRAPHY. Three credits. First semester.

15. MONEY AND BANKING. Three credits. First semester. Prerequisite, 1-2 or 1a. Assistant Professor CUSTIS.

47-48. ACCOUNTING. Three credits. The year. Prerequisite, 1-2 or 1a. Assistant Professor Smith.

MILITARY SCIENCE AND TACTICS

(The Armory)

EDWARD E. MCCAMMON, FIRST LIEUTENANT THIRD INFANTRY, U. S. A.,
COMMANDANT

A course of two years in military training is required. All able bodied male students (except those from foreign countries, not intending to become naturalized) must take the course which by regulation of the University is required during the first and second year. Three hours a week are devoted to military training, for which two credits are given each semester.

ZOOLOGY

(Science Hall)

14. FOREST ZOOLOGY. Two credits. Second semester. Professor KINCAID.

A discussion of the animal life characteristics of forest, including the classification, habits, economic relations, propagation, and protection of forest animals.

13. FOREST ENTOMOLOGY. Four credits. Professor KINCAID.

A course dealing with the relation of insects to the forest, including the classification and habits of forest insects and the practical handling of insects injurious to forest welfare. Deposit, two dollars.

SPECIAL SHORT COURSES IN FORESTRY AND
LUMBERING

Session 1916—January 4 to March 30.

OBJECT. The short courses are planned to meet the needs of persons already engaged as forest rangers or guards, who are desirous of increasing their efficiency, of those who intend to

take up this work, of timber land owners, and of lumbermen engaged in woods work.

NATURE OF THE WORK

The work is intensely practical in its nature. Instruction is given by lectures, demonstrations, and laboratory and field exercises. In so far as it may be advisable the student is allowed with the consent of the dean to select from the list of subjects offered those best adapted to meet his individual needs. The courses of study are arranged into 2 groups: I, The Ranger Group, and II, The Lumbermen's Group. See special statement under each below.

EXPENSES

Tuition fee	\$10.00
Deposit for materials supplied.....	\$3.00
Deposit to insure care in use of instruments (returnable)	\$2.00
Board and lodging, per month.....	\$20-\$25.00
Books, drawing instruments, etc., about.....	\$15.00
Field trips	\$10.00-\$15.00

NOTE.—The total expenses for the twelve weeks, exclusive of transportation to and from the University, need not exceed one hundred and twenty-five dollars.

REGISTRATION AND TERMS OF ADMISSION

Persons who intend to enroll for any of the short courses should present themselves for registration at the Good Roads building on the University grounds on January 4 or 5. Although students will be permitted to register later than the days set it will be of advantage for the student to have his registration completed in time to take up the class room work promptly on Thursday, January 6. At the close of the session a statement will be issued to each student showing the work which was satisfactorily completed.

Admission to classes is without examination, but applicants must be at least 20 years old and show ability to carry the work with profit to themselves. Those who wish to carry the work in lumbering should in addition have worked at least three months in a logging camp.

GROUP I. THE RANGER COURSE

This course may be pursued for either one or two years during the months specified. The work of the second year consists largely of a continuation of the subjects studied the first year, enlarging upon them and fitting the student to carry on the more difficult work he is likely to meet with in his profession. The United States Forest Service cooperates with the University in this course by assisting in the work of instruction. The subjects included in this course are the following:

OUTLINE OF SUBJECTS

Regular First Year Subjects. . . Regular Second Year Subjects.

- | | |
|-------------------------------|--------------------------|
| 1s. Silviculture | 13s. Silviculture |
| 2s. Forest Measurements | 14s. Forest Measurements |
| 3s. Forest Surveying | 15s. Forest Surveying |
| 4s. Geology (rocks and soils) | 16s. Forest Management |
| 5s. Characteristics of Trees | 18s. Logging |

Additional subjects which may be taken either first or second year (electives):

- 6s. Forest Administration
- 7s. Forest Botany
- 8s. Forest Law
- 9s. First Aid to Injured
- 10s. Diseases of Trees
- 11s. English Composition
- *12s. Veterinary Science

II. LUMBERMEN'S GROUP

This course of studies is offered for the benefit of men actively engaged in work in the woods who wish instruction and practice in cruising, scaling, simple methods of topographic and railroad surveying, and the fundamental technical problems encountered in modern logging operations on the Pacific Coast. It is not expected that, in the short time allowed for this work, the men will become fully equipped logging engineers. The aim of the course is to help young men already familiar with the elementary principles to increase their efficiency in matters that demand some technical knowledge. For this reason all applicants should present evidence that they have worked at least three months in a logging camp.

* This course will not be given unless at least 10 men request it.

REQUIRED SUBJECTS IN LUMBERMEN'S COURSE

- 2s. Forest Measurements
- 3s. Forest Surveying
- 18s. Logging
- 9s. First Aid to Injured
- 19s. Wood Utilization and Preservation.
- 20s. Forest Economics

In addition to the above a limited number of subjects may be selected from the Ranger Group. Selections from the following are suggested:

- 5s. Characteristics of Trees
- 4s. Geology
- 8s. Forest Law
- 1s. Silviculture

DESCRIPTION OF SUBJECTS

The subjects are here arranged according to number as scheduled in the outlines.

1s. **SILVICULTURE.** Three lectures or recitations a week, field work additional. Associate Professor KIRKLAND.

The requirements of trees for soil, light, water and climate; the special requirements of the trees of the Northwest. The reproduction of trees, how to secure new growth after logging by natural reproduction; systems of cutting to this end. Reproduction by seeding and planting, seed collecting; nursery practice; transplanting.

2s. **FOREST MEASUREMENTS.** (a) General Mensuration. Two lectures and one-half day field work a week. Assistant Professor CLARK.

The theory of construction and the use of log rules; their comparative values; other units for measuring timber. The construction and use of height measures and diameter measures; how to make and use volume tables.

(b) Scaling. Lectures accompanied by extensive practical exercises in the woods. This work is given during the last four weeks of the course. Mr. NELSON.

Methods of deducting for defects; the keeping of scale records; log grading.

(c) Cruising. Lectures accompanied by extensive field practice. The last two weeks of the course are largely given over to field practice. Assistant Professor CLARK.

The methods of cruising timber in use in the Northwest; how to tell defect and allow for it; preparation of cruising reports.

3s. (C. E. 17). **FOREST SURVEYING.** First year. Two lectures and two four-hour laboratory periods. Laboratory deposit three dollars. Mr. NEWTON.

Engineering drawing, topographical and map drawing. Instruction and field practice in the use of the chain, hand compass, and Forest Service compass, hand level, clinometer and transit in direct application to the requirements of the U. S. Forest Service.

4s. **GEOLOGY.** First year. Two lectures or recitations a week. Assistant Professor SAUNDERS.

Common minerals, manner of their occurrence and identification; mining lode and placer work; how to select ore samples and use gold pan; work confined mainly to that which will assist in determining the validity of mineral and coal claims. Soils, classification; liability to erosion.

5s. **CHARACTERISTICS OF TREES.** Two lectures or recitations and one two-hour laboratory period a week. Professor WINKENWERDER.

Simple characters by which the local trees may be recognized, both in the summer and winter condition; their classification, distribution and use.

6s. **FOREST ADMINISTRATION.** Three lectures or recitations a week. Assistant Professor CLARK, Mr. CECIL, Mr. MACMILLAN, Mr. BENEDICT.

(a) Policies. Objects of forest administration. Use of the national forests; timber sales; privileges, and grazing policies; organization of the Forest Service; duties and qualifications of forest officers.

(b) Methods. Regulations and instructions governing disposal of timber, range and all other forest resources; use and disposal of land; rights of way; protection against fire and trespass; improvement work; fiscal matters; investigations, reports, permits, use of forms and supervision of work.

7s. **FOREST BOTANY.** One two-hour laboratory period a week. Mr. HOTSON.

A study of roots, stems, leaves, flowers and their modifications. Fruits and seeds. How plants are named and how to find their names. Special emphasis is placed on range plants.

8s. FOREST LAW. A series of eight to twelve special lectures. Mr. MEAD.

Interpretation of state and federal land, mining, live stock, water and forest laws; rulings and decisions; rules of practice before U. S. land offices; what constitutes trespass; what constitutes evidence and how to get it; authority of forest officers; when and how to make arrests.

9s. FIRST AID TO INJURED. Ten lectures. Dr. Hall.

What to do in case of accidents, how to use bandages; the treatment of shock, bruises, cuts, burns, and poisoning. Demonstrations.

11s. DISEASES OF TREES. Six to ten lectures. Mr. HOTSON.

How fungi are distributed, how they get into the trees and what to do with them. General causes and nature of decay. The general principles underlying the treatment of diseased trees.

12s. ENGLISH COMPOSITION. A special class in English Composition will be arranged providing a sufficient number of men express a desire for this work.

13s. SILVICULTURE. For second year students. Three lectures a week, field work additional. Associate Professor KIRKLAND.

A continuation of course 1s. Forest ecology; forest regions, and forest types are emphasized. Silviculture systems of management.

14s. FOREST MEASUREMENTS. For second year students. Two lectures and one-half day field work. Professor WINKENWERDER.

The construction of volume tables; valuation surveys by the volume curve and arbitrary group methods, methods of obtaining mean and periodic annual growth in height and diameter. Each part of the work demonstrated by field practice.

15s. (C.E.18). FOREST SURVEYING. For second year men. Two lectures and two four-hour laboratory periods. Laboratory deposit three dollars. Mr. NEWTON.

Traversing by various conventional methods. June 11th and mining claim surveys, plane triangulation and topographical work. U. S. Public Land Subdivision.

16s. FOREST MANAGEMENT. For second year students. Three lectures or recitations a week. Associate Professor KIRKLAND.

Principles of compound interest as applied to forest property; valuation of forest land; methods of ascertaining the value of

forest property; valuation of forest land; methods of ascertaining the value of the forest at different ages as a basis for sales; exchange and damage suits; determining the rotation; plans of management for continuous revenue; forest taxation.

18s. **LOGGING.** For students in Lumbermen's Course and second year men in Forestry course. Four lectures and one field period per week. Assistant Professor CLARK.

Construction and use of all types of logging machinery and equipment. Construction of logging railroads, camps, landings, etc. The making of topographic maps and the surveying of logging railroads. Students will actually make a topographic map and survey several miles of logging spurs in this course.

19s. **WOOD UTILIZATION AND PRESERVATION.** Primarily for students in Lumbermen's course, but open to second year men in Forestry course. Properties and uses of the woods of the Pacific Northwest. Problems in wood preservation. (10 to 12 lectures.) Mr. GRÖNDAL.

20s. **FOREST ECONOMICS.** Open to all students. The fundamental economic problems discussed with reference to the lumber industry. Associate Professor KIRKLAND.

SCHOOL OF LAW

FACULTY

HENRY LANDES, A. M. ACTING PRESIDENT.

JOHN THOMAS CONDON, LL. M., DEAN and Professor of Law.

HARVEY LANTZ, A. M., LL. B., Professor Law.

IVAN WILBUR GOODNER, LL. B., Professor of Law.

ORVILLE PORTER COCKERILL, A. B., LL. B., Assistant Professor of Law.

FRED WAYNE CATLETT, A. M., LL. B., Assistant Professor of Law.

CLARK PRESCOTT BISSETT, A. B., Law Lecturer.

J. GRATTAN O'BRYAN, A. B., Law Lecturer.

GLENN JOSEPH FAIRBROOK, LL. B., Law Librarian.

ADMISSION TO THE LAW SCHOOL

To be admitted to regular standing in the Law School students must, in addition to presenting credits or passing examinations entitling them to admission to any other school or college of this University, present credits or pass examinations equivalent to sixty college hours in the College of Liberal Arts of this University or other college or university of recognized standing, plus eight hours in physical training or its equivalent. Students entering the College of Liberal Arts of this University with the intention of pursuing the study of law, should enroll in the Pre-Law Course, as outlined below, or take a course including the regular freshman and sophomore prescription of that college.

PRE-LAW CURRICULUM

This curriculum is designed for students who will begin law after having taken only the two years college work as required for their admission to the Law School.

The student must take either the prescribed courses in the College of Liberal Arts or the course outlined below:

FIRST YEAR

- English (1, 2), Freshman composition.....0-8 hours
 History (English or American).....8 hours
 Chemistry, Zoology or Botany.....8 hours
 (Preferably in the order named.)
 College Mathematics (1b, 2b) or foreign language.....8 hours
 (If the student has taken two years of Latin, it is
 recommended that he take Roman Law.)
 Physical or Military Training.
 College Problems.

SECOND YEAR

- Political and Social Science.....6 hours
 (Either Principles of Sociology and Elementary
 Economics or American Government.)
 Philosophy (Two of the following subjects):.....8 hours
 Introduction to Philosophy; Ethics; Logic or Psy-
 chology; or History of Philosophy.
 Sixteen hours from among the following subjects:
 Physics; the continuation of a foreign language;
 History, American or European, political or con-
 stitutional; Political and Social Science; Phil-
 osophy; English Literature; a year of Science;
 Argumentation and Debate; Vocational Speaking.
 Physical or Military Training.....8 hours

For the third and fourth years in the College of Liberal Arts students must classify themselves under some one of the groups as offered, either a regular course or the combined Arts-Law course.

ADVANCED STANDING

If, in addition to satisfying the entrance requirements for regular standing in the Law School, the student has earned credits in another law school of satisfactory standing, by regular attendance for at least one academic year of not less than eight months, he will ordinarily receive credit for such work, subject to the following restrictions: The work must equal in amount and character that required by this Law School. Not more than two years' credit will be allowed for such work. The right is reserved to refuse advance credit in law in whole or in part, save upon examination. Candidates for a degree, with advanced standing, must spend at least one full college year in this school.

SPECIAL STUDENTS

No person will be admitted as a special student in law, unless he is twenty-one years of age and his general education is such as to entitle him to take the state bar examination.

Special students who comply with these requirements will be admitted to take such work in law as their previous preparation enables them to carry successfully, and upon satisfactory completion of sufficient law work to entitle them to take the state bar examination, will be given a certificate or affidavit entitling them to apply for examination. Students who intend to take this method must file notice of their intention to study law with the clerk of the Supreme Court as required by law.

SPECIAL STUDENTS BECOMING CANDIDATES FOR DEGREE

Special students may become candidates for a degree upon complying with all the entrance requirements as above set forth in reference to regular students. If a special student intends to become a candidate for a degree by clearing up his entrance requirements during his law studies, he must notify the Dean of the Law School upon registration. Such students will be permitted to carry a limited amount of work in the College of Liberal Arts or the College of Science to enable them to clear up their entrance requirements in law.

COMBINED CURRICULA IN ARTS AND LAW

This combined course allows the student with a good record to complete the A. B. and LL. B. in six years. It is open only to those students who have maintained a uniformly good record for scholarship during the first three years of Arts and Sciences.

The student is enrolled in the College of Liberal Arts during the first three years. If at the end of three years he has a uniformly good record for scholarship and has earned ninety or more credits, including all the required work and major and minor, he may for the fourth year register in the Law School for the first year's work in law and must earn in the College of Liberal Arts additional credits sufficient to make his total of arts and science credits amount to ninety-six, and earn in the Law School at least twenty-four credits in the first year law work, to apply on his A. B. degree, thus making his one hundred

96.51
2.5
20
24

twenty credits required for the A. B. degree. The A. B. degree will be granted upon the completion of both courses.

The last two years of this combined course are devoted to completing the rest of the work in the Law School.

Students are strongly advised to complete their full ninety-six credits in Arts and Sciences by the end of the third year, so they can enter the law work clear in the fourth year.

Students from other schools entering this University with advanced standing may take advantage of this combined course, provided they are registered in the College of Liberal Arts for at least one full year's work and earn at least thirty credits in this University before entering the law work.

This privilege will not be extended to normal graduates attempting to graduate in two years nor to undergraduates of other colleges, who enter this University with the rank of senior.

THESIS

It is the desire of the faculty to encourage original investigation and research by the students. Each candidate for a degree is required to prepare and deposit with the Dean of the School of Law, before the beginning of the spring vacation of his senior year, a thesis of not less than thirty folios in length, upon some legal topic selected by the student and approved by the faculty. The student will be examined by the faculty upon this thesis. It must be printed or typewritten, and is to be kept permanently in the library of the Law School.

CARKEEK PRIZE FOR THESIS UPON WASHINGTON LAW

Mr. Vivian M. Carkeek, of the Seattle bar, a graduate of this Law School, class of '01 (the first class to graduate from this Law School) offers an annual prize of twenty-five dollars for the best thesis submitted by members of the senior class, candidates for the degree of bachelor of laws, upon a subject of Washington law, or upon a subject of peculiar interest to Washington lawyers, the subject to be selected by the Dean of the Law School.

EVENING COURSES IN LAW

The University offers courses in law in the evening, open to those who are not able to attend in the day time. The entrance and graduation requirements for the evening school are the same

as for the day school. The studies pursued in the evening school are exactly the same and the same textbooks are used, and the same instructors conduct the course. The evening classes meet three times each week, Monday, Wednesday and Friday.

INSTRUCTION IN OTHER DEPARTMENTS

Students in the Law School may pursue studies, for which they are prepared, in other departments of the University without charge except that in the laboratory courses the usual laboratory deposits will be required. Those wishing to take advantage of this opportunity must procure permission and proper credentials from the Dean of the Law School.

LIBRARIES

The University Law Library consists of about fifteen thousand volumes. It contains the reports of all the courts of last resort, the reported lower courts of several states and the English courts. The latest revisions of all the state statutes and a large collection of the session laws of the various states, including a complete set of each of the Pacific Coast states, are important features.

Several hundred volumes are added each year and within the present year it is expected to have the Irish, Scotch, and Canadian reports completed, and to have the briefs of Washington Supreme Court cases completed and bound.

The Library is catalogued and indexed by the Library of Congress cards.

The University general library contains about sixty-four thousand volumes and is especially strong in reference works.

The public library of the city of Seattle is open to the free use of our students and is within easy distance of the campus by street car.

DEGREES

The degree of bachelor of laws (LL. B.) will be conferred on all students who comply with the entrance requirements for regular students stated hereinbefore, remain in residence in the school for three school years, successfully complete all the required law work provided in this Law School and in addition such electives as will with the required work aggregate eighty-two credits, and comply with all the rules and regulations of the faculty and board of regents of this University.

Students admitted to advanced standing based upon credits earned at another law school may count that work towards graduation, subject to the restrictions heretofore stated.

EXAMINATION

The members of each class are examined daily throughout the year in their studies, and may be subjected to written examinations at any time in the discretion of the faculty without notice. At the end of each semester the members of each class are subject to written examinations on the courses during the year and their promotion is dependent on successfully passing such examination.

To receive the degree of bachelor of laws it is necessary to pass satisfactory examinations in the entire course of three years. Students who pass these examinations with distinguished excellence will receive the degree of bachelor of laws cum laude.

FEEES

A fee of ten dollars is paid by each student upon matriculation. This fee is collected once for all from each student who has not been in attendance at a previous regular session of the University.

A fee of twenty-two dollars and fifty cents (\$22.50) per semester for day students and ten dollars per semester for evening students is charged in the Law School, payable at the beginning of each semester.

A diploma fee of five dollars is charged all students to whom diplomas are issued.

ADMISSION TO THE BAR

It is provided by an act of the legislature of the State of Washington that the graduates of this Law School shall be admitted to the bar of the courts of this state upon motion without examination.

OTHER INFORMATION

Information on subjects not covered by the foregoing statement will be cheerfully furnished in answer to communications addressed to the Law School of the Univeristy of Washington, University Station, Seattle, Washington.

COURSE OF INSTRUCTION

FIRST YEAR

1. AGENCY. Two credits. First semester. Goddard's Cases on Agency, supplemented by Washington Cases. Professor GOODNER.

5, 6. CONTRACTS. Three credits. The year. Williston's Cases on Contracts. Professor LANTZ.

9. CRIMINAL LAW. Two credits. First semester. Mikell's Cases on Criminal Law. Supplemented by the Washington Criminal Code and Cases. Mr. O'BRYAN.

13. HOW TO FIND THE LAW. Two credits. First semester. This course consists of five lectures on legal bibliography followed by a study of the system of legal classification employed in the leading Digests, etc., used by lawyers, and a series of selected practical problems in finding and keeping a record of the law. Professor CONDON.

16. PERSONS. Two credits. Second semester. Woodruff's Cases on Domestic Relations and the Law of Persons, supplemented by Washington Cases. Professor LANTZ.

19, 20. PLEADING. Two credits. The year. Sunderland's Cases on Common Law Pleading, first semester; Sunderland's Cases on Code Pleading and Hepburn's Development of Code Pleading as collateral reading, second semester. Assistant Professor COCKERILL.

24. PROCEDURE. Two credits. Second semester. Mikell's Cases on Criminal Procedure (Abridged Edition) first half of semester, second half of semester, civil actions in the Justice and Superior courts of the State of Washington. Mr. O'BRYAN.

27, 28. PROPERTY. Four credits. The year. Gray's Cases on Property, (second edition) Volumes I and II. Assistant Professor CATLETT.

30. STATUTORY INTERPRETATION. Two credits. Second semester. Washington Cases. Professor CONDON.

33, 34. TORTS. Two credits. The year. Wigmore's Cases on Torts. Mr. BISSETT.

SECOND YEAR

REQUIRED WORK

✓
37, 38. EQUITY. Three credits. The year. Ames' Cases in Equity Jurisdiction, volumes I and II, supplemented by Washington Cases. Equity 37 is a prerequisite to Equity 38. Professor GOODNER.

45, 46. PROPERTY. Two credits. The year. Gray's Cases on Property, (2d Ed.), volumes III and V. Property 45 is a prerequisite to Property 46. Mr. BISSETT.

ELECTIVES

In addition to the required courses second year students must elect from the following such courses as will, with their required work aggregate fourteen hours.

41, 42. EVIDENCE. Three credits. The year. Wigmore's Cases on Evidence, supplemented by Washington Cases and Statutes. Evidence 41 is a prerequisite to Evidence 42. Professor CONDON.

49. BILLS AND NOTES. Two credits. First semester. Huffcut's Cases on Negotiable Instruments. Professor LANTZ.

52. CARRIERS. Two credits. Second semester. Green's Cases on Carriers. Professor LANTZ.

56. DAMAGES. Two credits. Second semester. Mechem and Gilbert's Cases on Damages, supplemented by Washington Cases. Assistant Professor COCKERILL.

60. PARTNERSHIP. Two credits. Second semester. Gilmore's Cases on Partnership. Assistant Professor COCKERILL.

63, 64. PRIVATE CORPORATIONS. Two credits. The year. Warren's Cases on Private Corporations, supplemented by Washington Cases. Private Corporations 63 is a prerequisite to Private Corporations 64. Assistant Professor CATLETT.

67. PROCEDURE. Two credits. First semester. This course will relate to the procedure in civil actions and is a prerequisite to course 136. Professor GOODNER.

*72. QUASI-CONTRACTS. Two credits. Second semester. Woodruff's Cases on Quasi-Contracts. Assistant Professor CATLETT.

* Not offered in 1915-1916.

75. **SALES.** Three credits. First semester. Woodward's Cases on Sales and Washington Statutes and Cases. Assistant Professor COCKERILL.

*78. **TAXATION.** Two credits. Second semester. Goodnow's Cases on Taxation and Washington Statutes and Cases. Mr. BISSETT.

81. **NEGLIGENCE.** Two credits. First semester. Washington Cases. This course is designed to cover the Law of Negligence and the Workmen's Compensation Act for the State of Washington. Mr. BISSETT.

85. **WASHINGTON STATUTE LAW.** Two credits. First semester. Washington Cases. Professor CONDON.

88. **WILLS.** Two credits. Second semester. Costigan's Cases on Wills. Professor GOODNER.

THIRD YEAR

Third year students must elect from the following or any second year subjects which they have not taken in their second year, such courses as will aggregate twelve hours.

91, 92. **CONSTITUTIONAL LAW.** Two credits. The year. First semester, Federal; second semester, State of Washington. Hall's Cases on Constitutional Law and Washington Cases. Constitutional Law 91 is a prerequisite to Constitutional Law 92. Professor CONDON.

95. **PROPERTY.** Two credits. First semester. Gray's Cases on Property (2nd Ed.), volume VI. Assistant Professor CATLETT.

96. **PROPERTY.** Three credits. Second semester. Washington Statutes and Cases on Community Property. Assistant Professor CATLETT.

99. **ADMIRALTY.** Three credits. First semester. Ames' Cases on Admiralty. Professor LANTZ.

102. **BANKRUPTCY.** Two credits. Second semester. Holbrook and Aigler's Cases on Bankruptcy and selected Cases. Professor GOODNER.

105. **COMPARATIVE STATUTE LAW.** Two credits. First semester. Professor CONDON.

108. **CONFLICT OF LAWS.** Two credits. Second semester. Lorenzen's Cases on Conflict of Laws. Professor LANTZ.

*112. HISTORY OF LAW. Two credits. Second semester. Textbook to be selected. Assistant Professor CATLETT.

115. INSURANCE. Three credits. First semester. Textbook to be selected. Professor LANTZ.

117. IRRIGATION. Two credits. First semester. Textbook to be selected. Professor ———.

*118. JURISPRUDENCE. Two credits. Second semester. Textbook to be selected. Professor CONDON.

122. MINING. Two credits. Second semester. Textbook to be selected. Professor ———.

125. MORTGAGES. Two credits. First semester. Durfee's Cases on Mortgages and Washington Statutes and Cases. Professor GOODNER.

127. MUNICIPAL CORPORATIONS. Three credits. First semester. Smith's Cases on Municipal Corporations and Washington Constitution, Statutes and Cases. Assistant Professor CATLETT.

132. OFFICE PRACTICE. Two credits. Second semester. Conveyancing and examination of abstracts, care of a law office generally, drawing wills and contracts, preparation of briefs and office accounts. Professor CONDON.

135. PROCEDURE. Two credits. First semester. This is a course in Washington probate practice. Each student will be required to conduct the administration of an estate to decree of distribution. Professor GOODNER.

136. PROCEDURE. Two credits. Second semester. This will be largely moot court work, involving the drafting of pleadings, jury trials in the Superior Court and the taking of appeals to the Supreme Court. Course 67 is a prerequisite to this course. Professor GOODNER.

140. PUBLIC SERVICE COMPANIES. Two credits. Second semester. Wyman's Cases on Public Service Companies. Professor LANTZ.

143. SURETYSHIP. Two credits. First semester. Ames' Cases on Suretyship. Assistant Professor COCKERILL.

146. TRUSTS. Two credits. Second semester. Kenneson's Cases on Trusts. Professor GOODNER.

* Not offered in 1915-1916.

No first year student may take more than fifteen hours, no second year student may take more than fourteen hours, and no third year student may take more than twelve hours, in any one semester, without special permission of the Law Faculty, except that a student may take one course in which he has failed to pass.

COURSES OFFERED STUDENTS IN OTHER COLLEGES AND SCHOOLS

(No Law School credit is given for these courses.)

156. ENGINEERING CONTRACTS. Two credits. Second semester. Senior and graduate C. E. Assistant Professor COCKERILL and special lecturers.

153-154. BUSINESS LAW. Three credits. The year. Hufcut's Elements of Business Law and Bay's Cases on Commercial Law. Assistant Professor COCKERILL.

158. NEWSPAPER JURISPRUDENCE. Two credits. Second semester. Prerequisite, Journalism 1-2, 3-4, 27-28; or Journalism 1-2, 21-22, 27-28. DEAN CONDON.

COLLEGE OF MINES

FACULTY

- HENRY LANDES, A. M. (Harvard), ACTING PRESIDENT.
- MILNOR ROBERTS, A. B. (Stanford), Professor of Mining Engineering and Metallurgy, DEAN.
- ALMON HOMER FULLER, M. S., C. E. (Lafayette), Professor of Civil Engineering.
- JOHN THOMAS CONDON, LL. M. (Northwestern), Professor of Law.
- HORACE BYERS, PH. D. (Johns Hopkins), Professor of Chemistry.
- TREVOR KINCAID, A. M. (Washington), Professor of Zoology.
- FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics.
- ROBERT EDOUARD MORITZ, PH. D. (Strassburg), Professor of Mathematics and Astronomy.
- CARL EDWARD MAGNUSSON, PH. D., E. E. (Wisconsin), Professor of Electrical Engineering.
- EVERETT OWEN EASTWOOD, C. E., A. M. (Virginia), Professor of Mechanical Engineering.
- DAVID CONNOLLY HALL, Sc. M., M. D. (Chicago), Professor of Physical Training.
- WILLIAM FRANKLIN ALLISON, C. E. (Cornell), Professor of Highway and Municipal Engineering.
- CHARLES CHURCH MORE, M. S., C. E. (Lafayette), Associate Professor of Civil Engineering.
- HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Chemistry.
- FRANK MARION MORRISON, PH. D. (Chicago), Associate Professor of Mathematics.
- LOREN DOUGLAS MILLIMAN, A. B. (Michigan), Associate Professor of English.
- JOSEPH DANIELS, S. B., M. S. (Lehigh), Assistant Professor of Mining Engineering and Metallurgy.
- VANDERVEER CUSTIS, PH. D. (Harvard), Assistant Professor of Economics.
- GEORGE SAMUEL WILSON, B. S. (Nebraska), Assistant Professor of Mechanical Engineering.

CHARLES M. HARRIS, C. E. (Cornell), Assistant Professor of Civil Engineering.

EDGAR ALLEN LOEW, B. S. (Wisconsin), Assistant Professor of Electrical Engineering.

*CLARENCE RAYMOND COREY, E. M. (Montana), Assistant Professor of Mining Engineering and Metallurgy.

HENRY LOUIS BRAKEL, A. M. (Washington), Assistant Professor of Physics.

JOHN W. MILLER, B. S. (Nebraska), Assistant Professor of Civil Engineering.

GEORGE IRVING GAVETT, B. S., C. E. (Michigan), Assistant Professor of Mathematics.

CHARLES EDWARD WEAVER, PH. D. (California), Assistant Professor of Geology.

FRANK EDWARD JOHNSON, E. E. (Minnesota), Instructor in Electrical Engineering.

DONALD G. CAMPBELL, E. M., M. A. (Columbia), Instructor in Metallurgy.

CHARLES EDWARD NEWTON, E. M. (Michigan), Instructor in Civil Engineering.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

RUDOLF RIEDER, A. B. (Wisconsin), Instructor in German.

E. ROSCOE WILCOX, Assistant in Metallurgy.

VILLEROY GLEASON, JR., Assistant in Mining.

EDWARD L. SWEENEY, Assistant in Stock Room.

HARVEY L. GLENN, B. S., Lecturer on Assaying of Bullion.

ROBERT F. MCELVENNY, E. M., Lecturer on Copper Smelting.

FREDERICK POWELL, A. B., Lecturer on Gold Dredging.

* Absent on leave, 1914-15.

ADMISSION TO THE FRESHMAN CLASS

To be admitted to the freshman class, students must either (a) pass an examination based on a four-year course amounting in the aggregate to fifteen units, or (b) complete a course of the same length in an accredited school.

The requirements for admission to the freshman class of the College of Mines for curricula I, II, III and IV, leading to the degrees of bachelor of science in mining engineering, in geology and mining, in metallurgical engineering or in coal mining engineering are as follows:

	Units
English	3
Algebra	1½
Plane geometry	1
Solid geometry	½
Physics	1
Chemistry	1
One foreign language.....	2
A history, American preferred.....	1
Or United States history, ½; civics, ½	
Elective	4
Total.....	15

For the curriculum leading to the degree of bachelor of science (B. S.), (V) the entrance requirements are the same as the above with the exception that chemistry (one unit) is not a fixed requirement; four instead of three units elective are allowed.

DEGREES

The four-year curricula in the College of Mines lead to the following degrees: Curriculum I, bachelor of science in mining engineering; curriculum II, bachelor of science in geology and mining; curriculum III, bachelor of science in metallurgical engineering; curriculum IV, bachelor of science in coal mining engineering.

In addition to the above, curriculum V, which leads to the degree of bachelor of science (B. S.), is offered. The entrance requirements for curriculum V are less technical than for the other curricula and the training given by it is broader. Students who

graduate in this curriculum are advised to spend an additional year in study and research according to the schedule given for the degree of master of science in mining engineering (M. S. in Min. E.). A new curriculum in coal mining engineering is offered.

The degree of engineer of mines (E. M.) is given to graduates in mining engineering who have practiced their profession for at least three years, and who present a satisfactory thesis. Graduates in metallurgy may receive the degree of metallurgical engineer (Met. E.) under similar conditions.

MINING AND METALLURGICAL INDUSTRIES AVAILABLE FOR STUDY

Excellent opportunities for becoming familiar with mining and metallurgical operations are open to students in the College of Mines. The amount of time available during the college year for this purpose is not great and even by using the summer vacations it is impossible for a student to cover the whole field of local industries included in his chosen profession.

Mining machinery of the best type is in operation within easy reach of the University. Much of the heavy mining machinery used in the neighboring states and Alaska is built in the city of Seattle, while patented machines, such as drills and concentrating tables of all makes, are kept in stock and as working exhibits by the firms that supply the North Pacific coast regions. The application of hydraulic mining methods to city grading is being carried on locally on a very large scale and with the most approved pumping and piping appliances and methods. Equally important to the mining engineer are the operations of the steam shovels, which are used largely now in iron, copper and gold mining. The engineers in charge of these plants have given the mining students every opportunity to become familiar with the methods of planning and carrying on the work, and the same statement applies to the mine operators throughout the state.

A brief list of the other available works of interest includes coal mines, with the largest production west of the Rocky mountains; metal mines of gold, silver, copper, arsenic, antimony, iron, etc.; cement plants, glass works, several stone quarries and dressing works; clay mines, clay and pottery works; gravel and sand pits with large production and approved methods; a region of varied geology with many economic minerals; the Tacoma and

Everett smelters and refineries; the U. S. assay office; the West Seattle steel plant of the Western Steel Corporation, and several plants engaged in metallurgical work.

MINING SOCIETY

The Mining Society, affiliated with the American Institute of Mining Engineers, has a membership composed of upperclassmen, graduate students and three sophomores, chosen for the excellence of their records in actual mining. At the monthly meetings of the society addresses are made by prominent mining engineers, and papers descriptive of their summer work are presented by the student members. The officers for 1914-1915 are Villeroy Gleason, Jr., president; E. C. Will, vice-president; L. G. Gerhart, secretary and treasurer; Conrad Hoff, corresponding secretary.

UNITED STATES MINE RESCUE TRAINING STATION.

The United States Mine Rescue Training Station, operated in connection with the College of Mines, occupies a separate building. The "smokeroom" is the largest of its kind in the country, measuring 25 by 50 feet.

Several sets of various types of oxygen rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work. The purpose of the station is to train miners in the use of oxygen helmets, which are used in cases of mine fires and explosions in both coal and metal mines. From ten days to two week's time is required for the course of training. The applicant is taught the construction of the apparatus and is required to wear it for four hours each day, in two periods of two hours each. The practice is carried on in a room filled with gas which cannot be breathed without immediate danger, and the work to be performed is the same as that which would be required in actual mining operations or rescue work. The smoke-room represents a portion of a mine, and is equipped with mine car, track, overcast, timbers and brick. First aid instruction is also given. Applicants who have completed the course of training receive a certificate from the U. S. Bureau of Mines.

INSTRUCTION FOR COAL MINING MEN

Miners taking the rescue training also receive instructions in the College of Mines on the subjects of mine gases, explosions, and the origin and distribution of Pacific Coast and Alaska coals.

Laboratory experiments are carried on to show the methods of analyzing coals and determining the uses to which they may be put. The methods of testing for permissible explosives at the Pittsburg Station and the safe methods of charging, tamping and firing are explained.

CURRICULA IN THE COLLEGE OF MINES

FRESHMAN YEAR FOR ALL CURRICULA

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 1a.....	4 ✓	Mathematics 2a.....	4 ✓
Chemistry 1a.....	4 ✓	Chemistry 2a.....	4 ✓
Civil Engineering 1.....	2 ✓	Civil Engineering 3.....	4 ✓
English 1a.....	2 ✓	Civil Engineering 20.....	4 ✓
Geology 1b.....	4 ✓	Mech. Engineering 9.....	2
Mechanical Engineering 1...	2	Drill	2
Drill	2		
	16+4		16+4

SOPHOMORE YEAR FOR ALL CURRICULA

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
Mathematics 3a.....	4 ✓	Mathematics 4a.....	4
Physics 1a.....	4	Chemistry 9.....	4 ✓
Physics 1b.....	2	Physics 2a.....	4
Civil Engineering 28.....	3 ✓	Physics 2b.....	1
Civil Engineering 4.....	2 ✓	Geology 9.....	4 ✓
Mining 4.....	2	Drill	2
Drill	2		
	17+2		17+2

OPTION I IN MINING ENGINEERING

JUNIOR YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
*Metallurgy 1.....	4 ✓	*Mining 9.....	1
*English 2a.....	2 ✓	*Metallurgy 2.....	4
*Mech. Engineering 3.....	2 ✓	*Economics 1a.....	3
*Mining 21.....	1 ✓	Civil Engineering 50.....	4
Civil Engineering 41.....	4	Geology 17.....	4 ✓
Geology 13.....	4	Mining practice in summer vacation.	
Mining 3.....	2		
	16+3		16

SENIOR YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
*Mining 1.....	4 ✓	*Mining 7.....	1
*Mining 6.....	1	*Mining 8.....	2
Metallurgy 5.....	3	Mining 2.....	4
Metallurgy 7.....	3	Mining 22.....	1
Geology 21.....	1	Geology 18.....	4
Electrical Eng. 5.....	4	Metallurgy 13.....	3
	16		15

* Required in all curricula.

133 + 8
66 1/2 + 11
199 1/2 + 12

OPTION II IN GEOLOGY AND MINING
JUNIOR YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
*Metallurgy 1.....	4	*Mining 9.....	1
*English 2a.....	2	*Metallurgy 2.....	4
*Mech. Engineering 3.....	2	*Economics 1a.....	3
*Mining 21.....	1	Metallurgy 12.....	3
Metallurgy 8.....	2	Geology 17.....	4
Geology 13.....	4	Geology or mining practice	
Geology 20.....	1	in summer vacation.	
Civil Engineering 23.....	3		
	19		15
	16+3		

SENIOR YEAR

*Mining 1.....	4	*Mining 7.....	1
*Mining 6.....	1	*Mining 8.....	2
Metallurgy 5.....	3	Mining 2.....	4
Metallurgy 7.....	3	Mining 22.....	1
Geology 21.....	1	Geology 18.....	4
Geology 19.....	4	Geology 22.....	1
		Elective	3
	16		16

OPTION III IN METALLURGICAL ENGINEERING
JUNIOR YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
*Metallurgy 1.....	4	*Mining 9.....	1
*English 2a.....	2	*Metallurgy 2.....	4
*Mech. Engineering 3.....	2	*Economics 1a	3
*Mining 21.....	1	Metallurgy 4.....	3
Metallurgy 10.....	2	Civil Eng. 50.....	4
Civil Engineering 41.....	4	Mech. Eng. 4.....	2
Elec. Eng. 5.....	4	Metallurgical practice in sum-	
		mer vacation.	
	16+3		15+2

SENIOR YEAR

*Mining 1.....	4	*Mining 7.....	1
*Mining 6.....	1	*Mining 8.....	2
Metallurgy 3.....	2	Mining 2.....	4
Metallurgy 5.....	3	Metallurgy 6.....	3
Metallurgy 7.....	3	Metallurgy 8.....	3
Metallurgy 11.....	1	Geology 18.....	4
Metallurgy 13.....	3		
	17		17

* Required in all curricula.

OPTION IV IN COAL MINING ENGINEERING

JUNIOR YEAR

FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
*Metallurgy 1.....	4	*Mining 9.....	1
*English 2a.....	2	*Metallurgy 2.....	4
*Mech. Engineering 3.....	2	*Economics 1a.....	3
*Mining 21.....	1	Civ. Eng. 50.....	4
Mining 3.....	2	Mining 12.....	2
Civ. Eng. 41.....	4	Mining 13.....	2
Geology 16.....	3	Summer practice in coal min- ing.	
	<hr/> 15+3		<hr/> 16

SENIOR YEAR

*Mining 1.....	4	*Mining 7.....	1
*Mining 6.....	1	*Mining 8.....	2
Mining 14.....	2	Mining 11.....	2
Mech. Eng. 21 and 40.....	4	Mining 15.....	3
Elec. Eng. 5.....	4	Mining 20.....	3
Geology 21.....	1	Mining 16.....	2
	<hr/> 16	Metallurgy 14.....	3
			<hr/> 16

CURRICULUM V IN MINING ENGINEERING

Leading to Degree of Bachelor of Science

	Hours.
Mathematics 1a, 2a, 3a, 4a.....	16
Chemistry 1, 2, 8b, 9.....	16
English 1a, 2a.....	4
Modern Foreign Language.....	12
Physics 1a, 1b, 2a, 2b.....	11
Civ. Eng. 1, 3, 4, 20, 28, 41, 42.....	23
Mech. Eng. 1, 3, 9.....	6
Electrical Eng. 5.....	4
Mining 4, 9, 1, 2, 7.....	12
Metallurgy 1, 2, 7.....	10
Pol. Science 1a.....	3
Elective	2
Geology 1b, 9, 13, 17, 21.....	17
Drill	8

GRADUATE COURSE IN MINING ENGINEERING

Following Option I and leading to the degree of Master of Science
in Mining Engineering

	Hours		Hours
Mining 10.....	3	Mining 22.....	1
Mining 6.....	1	Mining 7.....	1
Metallurgy 8.....	3	Mining 8.....	2
Mining 3.....	2	Metallurgy 4.....	3
Metallurgy 13.....	3	Geology 18.....	4
Elective, engineering.....	4	Elective, engineering.....	3
Mining 21.....	1	Mining 11.....	2
	<hr/> 16+1		<hr/> 16

* Required in all curricula.

Equivalent courses in Coal Mining Engineering may be substituted for those listed above.

The degree of Master of Science in Mining Engineering will also be conferred upon graduates of this College or of other mining colleges of the first class who complete a year (32 credit hours) of graduate work, including a satisfactory thesis, with the grade of A or B. The candidate must also pass a formal examination open to all members of the faculty. The selection of work for this degree must in each case be approved by the head of the department in which the student majors.

VI. SHORT SESSION FOR MINING MEN

The nineteenth annual Short Session for mining men will open on January 3d, 1916, continuing until April 1. During this period each year twelve of the instructors in mining engineering offer a course for the benefit of persons who are interested in prospecting, mining, smelting, clay or metal-working. Admission to the classes is without examination. Instruction is given by lectures, laboratory exercises, and visits to mines and plants in operation. The past experience and future aims of each student are taken into consideration, and the character of his work arranged accordingly.

No preparation is needed for this course. Many practical men with an interest in some branch of mining but without much education have obtained satisfactory results from the course; others with a college education and mining experience have gained much up-to-date training and information. Practically all the students attend the following subjects: Mining, field trips, mineralogy, geology, mining law; in addition to these subjects, fire assaying and general chemistry are studied by many of the quartz miners while the placer men substitute placer mining and surveying. Assaying is accompanied by chemistry and mineralogy. Students who satisfactorily complete a course of study are given a certificate stating the amount and character of work done. For students who return a second year, a special course is arranged in continuation of their previous work.

The advantages of the University laboratories and libraries are open to all. Students may board and room at the dormitories or elsewhere, as preferred. A University fee of \$10.00 is paid by all students in the short sessions. There are no other charges,

except for material used. Deposits are made to cover the actual cost of supplies drawn by each student, the balance of the deposit being returned at the end of the course. All deposits are made at the beginning of the course.

TIME SCHEDULE FOR SHORT SESSION

Day	8:00	9:00	10:00	11:00	1:5
Monday	Survey	Geology	Mineralogy	Assaying	Surveying
Tuesday	Placer	Chemistry	Milling	Mining	Mining and Milling
Wednesday	Survey	Geology	Mineralogy	Assaying	
Thursday	Placer	Chemistry	Milling	Assay	Assaying
Friday	Mining	Chemistry	Mining		Chemistry
Saturday	Law				
	Surveying				

SUBJECTS IN THE SHORT SESSION

MINING 50. Lectures on prospecting, development, boring, air-compression, drilling, mining systems, timbering and transportation. Practice in air-compression, machine-drilling and sampling. Study of mine maps, ore deposits and mining districts. Two lectures and one laboratory period a week. Professor ROBERTS.

MINING 51. Milling. Lectures and recitations on ore treatment and concentration. Laboratory practice in sampling, testing, and dressing, using breakers, rolls, screens, stamp battery, tables, vanners, jigs, and accessory machinery. Two lectures and one afternoon a week. Assistant Professor DANIELS.

MINING 52. Field Trips. An outline study of the operations at neighboring mines, mills, and smelters; geological field studies, followed by laboratory practice on the rocks and minerals found. Saturdays. Professor ROBERTS and Assistant Professor DANIELS.

METALLURGY 53. Fire Assaying. Lectures on sampling, preparing ores for assay, furnaces, fuels, reagents, and the fire assay of gold, silver, lead, and tin ores. The laboratory work includes the testing of reagents, and the assaying of various ores. One lecture and three afternoons a week in laboratory. Deposit, fifteen dollars. Mr. CAMPBELL.

METALLURGY 54. A study of the principles of metallurgy for the benefit of those who are engaged in the metal trades or in the mining of ores requiring smelter treatment. Two lectures and one afternoon a week. Deposit, five dollars. Mr. CAMPBELL.

CHEMISTRY 1d. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Laboratory practice in the determination of the common elements. Three lectures a week, and one laboratory. Deposit, ten dollars. Professor BENSON.

GEOLOGY B. MINERALOGY. Instruction and practice in blow-pipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week. Deposit, two dollars. Assistant Professor CULVER.

GEOLOGY C. ELEMENTS OF GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. Assistant Professor CULVER.

MINING 22. MINING LAW. A series of lectures on the mining laws of the United States and Alaska. Illustrated by drawings and mine maps. Once a week. Assistant Professor DANIELS and special lecturers.

CIVIL ENG. 19. SURVEYING. Instruction and field practice in the use of simple instruments for making underground and surface surveys; the elements of drawing, lettering, sketch-mapping and field notes; the rules governing mineral surveys. Two lectures and two laboratories a week. Deposit, \$3.00. Mr. NEWTON.

CIVIL ENG. 54. HYDRAULIC MINING. The elements of hydraulics; the flow of water in pipes, flumes and ditches; the methods and costs of placer mining in its various forms. Two lectures a week. Professor ALLISON.

MECHANICAL ENG. 3. FORGE. Practice in sharpening and tempering drill steel and picks; systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. Deposit, two dollars. One afternoon a week. Mr. KANE.

MECHANICAL ENG. 9. MINE TIMBER FRAMING. Shop work in the cutting, framing and erection of various types of timbers employed in mining operations. Deposit, two dollars. One afternoon a week. Mr. BEATTIE.

MINING 21. COAL MINING AND RESCUE TRAINING. For a description of the short courses in coal mining, first aid to the injured and rescue training, see under "Mine Rescue Training Station," page 314. Assistant Professor DANIELS and Government Engineers.

DEPARTMENTS OF INSTRUCTION**MINING ENGINEERING AND METALLURGY**

(Mines Building)

PROFESSOR ROBERTS, ASSISTANT PROFESSOR DANIELS, ASSISTANT PROFESSOR COREY,* MR. CAMPBELL; LECTURERS, MR. MC ELVENNY, MR. POWELL, MR. GLENN; ASSISTANTS, MR. GLEASON, MR. SWEENEY, MR. WILCOX.

I. MINING ENGINEERING

Coal miners who are taking the ten days course in the U. S. Mine Rescue Training Station are given daily instruction and laboratory demonstrations in the subjects of mine gases, ventilation, the origin and composition of coals, and coal analysis.

1. MINING. Four credits. First semester. Prerequisite, senior standing. Deposit, \$3.00. Professor ROBERTS.

Three lectures and one laboratory period. Lectures on mining, power generation, air compression, hoisting and transportation. Practice with air compressors, machine drills and mine equipment in laboratories and local plants.

2. ORE DRESSING. Four credits. Second semester. Prerequisite, Mining 3. Senior or graduate. Deposit, \$5.00. Professor ROBERTS and Assistant Professor DANIELS, and Mr. WILCOX.

Two lectures and two laboratory periods. A detailed study of certain branches of ore dressing followed by a full test of ores by mill run checked by assays.

3. MILLING. Two credits. First semester. Prerequisite, junior standing. Deposit, \$3.00. Professor ROBERTS and Assistant Professor DANIELS, and Mr. WILCOX.

One lecture and one laboratory period. Lectures and mill practice in the principles of ore dressing.

4. MINE OPERATION. Two credits. First semester. Prerequisite, Sophomore standing. Assistant Professor DANIELS.

A general study of mine development and operation, considering particularly layout of plant, haulage, hoisting, pumping, etc. The Renton mine is studied in detail.

* Absent on leave, 1914-15.

5. **FIELD WORK.** One credit. First semester. Time to be arranged. Professor ROBERTS, and Assistant Professor DANIELS.

One laboratory period (or its equivalent in total time required) and monthly seminar. Class or individual visits to a mine, mill, smelter, or engineering work, to be followed by a report with field notes and sketches.

6. **THESIS OUTLINE.** One credit. First semester. One laboratory period. Professor ROBERTS, Assistant Professor DANIELS, and Mr. CAMPBELL.

The outlining of senior thesis, the gathering of material, study of references, making of drawings, maps, etc. See mining 8. Senior or graduate.

7. **MINE INSPECTION.** One credit. Second semester. Time to be arranged. Professor ROBERTS, Assistant Professor DANIELS, and Mr. CAMPBELL.

Ten days in the second semester. An excursion by the senior class to a mine or mining district.

8. **THESIS.** Two credits. Second semester. Two laboratory periods. Professor ROBERTS, Assistant Professor DANIELS, and Mr. CAMPBELL.

A continuation of Mining 6. Weekly consultation and seminars.

9. **JUNIOR EXCURSION.** One credit. Second semester. Required for senior standing. Professor ROBERTS, Assistant Professor DANIELS, and Mr. CAMPBELL.

An excursion by the junior class to a mine or mining district. Sometimes made in connection with the senior excursion, mining 7.

10. **MINING METHODS.** Three credits. First semester. Senior or graduate. Professor ROBERTS.

Two lectures and one laboratory period. A detailed study of certain branches of mining.

11. **MINE MANAGEMENT.** Two credits. Second semester. Prerequisite, senior or graduate standing. Assistant Professor DANIELS.

A study of the organization and administration of engineering plants, involving the keeping and interpretation of cost accounts, the efficiency of labor and methods, the financial, legal and social aspects of engineering operation.

12. **COAL RESOURCES OF NORTH AMERICA.** Two credits. Second semester. Two lectures. Prerequisite, Mining 4. Assistant Professor DANIELS.

The occurrence of coal in North America with especial reference to geographic and geologic distribution and structure; study of the various types of coals; classification of coals; commercial requirements of coals.

13. **COAL MINING METHODS.** Two credits. Second semester. Two lectures. Prerequisite, Mining 4. Assistant Professor DANIELS.

Methods of prospecting coal seams; determination of structure and content; methods of development and working, timbering, etc. A detailed study is made of a nearby mine.

14. **MINE GASES AND VENTILATION.** Two credits. First semester. Two lectures. Prerequisite, Mining 13. Assistant Professor DANIELS.

Composition and properties of mine gases, methods of testing. Lighting of mines. Principles of ventilation; ventilating machinery.

15. **MINING PLANT.** Three credits. First semester. Three drafting periods. Prerequisites, Mining 13, 14. Graduate. Assistant Professor DANIELS.

Design of plant and machinery employed in mining and preparing coal for market.

16. **COAL MINING MACHINERY.** Two credits. Second semester. Two lectures. Prerequisite, senior standing. Graduate. Assistant Professor DANIELS.

Study of coal cutting machines, mine locomotives, fans, hoists, pumps, and tippie or breaker machinery with special reference to application to coal mining.

20. **COAL WASHING.** Four credits. Second semester. Two lectures and two laboratory periods. Prerequisite, Mining 3. Graduate. Deposit, \$5.00. Assistant Professor DANIELS.

A detailed study of methods of preparing coal for market, together with laboratory tests and runs on various coal to determine best methods of preparation.

21. **MINE RESCUE TRAINING.** One credit. First semester. Twenty-five hours' instruction. Assistant Professor DANIELS.

Practice in the care and use of oxygen rescue apparatus, smoke-room training, and first-aid-to-the-injured work. Required of all students in the junior class.

22. MINING LAW. One credit. Second semester. One lecture. Assistant Professor DANIELS and special lecturers.

A series of lectures on the mining laws of the United States and Alaska, dealing particularly with the subject from the standpoint of the prospector, mining engineer and geologist. Illustrated by diagrams and mine maps.

24. INDUSTRIAL ORGANIZATION. Two credits. Second semester. Two lectures. Assistant Professor DANIELS.

A study of the principles of industrial organization and scientific management, involving the consideration of handling labor and materials, methods of operation, cost keeping and performance records, interpretation of efficiency data.

II. METALLURGY

1. FIRE ASSAYING. Four credits. First semester. Prerequisite, Chemistry 9. Deposit, \$15.00. Mr. CAMPBELL, Mr. GLENN and Mr. SWEENEY.

One lecture and three laboratory periods. The testing of reagents, the crushing, sampling and assaying of ores, furnace and mill products for lead, silver, gold and tin; also, the assay of base and gold bullion.

2. GENERAL METALLURGY. Four credits. Second semester. Deposit, \$10.00. Three lectures and one laboratory period. Professor ROBERTS, Mr. CAMPBELL and Mr. McELVENNY.

The properties of metals and alloys, fuels, refractory materials, furnaces and the extraction of the common metals from their ores. Visits to smelter.

3. METALLURGICAL FUELS. Two credits. First semester. Deposit, \$5.00. Assistant Professor DANIELS.

One lecture and one laboratory period. The composition, manufacture and metallurgical uses of natural and prepared fuels; the methods and costs of coking, gas making, and coal briquetting. Furnace and calorimeter tests of various types of fuels.

4. COPPER AND LEAD. Three credits. Second semester. Mr. CAMPBELL.

Three lectures. The metallurgy of copper and lead, especially the methods of roasting, smelting and refining.

5. **GOLD AND SILVER.** Three credits. First semester. Deposit, \$5.00. Two lectures and one laboratory period. Mr. CAMPBELL.

Amalgamation, cyaniding, and chlorination of gold and silver ores. Complete tests checked by assays.

6. **MINOR METALS.** Three credits. Second semester. Two lectures and one laboratory period. Deposit, \$5.00. Mr. CAMPBELL.

The metallurgy of zinc, antimony, tin, aluminum, nickel, etc.; a study of the plant required, the methods and costs of treatment.

7. **WET ASSAYING.** Three credits. First Semester. One lecture. Two laboratory periods. Prerequisite, Chemistry 9. Deposit, \$10.00. Mr. CAMPBELL.

Technical methods for the determination of copper, lead, zinc, etc., in ores and furnace products, etc.

8. **METALLURGICAL ANALYSIS.** Three credits. Second semester. One lecture. Two laboratory periods. Prerequisite, Chemistry 9. Deposit, \$10.00. Mr. CAMPBELL.

Technical methods of analysis of slags and industrial products.

9. **PYROMETRY AND ALLOYS.** Two credits. Second semester. One lecture and one laboratory period. Deposit, \$3.00. Mr. CAMPBELL.

Methods of measuring high temperatures. Union of metals by fusion, compression and electro-deposition; the behavior of metals and alloys under heat. Laboratory practice in thermal measurements, synthesis and testing of alloys.

10. **METALLOGRAPHY.** Two credits. First semester. One lecture and laboratory period. Deposit, \$3.00. Assistant Professor DANIELS.

The constitution and microstructure of metals and alloys, especially iron and steel. The preparation and study of metal sections, photomicrography and the use of the microscope to aid in testing structural iron and steel.

11. **METALLURGICAL PROBLEMS.** One credit. First semester. Prerequisites, Chemistry 9, and Metallurgy 2. Mr. CAMPBELL.

Physical chemistry for the metallurgist, slag calculations, etc., illustrated by figures quoted from the present practice at a number of smelting plants.

12. REFRACTORIES. Three credits. Second semester. One lecture and two laboratory periods. Deposit, \$3.00. Mr. CAMPBELL.

Methods of testing clays, refractory materials, cement-making materials.

13. DESIGN OF PLANT. Three credits. Either semester. Three drafting periods. Senior or graduate. Professor ROBERTS and Assistant Professor DANIELS.

The designing of a piece of equipment or a structure for mining, milling or metallurgical purposes.

14. IRON AND STEEL. Three credits. Second semester. Three lectures. Assistant Professor DANIELS.

The metallurgy and manufacture of commercial iron and steel, with special reference to their properties and uses in engineering work.

THESIS. See Mining 6 and 8.

SUMMER FIELD WORK. See Mining 7 and 8.

SUBJECTS PRESENTED BY DEPARTMENTS IN OTHER
COLLEGES OF THE UNIVERSITY
CHEMISTRY

(Bagley Hall)

1, 2. GENERAL CHEMISTRY. Four credits. The year. Text-books, Smith's College Chemistry and Laboratory Manual. Deposit \$10.00. Professor BYERS, Instructors and Assistants.

1a, 2a. GENERAL CHEMISTRY. Four credits. The year. Consists of two lectures and six laboratory hours per week. Text-books, Smith's General Chemistry, Smith's Laboratory Manual, and Byers and Knight's Qualitative Analysis. Prerequisite, one year high school chemistry. Deposit \$10.00. Professor BYERS, Dr. TRUMBULL and Assistants.

1b. GENERAL CHEMISTRY. Four credits. Second semester. Repetition of 1a. Assistant Professor ROSE.

Strong students or those carrying light course will be permitted to elect this course without the prerequisite high school course; but to satisfy the required work of the engineering curricula, such students must elect some other four-hour course in the department of chemistry.

2b. GENERAL CHEMISTRY. Four credits. First semester. Continuation of 1b. Assistant Professor ROSE.

1d. PROSPECTOR'S COURSE. Four credits. Deposit, \$10.00. Professor BENSON.

For miners who may enter January 1, and will continue to April 1. Does not require previous knowledge of chemistry, and will be merged into a course of qualitative analysis. The text is Brownlee.

9-9. QUANTITATIVE ANALYSIS. Four credits. Either semester. Laboratory deposit \$10.00. Olson's Quantitative Analysis. Twelve laboratory hours and one recitation per week. Dr. BELL.

CIVIL ENGINEERING (Engineering Building)

1. ENGINEERING DRAWING. Two credits. Either semester. All freshman engineers. Prerequisite, plane geometry. Mr. WARNER, Mr. MAY, Mr. STRANDBERG, and ———.

Linear drawing, Roman and Gothic capital letters; free hand lettering.

3. ENGINEERING DRAWING. Four credits. Either semester. All freshman engineers. Prerequisite, solid geometry and C. E. 1. Mr. WARNER, Mr. STRANDBERG, and Mr. ———.

The elements of descriptive geometry, including the principles of shades, shadows and perspective. Practical problems.

4. ENGINEERING DRAWING. Two credits. Either semester. All sophomore engineers. Prerequisite, 3. Mr. WARNER, Mr. STRANDBERG, and Mr. ———.

Continuation of Drawing 3. Problems and tracing.

20. ELEMENTARY PLANE SURVEYING. Four credits. Either semester. All freshman engineers. Prerequisites, Math. 1a and C. E. 1. Laboratory deposit, \$3.00. Assistant Professor MILLER, Mr. DUCKERING, and Mr. ———.

Theory and use of chain, compass, transit and level. Adjustment of instruments. United States Public Land Surveys. Maps and computation of areas.

23. TOPOGRAPHIC SURVEYING. Three credits. The year. Junior civil and mining engineers. Prerequisites, Math. 3a and C. E. 21. Laboratory deposit, \$3.00. Assistant Professor MILLER.

Base line measurement. Reading and adjusting and computing triangulation systems. Topographic surveying, including plane-table, photography and cartography.

28. MINE SURVEYING. Three credits. First semester. Sophomore mining engineers. Prerequisite, C. E. 20. Laboratory deposit, \$3.00. Mr. NEWTON.

Surface and underground practice. Observation for meridian. Topography. Mining claim surveys. Plane triangulation. Tunnel and vertical shaft work and connections. Mapping.

41-42. MECHANICS. 41, four credits, the year. 42, three credits. All junior engineers. Prerequisites, Math. 4a, physics 1a. Professor MORE, Assistant Professor MACINTIRE and Mr. MAX. Statics, dynamics and mechanics of materials.

50. HYDRAULICS. Four credits. Second semester. All junior engineers. Prerequisite, 41. Assistant Professor HARRIS and Mr. STRANDBERG.

Flow of water through pipes and orifices, over weirs and in open channels; energy, impulse and reaction of jets with application to impulse wheels. Review of hydrostatics.

54. HYDRAULIC MINING. (Short session in mining, January-March.) Professor ALLISON.

A course of two lectures per week on the theory and practice of hydraulic mining.

ELECTRICAL ENGINEERING

(Engineering Building)

5. ELECTRICAL ENGINEERING. Four credits. The year. Prerequisites, Math. 4a; Physics 2a, 2b. Laboratory deposit, \$3.00. Mr. CURTIS and Mr. JOHNSON, Assistant Professor LOEW.

A short course giving the fundamental principles of direct currents with experimental tests on commercial dynamos and motors.

ENGLISH

(Office, Rooms 45 and 42, Denny Hall)

1a-2a. FRESHMAN COMPOSITION. Two credits. First semester of freshman and second semester of sophomore year. Associate Professor MILLIMAN in charge.

No students will be excused from the course, but a section will be provided for those whose training has been exceptionally good.

GEOLOGY

(Science Hall)

1b. **GEOLOGY FOR MINING STUDENTS.** Four credits. Either semester. Required course for freshmen. Laboratory deposit, \$1.00. Assistant Professor CULVER.

9. **MINERALOGY.** Four credits. Second semester. Two laboratory periods. Descriptive and determinative mineralogy. Laboratory deposit, \$2.00. Assistant Professor CULVER.

13. **OPTICAL CRYSTALLOGRAPHY.** Four credits. First semester. Two recitations and two laboratory periods per week. Laboratory deposit, \$2.00. Assistant Professor WEAVER.

16. **PETROLOGY.** Three credits. First semester. One recitation and two laboratory periods. Laboratory deposit, \$2.00. For coal mining engineers. Assistant Professor WEAVER.

A study of the principal types of rocks and practice in their determination by field methods.

17. **PETROGRAPHY.** Four credits. Second semester. Prerequisites, 1a, 9, 13. Laboratory deposit, \$2.00. Assistant Professor WEAVER.

A study of the distinguishing characteristics of the different groups and species of rocks with practice in their determination by modern petrographical methods.

18. **ECONOMIC GEOLOGY.** Four credits. Second semester. Four recitations per week. Professor LANDES.

19. **PALEONTOLOGY.** Four credits. First semester. Three recitations and one laboratory period per week. Chiefly for students in geology and mining. Assistant Professor WEAVER.

20. **FIELD WORK.** One credit. First semester.

21. **FIELD WORK.** One credit. Second semester. Professor LANDES, Assistant Professors SAUNDERS, WEAVER and CULVER.

GEOLOGY B. MINERALOGY. Short session in mining, January-March. Instruction and practice in blowpipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week. Deposit \$2.00. Assistant Professor CULVER.

GEOLOGY C. ELEMENTS OF GEOLOGY. Short session in mining January-March. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. Assistant Professor CULVER.

MATHEMATICS

(Science Hall)

O-O. SOLID GEOMETRY.. Three credits. Either semester. Prerequisite, Plane Geometry.

Required during the freshman year of all students in the colleges of Engineering, Forestry and Mines who do not offer solid geometry for admission.

1a. TRIGONOMETRY AND ALGEBRA. Four credits. First or second semester. Prerequisites, same as for Math. 1-2.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of plane trigonometry and supplementary work in algebra equivalent to one hour per week.

2a. ANALYTICAL GEOMETRY AND ALGEBRA. Four credits. First or second semester. Prerequisite, Math. 1a.

Primarily for students in the colleges of Engineering, Forestry, and Mines. The elements of analytical geometry and supplementary work in algebra equivalent to one hour per week.

3a. CALCULUS FOR ENGINEERS. Four credits. First or second semester.

4a. CALCULUS FOR ENGINEERS. Four credits. First or second semester.

Continuation of Math. 3a.

5a. APPLICATION OF THE CALCULUS FOR ENGINEERS. Two credits. First or second semester. Prerequisite, Math. 4a.

MECHANICAL ENGINEERING

(Office, Engineering Building)

1. CARPENTRY AND WOODTURNING. Two credits. The year. Deposit \$2.00. Mr. BEATTIE.

3. FORGE AND FOUNDRY. Two credits. The year. Deposit \$2.00. Mr. KANE.

4. MACHINE WORK. Two credits. The year. Deposit \$2.00. Mr. KANE.

9. MINE TIMBER FRAMING. Two credits. Second semester. Deposit \$2.00. Mr. BEATTIE, Assistant Professor DANIELS.

MILITARY SCIENCE AND TACTICS

(Office, The Armory)

EDWARD E. MCCAMMON, FIRST LIEUTENANT THIRD INFANTRY, U. S. A.,
COMMANDANT

A course of two years in military training is required. All able-bodied male students (except those from foreign countries, not intending to become naturalized) must take the course, which by regulation of the University is required during the first and second years. Three hours a week are devoted to military training, for which two credits are given each semester.

PHYSICS

(Basement, Denny Hall)

1a. MECHANICS AND WAVE MOTION. Four credits. First or second semester. Prerequisite, 8 hours in mathematics. This course must be accompanied by 1b. Assistant Professor BRAKEL and Dr. ANDERSON.

2a. LIGHT, HEAT, ELECTRICITY. Four credits. First or second semester. This course must be accompanied by 2b. Assistant Professor BRAKEL and Dr. ANDERSON.

1b. PHYSICS MEASUREMENTS. Two credits. First or second semester. One four-hour laboratory period. Six dollars deposit per year. Mr. VORIS.

2b. PHYSICS MEASUREMENTS. One credit. First or second semester. One three-hour laboratory period. Six dollars deposit per year. Mr. VORIS.

POLITICAL AND SOCIAL SCIENCE

(Denny Hall)

1a. ELEMENTS OF ECONOMICS. Three credits. First or second semester.

COLLEGE OF PHARMACY

FACULTY

- HENRY LANDES, A. M. (Harvard), ACTING PRESIDENT.
CHARLES WILLIS JOHNSON, PH. C., PH. D. (Michigan), DEAN and
Professor of Pharmaceutical Chemistry, STATE CHEMIST.
HORACE G. BYERS, PH. D., (Johns Hopkins), Professor of Chem-
istry.
THEODORE CHRISTIAN FRYE, PH. D. (Chicago), Professor of Botany.
JOHN WEINZIRL, PH. D. (Wisconsin), Professor of Bacteriology.
ARTHUR WILSON LINTON, PH. G., B. S. (Michigan), Associate Pro-
fessor of Pharmacy.
WILLIAM MAURICE DEHN, PH. D. (Illinois), Associate Professor of
Organic Chemistry.
ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of
Zoology and Physiology.
GEORGE BURTON RIGG, PH. D. (Chicago), Assistant Professor of Bot-
any.
EDITH HINDMAN, PH. C., M. S. (Washington), Instructor in Phar-
macy and Assistant State Chemist and Bacteriologist.
JAMES EDGAR BELL, PH. D. (Illinois), Instructor in Chemistry.
EARL MILLIRON PLATT, PH. C., B. S., (Washington), Instructor in
Pharmacy.
CORNELIUS OSSEWARD, PH. G. (Columbia), PH. C. (Northwestern),
Lecturer on Commercial Pharmacy.
FOREST J. GOODRICH, PH. C., B. S. (Washington), Assistant State
Chemist.
GERALD S. PATTON, Assistant in Pharmacy.
JAMES C. PALMER, PH. C. (Washington), Assistant in Pharmacy.
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- FREDERICK MORGAN PADELDFORD, PH. D. (Yale), Professor of English
Literature.
FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Phy-
sics.
PIERRE JOSEPH FREIN, PH. D. (Johns Hopkins), Professor of
French.
ROBERT EDOUARD MORITZ, PH. N. D. (Strassburg), Professor of
Mathematics.
FREDERICK WILLIAM MEISNEST, PH. D. (Wisconsin), Professor of
German.

CURRICULA

Three curricula of study have been outlined. 1. A two-year course which prepares its graduates for responsible positions in the profession of pharmacy, and as pharmaceutical chemists. 2. A four-year course which includes the professional training of the two-year work, and which leads to a regular collegiate degree. Students taking the two-year course will be granted the degree of pharmaceutical chemist (Ph.C.) upon the completion of the course as outlined; and the degree of bachelor of science (B.S.) when four years of work is completed. 3. The degree of master of Science (M.S.) in Pharmacy will be granted upon the completion of the graduate course as outlined.

SPECIAL OPPORTUNITIES OF THE FOUR-YEAR COURSE

1. Practical and Manufacturing Pharmacists.
2. Manufacturing and Technical Chemists.
3. Bacteriologists.
4. Teachers in High Schools and Colleges of Pharmacy.
5. Preparation for the study of medicine.

The four-year course is outlined to meet the needs of several classes of students. Those students who wish to extend the work of the two-year course will find opportunity in the third and fourth year for specializing in pharmaceutical chemistry and pharmacy, thus becoming proficient in the chemistry of alkaloids, volatile oils, and other plant principles; the testing of foods and drugs for adulteration, both chemically and by use of the microscope; also opportunity for training in bacteriology, zoology, modern foreign language, English, mathematics, and physics. Students with the four-year degree are well prepared not only to take up the regular practice of pharmacy, but also to fill positions as technical and manufacturing chemists, bacteriologists, and as teachers. The work of the four-year course forms an excellent foundation for the study of medicine. Many of our graduates go to eastern medical schools and find their pharmaceutical training of great help in their medical studies. The work can be varied so as to meet the entrance requirements of any of the eastern medical schools.

COLLEGE TRAINING A REQUIREMENT FOR REGISTRATION IN WASHINGTON

Copy of resolution passed by the Washington State Board of Pharmacy at the meeting held in Seattle, December 27, 28, 29, 1911:

"Whereas, section 4 of the pharmacy law of the State of Washington, chapter 213, specifically states that the board of pharmacy may prescribe the preliminary education of applicants for examination, and whereas the board now assembled deems it proper that specific educational requirements should now be formulated; therefore, be it resolved, That on and after July 1st, 1913, the Washington State Board of Pharmacy shall require all applicants for examination as registered pharmacists to submit evidence of having satisfactorily completed one year of college work in a college of pharmacy recognized by the board, and on and after July 1st, 1914, the board shall require of said applicants for examination as registered pharmacists evidence of having graduated from a college of pharmacy embracing at least a two-year course and recognized by the board. Be it further resolved, That, since section 3 of the pharmacy law of the State of Washington, chapter 213, gives the board of pharmacy the power to approve certain colleges of pharmacy, this board shall recognize only the two state schools of pharmacy in Washington and such other schools and colleges in the country as hold membership in the American Conference of Pharmaceutical Faculties. Be it further resolved, That, since it is not the desire of the board of pharmacy to work hardship on any registered pharmacist now residing in another state who may in the future desire to become registered in the State of Washington, any pharmacist holding full registration papers obtained in another state prior to July 1st, 1912, shall be admitted to examination as candidate for registration in the State of Washington. Be it further resolved, That a copy of these resolutions shall be sent by the secretary to each registered pharmacist, registered assistant pharmacist and registered apprentice in the State of Washington, and to the Pharmaceutical Press of the United States on or before March 1, 1912."

ENTRANCE REQUIREMENTS

1. CANDIDATES FOR DEGREES

To be admitted clear, as candidate for a degree, in either the two or four-year course of the College of Pharmacy, the student must either (a) pass an examination based on a course amounting in the aggregate to fifteen units, or (b) present a certificate of having completed a four-year course in an accredited high school. Prospective students should mail to the Recorder of the University a detailed statement of studies completed in the high

school. This statement must be signed by the principal of the high school. As a rule, the accredited school list of other state universities will be accepted by the University of Washington.

The required subjects are as follows:

	Units
English	3
A foreign language.....	2
Algebra	1½
Plane geometry.....	1
Physics	1
History (American history preferred) or United States history and civics.....	1
Elective	5½
Total.....	15

Candidates may present for entrance any modern foreign language in which they have had a course fairly equivalent to a high school course in English, i. e., which they have used as a spoken and written language and of which they have studied the grammar and literature.

NOTE 1.—To count as a “unit” a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.

2. ENTRANCE REQUIREMENTS FOR STUDENTS NOT CANDIDATES FOR DEGREES

Students over twenty years of age may enter as specials and pursue the regular two-year course of study providing they present at least four entrance units as follows: English: one unit required, and three units selected from the following subjects: foreign language, algebra, science, history, commercial geography, bookkeeping. Such students will not be classed as candidates for a degree, but upon satisfactorily completing the two-year course, as outlined, will receive recognition for it as explained under the heading of certificate of graduate in Pharmacy. Students desiring to enter under the above conditions should send to the Recorder before the opening of the school year credentials signed by the proper school authorities giving detailed information concerning their preparation. Students who are not graduates of high schools will not be admitted as specials unless they have been out of high

school at least one year. Special students may become candidates for a degree upon clearing all entrance conditions as listed under the heading Candidates for Degrees.

DEGREES

1. The degree of pharmaceutical chemist (Ph. C.) will be granted to any student who has fulfilled the entrance requirements, and has completed the two-year course as outlined.

2. The degree of bachelor of science (B. S.) will be conferred upon those who comply with the entrance conditions and complete the four-year course. A degree with honors may be conferred upon a student of the College of Pharmacy, if recommended for this distinction by the dean.

3. The degree of master of science (M. S.) in pharmacy will be conferred upon graduates of the four-year course who complete at least one year of graduate work as outlined and present a satisfactory thesis.

CERTIFICATE OF GRADUATE IN PHARMACY

Students not candidates for degrees who satisfactorily complete the studies outlined in the two-year course will be granted a certificate of graduate in pharmacy.

REGISTRATION BY THE STATE BOARD OF PHARMACY

Graduates of the two-year course in pharmacy with either the degree of pharmaceutical chemist or the certificate of graduate in pharmacy are registered as pharmacists without examination by the State Board providing they have had at least two years practical experience.

Graduates of the four-year course are registered after one year of practical experience.

Students who on graduation have not had the required amount of practical experience for full registration are registered as assistant pharmacists.

After July 1, 1914, all candidates for registration as pharmacists in the State of Washington must be graduates of one of the schools holding membership in the American Conference of Pharmaceutical Faculties or of such foreign schools as meet the requirements of said conference.

FOOD AND DRUG LEGISLATION

The enactment of the Food and Drugs Act by Congress, and of similar legislation by most of the states (Washington included), has placed very great importance upon pharmaceutical education. It is at once apparent that a knowledge of drugs is equally important with chemistry in the administration and enforcement of this legislation. The graduate in chemistry is not wholly qualified to act as food and drug inspection chemist for the government, states, private individuals, and corporations, if he is not trained in those subjects included in the collective name of pharmacy. These allied subjects are theory and practice of pharmacy, manufacturing pharmacy, drug assaying, pharmaceutical botany, study of the United States Pharmacopœia and National Formulary, pharmacognosy, materia medica and therapeutics, etc. A great many pharmaceutical chemists are needed to carry out the analytical processes involved in the enforcement of this legislation, but the number of men adequately trained is very limited. Students with high school training are urged to consider these opportunities and to prepare themselves for such positions. The dean of the College of Pharmacy is chemist for the Washington State Department of Agriculture and is also in close touch with the government food and drug work. Courses are offered that will fit students for this line of work.

LABORATORY DEPOSIT

Pharmacy. The total deposit for first year students is twenty-eight dollars per semester. Second year students have a deposit of twenty dollars for the first semester and fifteen dollars for the second semester. The student pays only the actual cost of drugs and chemicals used; the remainder of the deposit, less breakage, is returned at the end of the semester.

LIBRARY FACILITIES

A branch of the University library containing books and current publications on pharmacy and chemistry is maintained in the pharmacy building. Practically all the domestic and some foreign journals on pharmacy are received by the college. The student is expected to make use of the library and to report from time to time on current topics of interest.

PHARMACY, MATERIA MEDICA AND CHEMISTRY LABORATORIES

Rooms devoted to pharmacy, materia medica and chemistry are located in Bagley Hall, a three-story fireproof building. Special sections are provided for pharmacy students in general, organic and qualitative chemistry. Work in prescription practice receives special attention in a room constructed and arranged as a model prescription pharmacy. The materia medica room contains a museum of several hundred samples of official and unofficial crude drugs. It also contains an extensive collection of commercial and biological products manufactured and donated by the H. K. Mulford Company of Philadelphia, Pa., Parke, Davis and Company of Detroit, Michigan, and Eli Lilly and Company, of Indianapolis, Indiana. One room is given to drug assaying and food analysis. The examination of official food and drug samples for the state is under the direction of the Dean of the College of Pharmacy. A well equipped laboratory is devoted to this purpose. Pharmacy students taking botany, physiology and bacteriology have well equipped laboratories in Science Hall.

CORRESPONDENCE

Inquiries in regard to the College of Pharmacy may be addressed to the Dean of the College or to the Recorder of the University. Students desiring to enter the college will be furnished proper blanks for filing entrance credentials on request to the Recorder. Entrance credentials should be sent to the Recorder before August 15th. The student will then be notified if his credentials are satisfactory. Copies of the Bulletin of the College of Pharmacy may be had upon application.

REQUIREMENTS FOR GRADUATION

1. WITH DEGREE OF PHARMACEUTICAL CHEMIST
2. WITH CERTIFICATE OF GRADUATE IN PHARMACY.

FIRST YEAR

	Hours
Chemistry 1e.....	4
Chemistry 1f.....	4
Pharmacy 1.....	4
Botany 13.....	4
	<hr/>
	16

	Hours
Chemistry 2e.....	4
Chemistry 2f.....	4
Pharmacy 2.....	4
Botany 14.....	4
	<hr/>
	16

SECOND YEAR

	Hours		Hours
Pharmacy 3.....	2	Pharmacy 4.....	4
Pharmacy 5.....	2	Pharmacy 6.....	3
Pharmacy 7 or 8.....	4	Pharmacy 8 or 7.....	4
Pharmacy 9.....	4	Pharmacy 10.....	4
Bacteriology 105 or		Pharmacy 18.....	1
Physiology 11.....	4		
	<hr/> 16		<hr/> 16

3. WITH DEGREE OF BACHELOR OF SCIENCE

For graduation with the degree of bachelor of science the student is required to do sufficient work in addition to that of the two-year course to make one hundred and twenty hours of credit. Of the additional work the following courses are required:

Rhetoric, 4 hours; trigonometry, 4 hours; modern language, two years; physics, 8 hours; laboratory science, 16 hours.

The work in laboratory science may be elected in bacteriology, botany, geology, pharmacy, pharmaceutical chemistry, physics, physiological chemistry, physiology, toxicology and zoology.

4. WITH DEGREE OF MASTER OF SCIENCE IN PHARMACY

Graduates of the four-year course may continue work for the master's degree as follows:

Not more than 16 hours' work allowed outside of the department of pharmacy. Election may be made from one or more of the following studies:

Bacteriology, 8 to 16 hours; botany, 4 to 16 hours; physics, 8 hours; chemistry, 4 to 16 hours; zoology, 4 to 8 hours.

Not less than 16 hours' work to be elected in the department of pharmacy from the following lines of work:

Manufacturing pharmacy, 4 to 8 hours; toxicology, 4 to 8 hours; chemistry of foods or drugs, 8 to 16 hours; plant analysis, 8 to 16 hours. At least 8 hours of the major work to be a research problem and preparation of a thesis. Examination and thesis to conform to the regulations of the graduate school.

MILITARY TRAINING AND PHYSICAL CULTURE

All men students in either the two or four-year course are required to take two years of military training. Women students in the two-year course are required to take one year of physical culture and in the four-year course to take two years of physical culture.

DEPARTMENT OF PHARMACY, PHARMACEUTICAL CHEMISTRY, AND MATERIA MEDICA

(Office, Room 203, Bagley Hall)

PROFESSOR JOHNSON, ASSOCIATE PROFESSOR LINTON, MISS HINDMAN,
MR. PLATT, MR. GOODRICH AND ASSISTANTS

FOR UNDERGRADUATES

1. THEORY AND PRACTICE OF PHARMACY. Four credits. First semester. Associate Professor LINTON.

The study of the principles of pharmaceutical operations, and the manufacture of such preparations as best illustrate these operations.

Deposit, ten dollars per semester.

2a-1a. THEORY AND PRACTICE OF PHARMACY. Four credits. First and second semester. Associate Professor LINTON.

To meet the need of students entering the second semester courses 1 and 2 are repeated. Deposit, ten dollars per semester.

2. PHARMACEUTICAL PREPARATIONS. Four credits. Second semester. Associate Professor LINTON.

The study and manufacture of galencial and other preparations. Deposit, ten dollars per semester.

3. U. S. PHARMACOPOEIA. Two credits. First semester. Associate Professor LINTON.

A study of the inorganic and organic chemicals included in the pharmacopœia. The manufacture, tests for purity, assay, medicinal properties and methods of identification.

4. U. S. PHARMACOPOEIA AND NATIONAL FORMULARY. Four credits. Second semester. Associate Professor LINTON.

A careful study of the United States pharmacopœia and national formulary with the special object of explaining the chemistry involved in the manufacture of the various compounds and preparations.

5. PRESCRIPTIONS. Two credits. First semester. Associate Professor LINTON.

6. PRESCRIPTIONS. Three credits. Second semester. Deposit, five dollars per semester. Associate Professor LINTON.

Pharmacy 5 and 6 takes up the study of the problems in prescription practice, special attention being given to incompatibilities, and to the more important newer remedies. The stu-

dents are required to criticise and compound approximately two hundred of the more difficult physician's prescriptions.

7. PHARMACOGNOSY. Four credits. Each semester. Mr. PLATT.

A study of crude drugs, their source, methods of collecting and preserving, identification, active constituents and adulteration.

8. PHARMACOLOGY AND THERAPEUTICS. Four credits. Each semester. Mr. PLATT.

A study of the action of chemicals, drugs and their preparations on the human organism in health and disease, also the physiological action of the various poisons, their antidotes and emergency treatment in cases of poisoning.

9-10. DRUG ASSAYING. Four credits. The year. Professor JOHNSON and Mr. PLATT.

In first semester experiments in gravimetric and volumetric methods of analysis are given with the idea of training the students in the fundamental principles of quantitative chemistry, and at the same time making them familiar with the analysis of substances of pharmaceutical importance. The second semester's work includes methods of quantitatively estimating the active constituents of crude drugs and their preparations and the testing of alkaloids and organic analysis.

FOR JUNIORS, SENIORS AND GRADUATES

11-12. PLANT ANALYSIS. Four credits. The year. Professor JOHNSON and Miss HINDMAN.

A course for upperclassmen and graduates in the analysis of plants for alkaloids, glucosides, volatile oils and other active constituents, and the analysis of medicinal preparations. Graduate students if prepared may elect a research problem in plant analysis. Deposit, ten dollars per semester.

13-14. FOOD ANALYSIS. Four credits. The year. Laboratory three times per week. Professor JOHNSON and Miss HINDMAN.

Laboratory and class work in the study of methods of analysis of food-products and the study of Federal and state laws regulating the sale of food and drug products. Methods of the Association of Official Agricultural Chemists are used. Graduate students if prepared may elect a research problem in food analysis.

Deposit, ten dollars per semester.

14a. CHEMISTRY OF FOODS. Four credits. Either semester. Prerequisite, Chemistry 1c-2c, and 3c, or their equivalent. Professor JOHNSON and Miss HINDMAN.

A course in food analysis designed particularly for students in home economics. Deposit, ten dollars per semester.

15-16. MANUFACTURING PHARMACY. Associate Professor LINTON.

An advanced course in pharmaceutical manufacturing, including the manufacturing of some of the more difficult of pharmacopœial and national formulary preparations as well as a number of inorganic and organic compounds used in pharmacy and medicine.

Deposit five or ten dollars, according to hours.

17. TOXICOLOGY. Credit to be arranged. The year. Professor JOHNSON and Miss HINDMAN.

A laboratory course on the detection and estimation of poisons in animal tissues and practice in the preparation of testimony for legal cases.

Deposit, five or ten dollars, according to hours.

18. COMMERCIAL PHARMACY. One credit. Second semester. Mr. OSSEWARD.

A lecture course covering the commercial problems of the practical pharmacist. This course is for sophomores, but open to election by upperclassmen.

19. INVESTIGATION. Credit to be arranged. The year.

Senior and graduate students may undertake some original investigation in pharmacy, pharmaceutical chemistry or chemistry of foods under the direction of one of the instructors.

Deposit, five or ten dollars, according to hours.

BOTANY

(Science Hall)

I. BOTANY

13-14. PHARMACY BOTANY. Four credits. The year. Assistant Professor RIGG.

Gross structure of vegetative and reproductive parts of seed plants. Brief study of spore plants. Microscopy of powdered drugs.

2. BACTERIOLOGY

103. GENERAL BACTERIOLOGY. Four credits. First semester. Prerequisites, junior standing; botany or zoology; 1 year; chemistry, 1 year. Professor WEINZIRL and Mr. NICKSON.

Methods of growing bacteria and studying their structure, functions and distribution.

105. BACTERIOLOGY FOR PHARMACISTS. Four credits. First semester. Prerequisite, sophomore standing; botany, 1 year; chemistry, 1 year. Mr. NICKSON.

A general survey, including technique, biology, disease, immune sera, vaccines, disinfectants, etc.

108. MEDICAL BACTERIOLOGY. Four credits. Second semester. Prerequisite, bacteriology 103. Required of medical students. Professor WEINZIRL and Mr. NICKSON.

The study of pathogenic bacteria.

111. BACTERIOLOGICAL ANALYSIS. Two credits. First semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

Analysis of water, sewage, milk, meat, etc. Laboratory work only.

112. LABORATORY DIAGNOSIS. Two credits. Second semester. Prerequisite, bacteriology 104 or 108. Professor WEINZIRL.

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. SANITARY PROBLEMS. Two credits. First semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

The sanitary problems relating to water, sewage, and food. Lectures only.

114. DIAGNOSTIC METHODS. Two credits. Second semester. Prerequisite, to be taken with bacteriology 112. Professor WEINZIRL.

The consideration of diagnostic methods and their application. Lectures only.

119-120. RESEARCH IN BACTERIOLOGY. Two or four credits per semester. The year. Open to qualified students after consultation. Professor WEINZIRL.

CHEMISTRY
(Bagley Hall)

PROFESSOR BYERS, PROFESSOR JOHNSON, ASSOCIATE PROFESSOR DEHN,
ASSISTANT PROFESSOR ROSE, DR. TRUMBULL, DR. BELL,
MRS. DAVIS AND ASSISTANTS.

1e. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Four credits. First semester.

A lecture and recitation course for pharmacy students to be accompanied by the laboratory work of course 1f.

1f. LABORATORY COURSE IN GENERAL AND QUALITATIVE CHEMISTRY. Four credits. First semester.

Laboratory experiments in general chemistry during the first part of the semester followed by work in qualitative analysis.

Deposit, fifteen dollars per semester.

2e. ORGANIC CHEMISTRY. Four credits. Second semester.

A lecture and recitation course for pharmacy students, to be accompanied by the laboratory work of course 2f.

2f. LABORATORY COURSE, QUALITATIVE AND ORGANIC CHEMISTRY. Four credits. Second semester.

Part time will be used to finish the work of qualitative analysis. The organic work will be the preparation and testing of representative organic compounds.

Deposit, fifteen dollars per semester.

1b. GENERAL CHEMISTRY. Four credits. Second semester. Assistant Professor ROSE.

To meet the need of students entering at the beginning of the second semester.

Deposit, ten dollars.

2b. GENERAL CHEMISTRY. Four credits. First semester. Assistant Professor ROSE.

Continuation of 1b of second semester.

3-4. ORGANIC CHEMISTRY. Four credits, first semester. Two credits, second semester. Assistant Professor DEHN.

A lecture course on the chemistry of the compounds of carbon. Laboratory work on the preparation and testing of representative compounds. Deposit, ten dollars per semester.

5-6. ADVANCED ORGANIC CHEMISTRY. Four credits. The year. Assistant Professor ROSE.

Chemistry of volatile oils, dyestuffs, alkaloids and sugars. Special laboratory work can be arranged.

7. ORGANIC ANALYSIS AND GLASS BLOWING. Two or four credits. The year. Assistant Professor DEHN.

A laboratory course of either two or four hours. Individual instruction.

8. ADVANCED QUALITATIVE ANALYSIS. Four credits. First semester. Two lectures and six laboratory hours per week. Professor BYERS.

Lectures on theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals.

8b. ELEMENTARY QUALITATIVE ANALYSIS. Four credits. Second semester. Assistant Professor DEHN.

Two lectures and six laboratory hours per week. Deposit, ten dollars per semester.

10-11. FOOD ANALYSIS. Four credits. The year. Laboratory, three afternoons per week. Professor JOHNSON.

First semester includes the study of the source, preparation, chemical nature and analysis of fats and oils of food and pharmaceutical use. The second semester includes the analysis of the various food products on the market. Methods of the Association of Official Agricultural Chemists are used.

Deposit, ten dollars per semester.

11c. CHEMISTRY OF FOODS. Four credits. Either semester. Prerequisites, chemistry 1c, 2c, 3c. Laboratory deposit, ten dollars. Professor JOHNSON.

A course in chemistry of foods for home economics students.

19. URINARY ANALYSIS. Two credits. Second semester. Laboratory work only. Assistant Professor DEHN.

Practical methods of analysis of normal and pathological urines. Especially for students entering upon the study of medicine.

20-21. PHYSIOLOGICAL CHEMISTRY. Four credits. First semester. Assistant Professor DEHN.

A course designed for medical, chemical and general science students. Chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes, with special attention to the composition and chemical analysis of blood, milk and urine.

22. **PHYSICAL CHEMISTRY.** Four credits. First semester. Three lectures and one laboratory period per week. Dr. TRUMBULL.

An elementary course dealing with fundamental theories of chemistry based upon physical measurements.

23. **ELECTRO CHEMISTRY.** Four credits. Second semester. Professor BYERS and Dr. TRUMBULL.

The lecture course deals with the historical development of electro chemistry, the theories of electrolysis, migration of ions, concentration cells, solution pressure, etc. The laboratory work consists of the preparation of compounds by electrolysis and electro-synthesis, electro-plating, etc., and of illustrations of the subject matter of the lecture work.

PHYSIOLOGY

(Science Hall)

11. **ELEMENTARY PHYSIOLOGY.** Four credits. Assistant Professor SMITH.

The human body, its tissues and organs, and their functions with special reference to hygiene. In the laboratory experimental work is given, together with dissection and microscopic examination of illustrative material.

Deposit, two dollars per semester.

GRADUATE SCHOOL

FACULTY

- HENRY LANDES, A. M., (Harvard University), ACTING PRESIDENT.
Professor of Geology and Mineralogy.
- J. ALLEN SMITH, PH. D., (University of Michigan), Professor of
Political and Social Science and Dean of the Graduate School.
- DAVID THOMSON, A. B., (University of Toronto), Professor of Latin
and Secretary of the Graduate Faculty.
- ORSON BENNETT JOHNSON, LL. B., (Union College of Law), Pro-
fessor Emeritus of Zoology.
- EDMOND STEPHEN MEANY, M. L., (University of Wisconsin), Pro-
fessor of History.
- CAROLINE HAVEN OBER, Professor of Spanish.
- ALMON HOMER FULLER, M. S., C. E., (Cornell University), Professor
of Civil Engineering.
- JOHN THOMAS CONDON, LL. M., (Northwestern University), Pro-
fessor of Law and Dean of the School of Law.
- HORACE G. BYERS, PH. D., (Johns Hopkins University), Professor
of Chemistry.
- TREVOR KINCAID, A. M., (University of Washington), Professor of
Zoology.
- FREDERICK MORGAN PADELFORD, PH. D., (Yale University), Pro-
fessor of English.
- MILNOR ROBERTS, A. B., (Stanford University), Professor of Min-
ing Engineering and Metallurgy and Dean of the College of
Mines.
- ARTHUR SEWALL HAGGETT, PH. D., (Johns Hopkins University),
Professor of Greek and Dean of the College of Liberal Arts.
- FREDERICK ARTHUR OSBORN, PH. D., (University of Michigan), Pro-
fessor of Physics and Director of the Physics Laboratories.
- WILLIAM SAVERY, PH. D., (Harvard University), Professor of
Philosophy.
- CHARLES WILLIS JOHNSON, PH. D., (University of Michigan), Pro-
fessor of Pharmaceutical Chemistry and Dean of the College
of Pharmacy.
- PIERRE JOSEPH FREIN, PH. D., (Johns Hopkins University), Pro-
fessor of French.

- THEODORE CHRISTIAN FRYE, PH. D., (University of Chicago), Professor of Botany and Acting Dean of the College of Science.
- ROBERT EDOUARD MORITZ, PH. D., (University of Nebraska), Professor of Mathematics and Astronomy.
- CARL EDWARD MAGNUSSON, PH. D., E. E., (University of Wisconsin), Professor of Electrical Engineering.
- HARVEY LANTZ, A. M., LL. B., (Kent Law School), Professor of Law.
- EVERETT OWEN EASTWOOD, C. E., A. M., (University of Virginia), Professor of Mechanical Engineering.
- FREDERICK WILLIAM MEISNEST, PH. D., (University of Wisconsin), Professor of German.
- DAVID CONNOLLY HALL, Sc. M., M. D., (University of Chicago), Director of Physical Training.
- ISABELLA AUSTIN, A. B., (University of Minnesota), Dean of Women.
- HERBERT H. GOWEN, F. R. G. S., M. R. S. A., Professor of Oriental History, Literature and Institutions.
- OLIVER HUNTINGTON RICHARDSON, PH. D., (University of Heidelberg), Professor of European History.
- IVAN WILBUR GOODNER, LL. B., (University of Nebraska), Professor of Law.
- WALTER GREENWOOD BEACH, A. M., (Harvard University), Professor of Social Science.
- IRVING MACKEY GLEN, A. M., (University of Oregon), Professor of Music and Dean of the College of Fine Arts.
- EDWIN AUGUSTUS START, A. M., (Harvard University), Director of the University Extension Division.
- CHARLES CHURCH MORE, M. S., C. E., (Cornell University), Professor of Civil Engineering.
- HENRY KREITZER BENSON, PH. D., (Columbia University), Professor of Industrial Chemistry.
- JOHN WEINZIRL, PH. D., (University of Wisconsin), Professor of Bacteriology.
- HUGO WINKENWERDER, M. F., (Yale University), Professor of Forestry and Dean of the College of Forestry.
- VERNON LOUIS PARRINGTON, A. B., (Harvard University), Professor of English.
- FREDERICK ELMER BOLTON, PH. D., (Clark University), Professor of Education and Dean of the College of Education.

- EDWIN JOHN VICKNER, PH. D., (University of Minnesota), Professor of the Scandinavian Languages.
- HERBERT GALEN LULL, PH. D., (University of California), Professor of Education.
- FRANK GEORGE KANE, A. B., (University of Michigan), Professor of Journalism.
- EFFIE ISABEL RAITT, B. S., (Columbia University), Professor and Director of the Department of Home Economics.
- WILLIAM FRANKLIN ALLISON, C. E., (Purdue University), Professor of Municipal and Highway Engineering.

OTHER INSTRUCTORS

- ALLEN ROGERS BENHAM, PH. D., (Yale University), Associate Professor of English.
- FRANK MARION MORRISON, PH. D., (University of Chicago), Associate Professor of Mathematics.
- LOREN DOUGLAS MILLIMAN, A. B., (University of Michigan), Associate Professor of English.
- SAMUEL LATIMER BOOTHROYD, M. S., (Colorado Agricultural College), Associate Professor of Astronomy and Mathematics.
- THOMAS KAY SIDEY, PH. D., (University of Chicago), Professor of Latin and Greek.
- WILLIAM MAURICE DEHN, PH. D., (University of Illinois), Associate Professor of Physiological Chemistry and Toxicology.
- EDWARD MCMAHON, A. M., (University of Wisconsin), Associate Professor of American History.
- STEVENSON SMITH, PH. D., (University of Pennsylvania), Associate Professor of Orthogenics.
- JACOB NEIBERT BOWMAN, PH. D., (University of Heidelberg), Associate Professor of European History.
- GEORGE WALLACE UMPHREY, PH. D., (Harvard University), Associate Professor of Spanish.
- ARTHUR WILSON LINTON, PH. G., B. S., (University of Michigan), Associate Professor of Pharmacy.
- VANDERVEER CUSTIS, PH. D., (Harvard University), Assistant Professor of Economics.
- OTTO PATZER, PH. D., (University of Wisconsin), Assistant Professor of French.
- EDWIN JAMES SAUNDERS, A. M., (Harvard University), Assistant Professor of Geology.

- JOSEPH KINMONT HART, PH. D., (University of Chicago), Assistant Professor of Education.
- GEORGE IRVING GAVETT, B. S., (C. E.), (University of Michigan), Assistant Professor of Mathematics.
- HANS JACOB HOFF, PH. D., (University of Illinois), Assistant Professor of German.
- ROBERT EVSTAFIEFF ROSE, PH. D., (University of Leipzig), Assistant Professor of Chemistry.
- ROBERT MAX GARRETT, PH. D., (University of Munich), Assistant Professor of English.
- EDGAR ALLEN LOEW, B. S., E. E., (University of Wisconsin), Assistant Professor of Electrical Engineering.
- EDWARD GODFREY COX, PH. D., (Cornell University), Assistant Professor of English.
- ELI VICTOR SMITH, PH. D., (Northwestern University), Assistant Professor of Zoology.
- CHARLES MUNRO STRONG, A. M., (University of Missouri), Assistant Professor of Spanish.
- HENRY LOUIS BRAKEL, PH. D., (Cornell University), Assistant Professor of Physics.
- WILLIAM THEODORE DARBY, A. M., (Columbia University), Assistant Professor of English.
- HARVEY BRUCE DENSMORE, A. B., (University of Oregon), Assistant Professor of Greek.
- CHARLES EDWIN WEAVER, PH. D., (University of California), Assistant Professor of Geology.
- *ALLEN FULLER CARPENTER, A. M., (University of Nebraska), Assistant Professor of Mathematics.
- GEORGE BURTON RIGG, A. M., (University of Washington), Assistant Professor of Botany.
- DAVID ALLEN ANDERSON, PH. D., (University of Iowa), Assistant Professor of Education.
- ERNEST GEORGE ATKIN, A. M., (Harvard University), Assistant Professor of French.
- ABRAHAM BERGLUND, PH. D., (Columbia University), Assistant Professor of Economics.
- GINO ARTURO RATTI, PH. D., (University de Grenoble), Assistant Professor of French.
- WALTER BELL WHITTLESEY, A. M., (University of Washington), Instructor in French.

*Absent on leave, 1914-15.

- THERESA SCHMID McMAHON, PH. D., (University of Wisconsin), Assistant Professor of Political and Social Science.
- ERNEST OTTO ECKELMAN, PH. D., (University of Heidelberg), Assistant Professor of German.
- CHARLES LOUIS HELMLINGE, PH. B., (German Wallace College), Assistant Professor of French.
- JOHN WILLIAM HOTSON, A. M., (McMaster University), Assistant Professor of Botany.
- LEWIS IRVING NEIKIRK, PH. D., (University of Pennsylvania), Assistant Professor of Mathematics.
- RALPH HASWELL LUTZ, PH. D., (University of Heidelberg), Instructor in History.
- HJALMAR LAURITS OSTERUD, A. M., (University of Washington), Instructor in Zoology.
- HARLAN LEO TRUMBULL, PH. D., (University of Chicago), Instructor in Chemistry.
- HENRY SLATER WILCOX, A. M., (Harvard University), Instructor in Psychology.
- SAMUEL HERBERT ANDERSON, PH. D., (University of Illinois), Instructor in Physics.
- LESLIE FORREST CURTIS, B. S., (Tufts College), Instructor in Electrical Engineering.
- CURT JOHN DUCASSE, PH. D., (Harvard University), Instructor in Philosophy.
- ERIC TEMPLE BELL, PH. D., (Columbia University), Instructor in Mathematics.
- LLOYD LEROY SMAIL, PH. D., (Columbia University), Instructor in Mathematics.
- FRANCES EDITH HINDMAN, A. M., (University of Washington), Instructor in Pharmacy and Assistant State Chemist.
- ELIZABETH ROTHERMEL, A. M., (Columbia University), Instructor in Home Economics.
- PAUL JEHU KRUSE, A. M., (University of Washington), Instructor in Education.
- EDWIN RAY GUTHRIE, PH. D., (University of Pennsylvania), Instructor in Philosophy.
- ROBERT CHENAULT GIVLER, PH. D., (Harvard University), Instructor in Psychology.

COMMITTEE ON GRADUATE COURSES: Professors OSBORN, HAGGETT, SAVERY, FREIN and MORITZ.

ORGANIZATION

The graduate School was formally organized in May, 1911. By action of the Board of Regents the graduate faculty consists of the deans of the various colleges and the heads and full professors of all departments giving graduate courses.

GRADUATE FELLOWSHIPS

Three fellowships of \$416.66 each, known as the Loretta Denny fellowships, are open to graduate students in any department of the University. Application for these fellowships must be in the hands of the Recorder of the University on or before March fifteenth.

UNIVERSITY TEACHING FELLOWSHIPS

There are also a number of teaching fellowships yielding \$450 each. The fellows are expected to give about half time to such work as the head of the department may assign. At the present time teaching fellows are employed in the following departments: Botany, Chemistry, English, History, Mathematics, Physics, and Spanish. The distribution varies somewhat from year to year. Applicants for teaching fellowships should apply directly to the head of the department in which they are most interested.

ADMISSION

Three classes of students are recognized in the graduate school:

1. Candidates for the master's degree.
2. Candidates for the doctor's degree.
3. Students not candidates for a degree.

A graduate of this University or of any other institution of equal rank will be given full graduate standing. In case the student is from a college whose requirements for graduation are not regarded by the dean as equivalent to those of the University of Washington, he must complete the deficiency in undergraduate work as specified by the committee on graduate courses, before being permitted to make application for an advanced degree.

Any graduate student who wishes to become a candidate for a degree, must file an application with the dean of the graduate school, on a blank provided for the purpose, within two weeks after registration. When this application has received the ap-

proval of the committee on graduate courses or of the graduate faculty, and the applicant has been notified thereof, the student will be enrolled as a candidate for a degree.

DEGREES

THE MASTER'S DEGREE

Graduate students may receive the degree of master of arts or master of science by complying with the following requirements:

1. At least one year's work must be done in residence in undivided pursuit of the studies elected; or not less than two years in residence, if the candidate is employed as a teacher or regularly engaged in any other occupation or profession. Attendance during four summer sessions may be accepted as the equivalent of one year in residence.

2. The candidate must elect a major subject and either one or two minors. He must earn not less than twenty-four credits in residence, with a grade of A, B or C, at least one-half being in the major subject, and present a thesis which shall embody independent, though not necessarily original research. The requirement of a minor or minors may be waived, but only upon the recommendation of the head of the major department and with the consent of the Committee on Graduate courses. The total must represent the equivalent of at least thirty hours.

3. No work done in the major subject may be counted toward the master's degree, until the candidate for such degree has complied with the departmental requirement as to previous work in that subject, which in no case shall be less than twelve hours.

4. The first eight credits in a department may not count toward the minor requirement and the Teachers' Courses may not count toward either the major or minor requirement.

5. Upon completion of the work as outlined in the application, the candidate shall be examined by a committee consisting of the major professor and all instructors with whom he has had work. The candidate in order to be recommended for a degree must receive a two-thirds affirmative vote of each department represented in the examination.

6. One copy of the thesis in typewritten or printed form (or library hand, in case the thesis is of such character that it can-

not be typewritten), prepared and bound according to the conditions prescribed by the librarian, shall be deposited with the Bursar at the time of payment of the diploma fee.

THE DOCTOR'S DEGREE

Graduate students will be received as candidates for the degree of doctor of philosophy in chemistry, in English, in botany and in other departments as their readiness to undertake this work may be approved by the committee on graduate courses.

Graduate students may receive the degree of doctor of philosophy by complying with the following requirements:

1. At least three years of graduate work, the last year of which must be spent in residence at the University of Washington. If a candidate is otherwise engaged in any regular employment, a correspondingly longer time will be required.

2. Evidence of a reading knowledge of both French and German and such other languages as individual departments may require. Evidence of sufficient attainment in these languages must be presented to the dean and, upon his approval, filed with the recorder at least one academic year before the degree is granted.

3. Completion of courses of study in a major and two minor subjects, the work in the minors to constitute one-third of the total course. The major subject, in addition to the regular courses, shall include the preparation of a thesis embodying the results of a research which shall be a positive contribution to knowledge. This thesis must be approved by a committee appointed by the head of the major department of which the instructor in charge of the thesis shall be a member, and also by the committee on graduate courses.

4. Oral examination in each of the minor subjects before a committee of three, including a representative of the major department. Certificates of the satisfaction of this requirement must be given before the candidate may be admitted to his major examination.

5. An exhaustive written examination in the major subject, not less than six hours in duration, no one session of which may exceed five hours.

6. An oral examination before a committee of three or more representatives of the major department, of not less than two

hours. This examination must be approved by the entire committee. All examinations are open to members of the faculty.

7. Thesis, or such parts thereof as may be approved by the committee on graduate courses, must be printed in a form approved by the librarian and supplied with title and biographical sketch and one hundred copies presented to the University library.

The completion of the requirements as specified shall be certified by the head of the major department not later than the Wednesday preceding commencement day.

The doctor's degree will not be granted to graduates of the University of Washington who have not spent two years in graduate work, or three years in undergraduate work, at some other institution.

For the present, instructors in the University of Washington shall not be received as candidates for the doctor's degree.

MASTER OF SCIENCE IN ENGINEERING

Courses leading to the degree of master of science in engineering are provided for students in civil engineering, electrical engineering, mechanical engineering, chemical engineering, and mining engineering.

For further information, see Bulletin of College of Engineering, or Bulletin of College of Mines.

MASTER OF SCIENCE IN PHARMACY

The degree of master of science in pharmacy will be conferred upon graduates of the four year course in pharmacy who complete at least one year of graduate work as outlined and present a satisfactory thesis.

For further information, see the Bulletin of the College of Pharmacy.

MASTER OF SCIENCE IN FORESTRY

For the degree of master of science in forestry, the student, in addition to being a graduate of this university or other institution of equal rank, and having a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, shall have been credited at this university with 166 hours of which at least 52 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration,

management, lumbering, wood preservation, forest economics, and thesis.

For further information, see the bulletin of the College of Forestry.

MASTER'S DEGREES IN EDUCATION

Advanced work for teachers leading to the master's degree in education is given by the University. See bulletin of School of Education for further information.

DEPARTMENTS OF INSTRUCTION**BOTANY**

(Science Hall)

PROFESSOR FRYE, ASSISTANT PROFESSORS RIGG AND HOTSON.

1. BOTANY.**FOR UPPERCLASSMEN AND GRADUATES**

*9. **ECOLOGY.** Four credits. First semester. Prerequisite, botany 5, 6, 10. Professor FRYE.

The factors causing environmental adaptation in plants. Recitations, field and laboratory work.

*17. **SEEDS.** Four credits. First semester. Prerequisites, one year of botany; junior standing.

43. **PLANT PHYSIOLOGY.** Four credits. First semester. Prerequisites, chemistry 1 and 2; botany 1 and 2, or 9 and 10, or 1 and 10. Assistant Professor RIGG.

The physical and chemical processes in plants so far as the latter may be comprehended without organic chemistry.

44. **PLANT PHYSIOLOGY.** Four credits. Second semester. Prerequisites, botany 43. Assistant Professor RIGG.

The laws underlying growth and movement in plants.

20. **PLANT HISTOLOGY.** Three credits. Second semester. Prerequisite, botany 6. Time to be arranged. Professor FRYE.

Preparation of slides for the compound microscope. Study of plant tissues.

25-26. **ELEMENTARY AGRICULTURE.** Four credits. The year. Prerequisites, botany 1, and 2 or 10; junior standing. Assistant Professor HOTSON.

Designed as a preparation for those who expect to teach the subject in high schools.

33. **RESEARCH.** Credit and time to be arranged. First or second semesters. Open to qualified students, after consultation, either for thesis work or for credit only. Professor FRYE.

* Not given in 1915-16.

37. JOURNAL CLUB. No credit. First or second semester. One meeting per week. Prerequisite, junior standing, two years of botany. Professor FRYE.

Review of articles in current journals. Suggested for all seniors, graduates and instructors in the department.

41-42. GENERAL FUNGI. Four credits. The year. Prerequisites, botany 11 or 5 and junior standing. Assistant Professor HOTSON.

Morphology and classification of fungi; designed as a basis for plant pathology.

FOR GRADUATES ONLY

50. ALGAE. Four credits. Either semester. Prerequisite botany 5 and 6, or 11 and 12. Professor FRYE.

51. BRYOPHYTES. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

52. PTERIDOPHYTES. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

53. GYMNOSPERMS. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

54. ANGIOSPERMS. Four credits. Either semester. Prerequisite, botany 5 and 6 or 11 and 12. Professor FRYE.

Only one of courses 50 to 54, inclusive, will be given in one semester, the particular course to depend upon requests from the advanced students.

*61-62. PLANT PATHOLOGY. Four credits. The year. Prerequisite, botany 42. Assistant Professor HOTSON.

A study of the diseases of plants and of the fungi which produce them.

2. BACTERIOLOGY

(Science Hall)

PROFESSOR WEINZIRL

FOR UNDERGRADUATES AND GRADUATES

103. GENERAL BACTERIOLOGY. Four credits. First semester. Prerequisites, junior standing; botany or zoology, 1 year; chemistry, 1 year. Professor WEINZIRL.

Methods of growing bacteria and studying their structure, functions and distribution.

* Not given in 1915-16.

104. **SANITARY AND INDUSTRIAL BACTERIOLOGY.** Four credits. Second semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

A brief survey of disease bacteria. Most of the time is given to sanitation and industry inspection trips.

108. **MEDICAL BACTERIOLOGY.** Four credits. Second semester. Required of medical students. Prerequisite, bacteriology 103. Professor WEINZIRL.

The study of pathogenic bacteria.

109. **SCHOOL HYGIENE.** See Education 19. Professor WEINZIRL.

111. **BACTERIOLOGICAL ANALYSIS.** Two credits. First semester. Prerequisite, bacteriology 103. Professor WEINZIRL.

Analysis of water, sewage, milk, meat, etc. Laboratory work only.

112. **LABORATORY DIAGNOSIS.** Two credits. Second semester. Prerequisite, bacteriology 104 or 108. Professor WEINZIRL.

The diagnosis of disease by laboratory methods, mainly bacteriological.

113. **SANITARY PROBLEMS.** Two credits. Second or both semesters. Prerequisite, bacteriology 103. Professor WEINZIRL.

The sanitary problems relating to water, sewage, and food. Lectures only.

114. **DIAGNOSTIC METHODS.** Two credits. Second semester. Prerequisite, to be taken with bacteriology 112. Professor WEINZIRL.

The consideration of diagnostic methods and their application. Lectures only.

* 116. **GENERAL PATHOLOGY.** Four credits. Second semester. Prerequisites, bacteriology 103, histology, and junior standing. Mr. NICKSON.

Gross and microscopical study of pathological lesions.

FOR GRADUATES ONLY

117-118. **SEMINAR IN BACTERIOLOGY.** Two credits per semester. The year. For graduate students only. With research constitutes a full year's work, and is planned as the regular third year's work in bacteriology. Professor WEINZIRL.

* Not given in 1915-16.

119-120. RESEARCH IN BACTERIOLOGY. Two or four credits per semester. The year. Open to qualified students after consultation. Professor WEINZIRL.

CHEMISTRY

(Bagley Hall)

PROFESSOR BYERS, PROFESSOR BENSON, ASSOCIATE PROFESSOR DEHN,
ASSISTANT PROFESSOR ROSE, DR. TRUMBULL, DEAN JOHNSON,
COLLEGE OF PHARMACY

3-4. ORGANIC CHEMISTRY. Four credits. The year. Associate Professor DEHN.

Lecture course. Laboratory work on the preparation and testing of representative compounds. Bernthsen-Sudborough's text used in connection with Sudborough-James's laboratory manual as laboratory guide.

FOR UPPERCLASSMEN AND GRADUATES

5-6. ADVANCED ORGANIC CHEMISTRY. Four credits. The year. Assistant Professor ROSE.

Chemistry of volatile oils, dyestuffs, alkaloids and sugars. Special laboratory work can be arranged.

7. ORGANIC ANALYSIS AND GLASS BLOWING. Two or four credits. The year. Associate Professor DEHN.

A laboratory course of either two or four hours. Individual instruction.

10. FATS AND OILS. Four credits. First semester. Professor JOHNSON.

Laboratory, three afternoons per week.

15. WATER ANALYSIS. Four credits. First semester. Professor BENSON.

The analysis of water for both industrial and sanitary purposes.

20-21. PHYSIOLOGICAL CHEMISTRY. Four credits. The year. Associate Professor DEHN.

A course designed for medical, chemical and general science students. Chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes, with special attention to the composition and chemical analysis of blood, milk, and urine.

FOR GRADUATES

22. **PHYSICAL CHEMISTRY.** Five credits. First semester. Three lectures and two laboratory periods per week. Dr. TRUMBULL.

An elementary lecture course dealing with fundamental theories of chemistry based upon physical measurements.

*23. **ELECTRO CHEMISTRY.** Four credits. Second semester. Professor BYERS and Dr. TRUMBULL.

26. **INVESTIGATION.** Credit to be arranged. The year.

Any student who has completed at least three years' work in chemistry may undertake some original investigation under the direction of one of the instructors. Such work will not be encouraged, however, except when the student is presenting himself for an advanced degree.

27-28. **CHEMICAL THEORY.** Two credits. The year. Professor BYERS.

All graduate students registering in the department of chemistry will be expected to take a two-hour course throughout the year in the historical development of fundamental laws and theories.

29. **ADVANCED ORGANIC PREPARATIONS.** Four credits. The year. Associate Professor DEHN.

A course prerequisite to organic research.

EDUCATION

(Education Building)

PROFESSOR BOLTON, PROFESSOR LULL, ASSOCIATE PROFESSOR SMITH, ASSISTANT PROFESSOR HART, ASSISTANT PROFESSOR ANDERSON, MR. KRUSE

B. COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES.

At least twelve hours in education and an elementary course in psychology are prerequisites to all courses in this group (B), and the following (C). Mature students with considerable teaching experience may be admitted without the specific number of hours of prerequisites by consent of the head of the department.

* Not given in 1915-16.

15. PROBLEMS IN VOCATIONAL EDUCATION. Two credits. First semester. Assistant Professor HART.

The vocational movement, its meaning and purpose; relation to liberal education; psychological considerations; social phases; vocational guidance.

16. EDUCATIONAL PROBLEMS OF THE STATE. Two credits. Second semester. Assistant Professor HART.

A study of the problems that confront the educational forces in the state; general and theoretical, social and practical.

17. SOCIAL ASPECTS OF EDUCATION. Two credits. First semester. Assistant Professor HART.

The social institutions and conditions which form the background of all the work of the school, reinforcing and limiting that work. The real task of the school.

*18. SCHOOL GROUNDS, BUILDINGS, AND EQUIPMENT. Two credits. Second semester. Assistant Professor HART.

19-20. THE ELEMENTARY SCHOOL CURRICULUM. Two credits. The year. Assistant Professor ANDERSON.

The function, character, and organization of the elementary school curriculum. A consideration of what subject matter and experiences are of greatest worth for the individual. Adaptation of the curriculum to growth periods. The curriculum from the standpoint of the immediate interest, needs, and future efficiency of the child. Minimum essentials in and possibilities for the enrichment of the courses of study. The time especially adapted for teachers of Seattle and vicinity.

21-22. EXPERIMENTAL EDUCATION. Two credits. The year, or either semester. Mr. KRUSE.

(a) A survey of the extensive literature of recent experimental studies in education. (b) Methods of investigation and interpretation of results. (c) Problems suitable for class and individual experimentation. Data will be obtained from various public schools. Problems will deal with questions such as modes of learning various activities, economy in memorizing, habit formation, the learning of arithmetic, spelling, writing, type-writing, stenography, etc.

*23-24. EPOCHS OF EDUCATIONAL HISTORY. Two credits. The year. Assistant Professor HART.

* Not given in 1915-16.

26. **FUNDAMENTALS OF TEACHING.** Two credits. Second semester. Professor LULL.

This course is designed especially for teachers in Seattle and vicinity. A study of the fundamental principles of method as related to actual practice in the schoolroom. The problem of the course will be how to increase the teaching efficiency of each member of the class.

28. **SUPERVISION AND MANAGEMENT.** Three credits. Second semester. Professor LULL.

For those who are preparing for supervision, principalships, or teaching positions. Practical problems of school organization and administration, such as the making and administration of courses of study; functions of school boards, superintendents and principals; supervision of class work, teachers' meetings, student organizations.

29. **SCHOOL HYGIENE.** Two credits. First or second semester. Professor WEINZIRL.

Problems of school hygiene, including: heating, lighting, and ventilation; school diseases and medical inspection of schools; hygiene of various school activities.

30. **THE EDUCATION OF EXCEPTIONAL CHILDREN.** Three credits. Second semester. Prerequisites, philosophy 45, besides the general regulations pertaining to this group. Associate Professor SMITH.

Methods of instruction for backward, feeble-minded, and deaf children, and for those suffering from speech defects and physical defects. The course will include motor training, perception training, and introduction to reading and number work.

31-32. **ADOLESCENCE AND THE HIGH SCHOOL.** Two credits. The year. Professor BOLTON.

A critical consideration of the physical, intellectual, emotional, moral, and social characteristics of adolescence and the educative activities suited to the period of secondary school education. Especially designed for Seattle teachers.

33-34. **PRINCIPLES OF EDUCATION.** (Advanced course). Two credits. The year. Professor BOLTON.

A course for mature students who have taught considerably or who have done some previous work in the subject and can

therefore progress more rapidly and also do more critical work than the beginner. Especially designed for teachers of the Seattle schools. Text: Bolton, *Principles of Education*.

C. COURSES FOR GRADUATES ONLY

Concerning prerequisites, see note under "B."

35. ADMINISTRATION OF EDUCATION IN THE UNITED STATES. Two credits. First semester. Professor LULL.

The important problems of educational administration in the United States, national, state and local; relation to the other branches of civil administration. The financing of public education. The administration of the different forms of vocational education. Each student will be assisted in giving special attention to his own problems of school administration. Special reference to the educational problems of the Northwest.

37. STATE SCHOOL SYSTEMS. Two credits. First semester. Professor LULL.

An intensive study of the organization and administration of public education in various state school systems. Special attention will be given to the county unit and county supervision.

38. CITY SCHOOL SYSTEMS. Two credits. Second semester. Professor LULL.

An intensive study of the organization and administration of education in large and in small cities.

39-40. FOREIGN EDUCATIONAL SYSTEMS. Two credits. The year. Professor BOLTON and Assistant Professor ANDERSON.

A critical study of current educational organization and practice in foreign countries, especially in Germany, France, England, Norway, Sweden and Canada. Texts: Bolton, *The Secondary School System of Germany*; Farrington, *The Public Primary School System of France and French Secondary Schools* and Anderson, *The School System of Norway*. Time arranged for Seattle teachers.

41. LABORATORY COURSE IN THE EDUCATION OF EXCEPTIONAL CHILDREN. Two credits. First semester. Associate Professor SMITH.

The training of typical cases. Two hours of laboratory work and one hour of conference each week. The students will be supervised in the instruction of children with various mental pe-

cularities. The methods considered in Course 30 in education will be applied.

*42. MORAL EDUCATION. Two credits. Second semester. Professor BOLTON.

43-44. ADVANCED EDUCATIONAL PSYCHOLOGY. Two credits. The year. Assistant Professor HART.

A study of special problems in the field of educational psychology; expression and impression, the social nature of perception, the nature and development of ideas, "motive" in educational practice, etc. Time arranged for Seattle teachers.

45-46. INDIVIDUAL RESEARCH AND THESIS WORK. Three credits. The year.

Intensive study and original investigation of special problems. Results are reported in the Seminar and when especially meritorious may be published. The special problems are directed by different members of the department. Consult head of the department regarding registration.

47-48. GRADUATE SEMINAR. Two credits. The year. Professor BOLTON, Mr. KRUSE.

For graduate students doing intensive study and research. Critical consideration of technical educational literature and of modern educational problems. Reports on individual problems. Technique of research, interpretation of results and thesis writing.

49-50. SEMINAR IN ENGLISH EDUCATION. Two credits. The year; may be elected for either semester. Professor LULL and Associate Professor BENHAM.

A study of English education, theoretical and practical, from the Renaissance to the present. English educational classics will be examined and the administrative and institutional phases of education treated. Open to advanced students in Education, English, and European History. (See courses of the Department of English.)

ELECTRICAL ENGINEERING

PROFESSOR MAGNUSSON, ASSISTANT PROFESSOR LOEW, MR. CURTIS

21. ALTERNATING CURRENTS. Four credits. First semester. Prerequisites, E. E. 3 and 4. Professor MAGNUSSON.

The theory of the generation of single phase and polyphase currents. Energy storage in the magnetic and dielectric fields.

* Not given in 1915-16.

Vector diagrams and symbolic methods of analysis. Power factors and the measurement of power. The theory of the transformer, polyphase and induction and synchronous motors, rotary converters, and transmission lines.

22. ALTERNATING CURRENT LABORATORY. Three credits. First semester. Prerequisites, E. E. 3 and 4. Mr. CURTIS.

Experimental work on alternating current machinery. To be taken in connection with E. E. 21.

23. ALTERNATING CURRENTS. Four credits. Second semester. Prerequisites, E. E. 21 and 22. Professor MAGNUSSON.

Continuation of course E. E. 21. The theory of the single phase induction and commutator motors. The effect of induction and synchronous motors on transmission systems. Phase control and regulation. Synchronous generators and motors. Interlinked polyphase systems.

24. ALTERNATING CURRENT LABORATORY. Three credits. Second semester. Prerequisites, E. E. 21 and 22. Mr. CURTIS.

A continuation of E. E. 22 with test on commercial machines. To be taken in connection with course E. E. 23.

44. ELECTRIC RAILWAYS. Three credits. First semester. Prerequisites, E. E. 3, 4 or 5. Mr. CURTIS.

Electric equipment and rolling stock; roadbed; construction and operation of direct current, single phase and polyphase railway systems.

48. POWER TRANSMISSION. Two credits. Second semester. Prerequisites, E. E. 21 and 22. Assistant Professor LOEW.

Design and operation of electric power transmission systems.

51, 52. TRANSIENT ELECTRIC PHENOMENA. Two credits. The year. Prerequisites E. E. 21, 22. Professor MAGNUSSON.

The exponential law of simple transients. Single and double energy transients. Current oscillations and traveling waves. Natural periods of transmission lines. Short circuit transients. Surges. Corona. Lightning phenomena.

58, 59. THESIS. Four credits. The year. Senior and graduate E. E. Professor MAGNUSSON, Assistant Professor LOEW and Mr. CURTIS.

After consultation with the head of the department each student selects a suitable problem for investigation. Reports of progress are made weekly to the instructor in charge of the work selected. A complete report of the semester's work is typewritten and bound and one copy deposited in the University library.

ENGLISH

(Offices, rooms 45 and 42, Denny)

PROFESSOR PADEFORD, PROFESSOR PARRINGTON, ASSOCIATE PROFESSORS
BENHAM AND MILLIMAN, ASSISTANT PROFESSORS
GARRETT, COX AND DARBY.

Departmental Committee on Graduate Studies: Professor
PARRINGTON, Professor PADEFORD, Assistant Professors GARRETT,
COX and JOHANSON.

REQUIREMENTS GOVERNING GRADUATE WORK: Supplementary
to the general requirements established by the Graduate Faculty,
the department has formulated the following rules governing
graduate work in English:

1, All graduate students in English come under the immediate supervision of the Departmental Committee on Graduate Studies, who will pass upon their fitness to pursue the work proposed, will have general oversight of their studies and will determine the sufficiency both of the thesis and of the preparation of candidates who wish to be admitted to the examination for an advanced degree.

2, Major students who are candidates for a degree will be required: (1) To satisfy the committee that they possess a fair knowledge of Old English grammar, and some ability in reading simple Old English prose, (2) To pass a qualifying examination in the history of English literature. Such examination will be held on the second Monday in October. In the event of the candidate's failure to pass the examination, he will be permitted to take a second examination during the first week in May, failure to pass which will debar him from the final examination of that year. Candidates who fail in the October examination will be permitted to enroll in English A, but they may not count the work in computing credits. (3) To satisfy the committee that they possess a sufficient mastery of English prose style.

Graduate work in English is conducted by means of seminars. The number of credits which a student may elect in a given seminar varies from one to six at option. In every case, however, the number elected must be indicated at the time of enrollment.

In addition to the work outlined below, credits not to exceed twelve hours may be counted towards an advanced degree, earned

in courses primarily for juniors and seniors, and listed in groups II and IV of the English department in the College of Liberal Arts.

SEMINAR I. ENGLISH LITERARY HISTORY.

A. MEDIAEVAL LITERATURE. From the beginnings to 1550. The year. Assistant Professor COX.

B. ENGLISH LITERATURE FROM 1550 TO 1660. The year. Professor PADELFORD.

C. ENGLISH LITERATURE FROM 1660 TO 1830. The year. Assistant Professor DARBY.

SEMINAR II. AMERICAN LITERARY HISTORY. The year. Professor PARRINGTON.

SEMINAR III. MODERN ENGLISH LITERATURE. The year. Associate Professor BENHAM.

SEMINAR IV. COMPARATIVE LITERATURE.

A. THEORIES OF POETRY AND CRITICISM. The year. Assistant Professor COX.

B. RENAISSANCE LITERARY TYPES IN ENGLAND, FRANCE AND ITALY. The year. Professor PADELFORD.

SEMINAR V. THE ENGLISH LANGUAGE. The year. Assistant Professor GARRETT.

A. OLD AND MIDDLE ENGLISH.

B. PHONETICS.

SEMINAR VI. RHETORIC. Elements of Style. First semester. Associate Professor MILLIMAN.

JOINT SEMINAR IN ENGLISH AND EDUCATION. The year. Associate Professor BENHAM, Professor LULL.

The subject of the seminar will be the history of educational theory and practice in England. Intended for seniors and graduate students in English and Education.

FRENCH

(Denny Hall)

PROFESSOR FREIN, ASSISTANT PROFESSORS PATZER, ATKIN, RATTI,
.. HELMLINGE, MR. WHITTLESEY.

FOR AVANCED UNDERGRADUATES AND GRADUATES

1. FRENCH

21-22. THE FRENCH NOVEL. Two credits. The year. Prerequisite, 6. Assistant Professor HELMLINGE.

History of the French novel from its beginning. Some of the most representative novels will be read in class, and others assigned for outside reading.

23-24. LYRIC POETRY. Two credits. The year. Prerequisite, 6. History of lyric poetry. Canfield's French Lyrics. Mr. WHITTLESEY.

25-26. THE FRENCH DRAMA. Two credits. The year. Prerequisite, 6. Professor PATZER.

27-28. HISTORY OF THE FRENCH LITERATURE OF THE NINETEENTH CENTURY. Two credits. The year. Prerequisite, 6. Assistant Professor RATTI.

*29-30. HISTORY OF THE FRENCH LITERATURE OF THE EIGHTEENTH CENTURY. Two credits. The year. Prerequisite, 6.

31-32. HISTORY OF THE FRENCH LITERATURE OF THE SEVENTEENTH CENTURY. Two credits. The year. Prerequisite, 6. Assistant Professor ATKIN.

Lectures in French; assigned reading.

FOR GRADUATES

51-52. HISTORY OF THE FRENCH LITERATURE OF THE SIXTEENTH CENTURY. Two credits. The year. Prerequisite, 6. Assistant Professor PATZER.

Lectures in French. Some texts of the sixteenth century will be assigned for outside reading, and some will be read in class. The French Renaissance will be compared with that of other countries.

53-54. MIDDLE FRENCH. Two credits. The year. Professor FREIN.

Lectures on the history of the fourteenth and fifteenth centuries will be given in French. Some texts will be read in class, and others will be assigned to be read out of class and reports made to the class. Course given in French.

55-56. OLD FRENCH READING. Four credits. The year. Professor FREIN.

Elements of Old French grammar, and translation from Old French into modern French of some of the texts in Bartsch, Chrestomathie de l'Ancien Français, and a few of the old texts will be read in complete editions.

* Not given in 1915-16.

57-58. HISTORY OF OLD FRENCH LITERATURE. Two credits. The year. Open only to those who have a reading knowledge of Old French. Those who have had course 53-54 will ordinarily be prepared to follow the work. Course given in French. Professor FREIN.

GEOLOGY
(Science Hall)

PROFESSOR LANDES, ASSISTANT PROFESSORS SAUNDERS, WEAVER
AND CULVER.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

12. GEOLOGY AND PALEONTOLOGY OF THE TERTIARY FORMATIONS. Two credits. First semester. Assistant Professor WEAVER.

13. OPTICAL CRYSTALLOGRAPHY. Four credits. First semester. Assistant Professor WEAVER.

Two recitations and two laboratory periods per week.

14. GEOLOGY OF WASHINGTON. Two credits. First semester. Professor LANDES.

Two lectures or recitations per week.

15. ECONOMIC GEOGRAPHY OF WASHINGTON. Two credits. Second semester. Professor LANDES.

Two lectures or recitations per week.

17. PETROGRAPHY. Four credits. Second semester. Assistant Professor WEAVER.

Two recitations and two laboratory periods per week. A study of the distinguishing characteristics of the different groups and species of rocks with practice in their determination by modern petrographical methods.

18. ECONOMIC GEOLOGY. Four credits. Second semester. Professor LANDES. Four recitations per week.

19. PALEONTOLOGY. Four credits. First semester. Assistant Professor WEAVER.

Three recitations and one laboratory period per week. Chiefly for students in geology and mining.

20-21. FIELD WORK. Credit to be arranged. The year. Professor LANDES, Assistant Professors SAUNDERS, WEAVER and CULVER.

22-23. ADVANCED PETROGRAPHY. Credit to be arranged. The year. Assistant Professor WEAVER.

24-25. **ADVANCED PALEONTOLOGY.** Credit to be arranged. The year. Assistant Professor WEAVER.

26-27. **RESEARCH WORK.** Credit to be arranged. The year. Professor LANDES, Assistant Professors SAUNDERS, WEAVER and CULVER.

GERMAN

(Office, Room 20, Law Building)

PROFESSOR MEISNEST, ASSISTANT PROFESSORS HOFF AND ECKELMAN.
FOR UNDERGRADUATES AND GRADUATES

25. **HISTORY OF GERMAN LITERATURE.** Three credits. First semester. Dr. ECKELMAN.

A general survey for students specializing in German. Thomas's German Anthology.

26. **LYRICS AND BALLADS.** Three credits. Second semester. Dr. ECKELMAN.

Characteristic lyrics and ballads of Goethe, Schiller, Uhland, Geibel, Moerike. Klenze's Deutsche Gedichte.

27. **LESSING.** Three credits. First semester. Professor MEISNEST.

Life, Emilia Galotti, Nathan der Weise, Hamburgische Dramaturgie or Laokoon.

28. **GOETHE'S FAUST, PARTS I AND II.** Three credits. Second semester. Professor MEISNEST.

Interpretation, genesis, plan and purpose of the drama. Faust legend and Faust theme in literature.

*41-42. **STORM AND STRESS PERIOD.** Two to four credits. The year. Professor MEISNEST.

*43-44. **ROMANTIC SCHOOL.** Two to four credits. The year. Professor MEISNEST.

45-46. **INTERRELATIONS OF GERMAN AND ENGLISH LITERATURE.** Two to four credits. The year. Professor MEISNEST.

First Semester: Shakespeare in Germany and his influence on German literature.

Second Semester: The influence on German literature of Milton, Addison, Young, Ossian, Pope, Thomson, Swift, Richardson, Fielding, Sterne, and Goldsmith.

47-48. NINETEENTH CENTURY. Two to four credits. The year. Dr. ECKELMAN.

Study of the drama and novel. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer.

51-52. HISTORY OF THE GERMAN LANGUAGE. One credit. The year. Assistant Professor HOFF.

53-54. MIDDLE HIGH GERMAN. Two credits. The year. Assistant Professor HOFF.

*55-56. OLD HIGH GERMAN. Two credits. The year. Assistant Professor HOFF.

*57-58. GOTHIC. Two credits. The year. Assistant Professor HOFF.

GREEK

(Denny Hall)

PROFESSOR HAGGETT, ASSISTANT PROFESSOR DENSMORE

5-6. DRAMATIC POETRY. Two credits. The year. Assistant Professor DENSMORE.

Selected plays from Euripides, Sophocles, and Aristophanes.

7. LYRIC POETRY. Two credits. First semester. Prerequisite, 3-4. Professor HAGGETT.

Selections from the elegaic, iambic, and melic poets.

8. ORATORY. Two credits. Second semester. Prerequisite, 3-4. Professor HAGGETT.

Selections from Lysias and Demosthenes.

9. EPIC POETRY. Two credits. First semester. Prerequisite, 3-4. Professor HAGGETT.

Rapid reading of selections from Homer and Hesiod.

10. HISTORICAL PROSE. Two credits. Second semester. Prerequisite, 3-4. Professor HAGGETT.

Selections from Herodotus and Thucydides.

11-12. ADVANCED READING COURSE. Three credits. The year. Professor HAGGETT.

Rapid reading of the entire work (or a considerable portion) of some one author, or extensive work in some one department of Greek literature.

* Not given in 1915-16.

HISTORY

(Denny Hall)

PROFESSOR MEANY, PROFESSOR RICHARDSON, ASSOCIATE PROFESSORS
MC MAHON AND BOWMAN, DR. LUTZ.

Students must have had at least one year of history to elect any course in this group. Candidates for the master's degree must have taken major work in history in the University of Washington, or its equivalent elsewhere, before any graduate credits may be counted. The final examination for the master's degree will cover medieval and modern European history (the equivalent of history 1-2 in the College of Liberal Arts); the history of the thesis field (American or European, including English history); and the history of the field of the thesis subject.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

11-12. ENGLISH CONSTITUTIONAL HISTORY. Three credits. The year. Professor RICHARDSON.

The development of the legal and governmental institutions of the English people to the present time. Open to juniors and seniors who have taken or are taking 5-6, and to pre-law students with consent of the instructor.

13. THE MEDIEVAL EMPIRE. Three credits. First semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and growth of the Holy Roman Empire down to the early fourteenth century.

14. MEDIEVAL CIVILIZATION. Two credits. Second semester. Prerequisite, 1-2. Associate Professor BOWMAN.

15. THE RENAISSANCE. Three credits. The year. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and development of the Renaissance and Reformation, and of their spread among the European nations.

16. THE REFORMATION. Three credits. Second semester. Prerequisite, 1-2. Associate Professor BOWMAN.

A study of the origin and development of the Reformation, and of its spread among the European peoples.

17-18. PRUSSIA AND NORTHERN EUROPE. Two credits. The year. Prerequisite, 1-2. Professor RICHARDSON.

This course deals with Sweden as a Great Power, its rise, progress and decline; the rise of Russia and Prussia; the Partition of Poland; and the beginnings of the Eastern Question. Special attention is paid to the economic, political and military development of the Prussian state from its foundation to the acquisition of world-power by Frederick the Great.

*19-20. HISTORY OF FRANCE FROM THE REFORMATION TO THE FRENCH REVOLUTION. Professor RICHARDSON.

21. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. Three credits. First semester. Prerequisite, 1-2. Professor RICHARDSON.

Among the principal topics considered are the following: The material conditions out of which, in France, the Revolution emerged, and the nature of the ideals which inspired it; contemporary conditions in the European states system which facilitated the extension of the Revolution over Europe; the epoch of International Wars, with especial reference to the territorial redistribution of Europe, the beginnings of modern liberalism, and the career of Napoleon.

22. EUROPE SINCE 1814. Three credits. Second semester. Prerequisite, 1-2. Professor RICHARDSON.

Mainly political, introductory to European politics of the present time. The course deals with the fundamental principles and policies of the Era of Reaction under Metternich and the subsequent triumph of liberalism. The chief emphasis is laid upon the establishment of constitutional government and national unity in Germany, Italy and the other states of Western Europe, and upon the careers of great leaders, notably Bismarck and Cavour.

23-24. EUROPE SINCE 1870, AND CONTEMPORARY EUROPE. Two credits. The year. Prerequisite, 1-2. Dr. LUTZ.

The first part of the course, based upon the study of contemporary histories, is introductory to the latter part, which is based upon the use of current periodicals, newspapers and other publications. Scientific methods of research are applied to the study of current historical events.

25. HISTORY OF THE UNITED STATES, 1783-1828. Three credits. First semester. Associate Professor McMAHON.

* Not given in 1915-16.

26. HISTORY OF THE UNITED STATES, 1828-1860. Three credits. Second semester. Associate Professor McMAHON.

27. CIVIL WAR AND RECONSTRUCTION. Three credits. First semester. Associate Professor McMAHON.

A general study of the Civil War and the period of reconstruction.

28. THE HISTORY OF NATIONAL DEVELOPMENT. Three credits. Second semester. Associate Professor McMAHON.

A continuation of course 27, in which the development of the American nation will be traced from the close of the reconstruction period to the present time.

29. SPAIN IN AMERICA. Three credits. First semester. Professor MEANY.

A study of the rise and fall of Spanish power in the new world, and an outline of the history of the Spanish-American republics.

30. DEVELOPMENT OF THE PACIFIC. Three credits. Professor MEANY.

History of the countries bordering upon the Pacific Ocean, with special reference to the changes now in progress of development.

31-32. HISTORY OF AMERICAN DIPLOMACY. Two credits. The year. Professor MEANY.

A study of the treaties and foreign policy of the United States. Open to those who have taken a narrative course in American history.

33-34. NORTHWESTERN HISTORY. Two credits. The year. Professor MEANY.

From the earliest voyages to the settlement and organization of the territories.

35. THE EVOLUTION OF CHINA—BEFORE THE MANCHU CONQUEST. Two credits. Professor GOWEN.

36. THE EVOLUTION OF CHINA—MODERN ERA. Two credits. Professor GOWEN.

37. THE EVOLUTION OF JAPAN—FEUDAL ERA. One credit. Professor GOWEN.

38. THE EVOLUTION OF JAPAN—MODERN ERA. One credit. Professor GOWEN.

*39-40. ECONOMIC AND SOCIAL HISTORY OF THE AMERICAN COLONIES. Associate Professor McMAHON.

*57-58. THE DEVELOPMENT OF INTERNATIONAL ARBITRATION AND CONCILIATION. Two credits. The year. Dr. LUTZ.

59-60. HISTORY OF ENGLAND SINCE THE ACCESSION OF GEORGE III. Two credits. The year. Prerequisite, 1, 2 or 5-6, Dr. LUTZ.

A study of the development of modern English institutions, social reform, foreign relations and imperialism.

PRIMARYLY FOR GRADUATES

45-46. HISTORIOGRAPHY. One credit. The year. Associate Professor BOWMAN.

A study of the general history of the writing of history.

*47-48. METHODS OF HISTORICAL RESEARCH AND CRITICISM. One credit. The year. Professor RICHARDSON.

49-50. SEMINAR IN ENGLISH HISTORY. Two to four credits. The year. Professor RICHARDSON.

A graduate course which lays more stress upon the constitutional than upon the political side of the subject. The course will deal with topics in the Tudor and Stuart period, and with the antecedents of the Puritan Revolution.

51-52. SEMINAR IN AMERICAN HISTORY. Two credits. The year. Associate Professor McMAHON.

This course is primarily for graduates or other advanced students who may be admitted by permission of the professor.

53-54. JOINT SEMINAR. Two credits. The year. Open to graduate students and to a limited number of seniors on recommendation of their major professors. Professors MEANY, SMITH and CONDON.

Designed for study and reports upon the problems in the historical, political and legal developments of the state of Washington and Pacific Northwest.

*55-56. SEMINAR IN EUROPEAN HISTORY. Two credits. The year. Associate Professor BOWMAN.

* Not given in 1915-16.

HOME ECONOMICS
(Home Economics Building)

PROFESSOR RAITT, MISS ROTHERMEL.

FOR UPPERCLASSMEN AND GRADUATES

15. **NUTRITION, DIETETICS.** Four credits. First semester. Prerequisites, Home Economics 3, Chemistry 3c, Chemistry 20a. Laboratory deposit, \$3. Professor RAITT.

Principles of human nutrition. Application to needs of individuals and groups under varying conditions. Dietary standards. Method of computing dietaries. Two lectures per week.

16. **NUTRITION.** Continuation of course 15. Two credits. Second semester. Prerequisite, Home Economics 15. Professor RAITT.

Study of the development of the science of nutrition. Review of present status. Original sources. Library research. Two lectures per week.

29. **SPECIAL FOOD PROBLEMS.** Three credits. First semester. Prerequisite, Home Economics 14 or 15. Laboratory deposit, \$1. Professor RAITT.

Marketing, cold storage, dietaries, adulterations, preservatives. A consideration of food habits. Given to seniors only. Three lectures.

FOR GRADUATES

30. **SPECIAL FOOD PROBLEMS.** Three credits. Second semester. Prerequisites, Home Economics 3, 4, 15, 29; Chemistry 3c, 10, 11. Professor RAITT.

Investigation of local food products.

36. **SEMINAR.** Four credits. Prerequisite, thirty hours in Home Economics, including Home Economics 27 and 28. Professor RAITT.

A study of the present status of home economics education with special attention to the work in the elementary and high schools of the state of Washington.

37. **RESEARCH.** Credit to be arranged. Miss ROTHERMEL.

Investigations of recent discoveries in the biological or physical sciences of immediate value to the housewife and consideration of methods for their utilization.

LATIN

(Denny Hall)

PROFESSOR THOMSON, ASSOCIATE PROFESSOR SIDEX.

5. CICERO: Letters. Seneca: Epistulae. Two credits. First semester. Professor THOMSON.

6. HORACE: Satires and Epistles. Two credits. Second semester. Professor THOMSON.

18. LUCRETIUS. Books I and III; Cicero, De Finibus I and II. Two credits. First semester. Professor THOMSON.

19. VERGIL GEORGICS AND AENEID VII-XII. Two credits. Second semester. Professor THOMSON.

20. MEDIEVAL LATIN. Two credits. First semester. Associate Professor SIDEX.

Einhart's Life of Charlemagne. Bede's History of England.

21. TACITUS. Histories I, II. Two credits. Second semester. Associate Professor SIDEX.

22. LATIN OF THE EMPIRE. Gudeman's Selections. Two credits. First semester. Professor THOMSON.

23. TACITUS, Dialogus; QUINTILIAN, 1. Two credits. Second semester. Professor THOMSON.

24. ROMAN ANTIQUITIES. Two credits. Second semester. Associate Professor SIDEX.

For Latin majors.

MATHEMATICS AND ASTRONOMY

(Science Hall)

PROFESSOR MORITZ, ASSOCIATE PROFESSOR MORRISON, ASSISTANT PROFESSORS GAVETT, CARPENTER, AND NEIKIRK, DR. SMAIL

I. MATHEMATICS

FOR UPPERCLASSMEN AND GRADUATES

7-8. ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS. Three credits. The year. Prerequisite, Math. 5 or Math. 4a. For seniors and graduates. Dr. NEIKIRK.

Introductory course. Solutions of the equations of the first and second order. Determination of constants of integration from initial conditions. Application to physics, chemistry and astronomy.

*9-10. VECTOR ANALYSIS. Four credits. The year.

11-12. PROJECTIVE GEOMETRY. Two credits. The year. Prerequisite, two years of college mathematics. For juniors, seniors and graduates. Mr. CARPENTER.

*13-14. DESCRIPTIVE GEOMETRY AND CURVE TRACING. Four credits. The year. Prerequisites, Math. 5 or Math. 4a. For juniors, seniors and graduates. Mr. CARPENTER.

15-16. NON-EUCLIDEAN GEOMETRY. Two credits. The year. Prerequisites, two years of college mathematics. For juniors, seniors and graduates. Assistant Professor GAVETT.

17-18. THEORY OF FUNCTIONS OF A REAL VARIABLE. Two credits. The year. Prerequisite, 5 or 4a. Dr. SMALL.

Rational and irrational numbers, the general function concept, continuity, integrability, and differentiability of functions, discontinuous functions, infinite series and products, series of functions, uniform convergence, multiple series, definite integrals, curvilinear integrals.

FOR GRADUATES

19. MODERN GEOMETRY. Three credits. First semester. Prerequisites, Math. 5 or Math. 4a. For seniors and graduates. Associate Professor MORRISON.

An introductory course in modern analytical geometry and higher plane curves.

20. DIFFERENTIAL GEOMETRY. Three credits. Second semester. Prerequisite, Math. 15. For seniors and graduates. Associate Professor MORRISON.

Applications of the calculus to the metrical properties of twisted curves and surfaces.

21. THEORY OF EQUATIONS. Three credits. First semester. Prerequisites, Math. 5 or 4a. Professor MORITZ.

22. MODERN ALGEBRA. Three credits. Second semester. Prerequisite, Math. 21. Professor MORITZ.

*23-24. FOUNDATIONS OF MATHEMATICS. Two credits. The year. Prerequisite, Math. 6. For seniors and graduates. Dr. NEIKIRK.

* Not given in 1915-16.

25-26. **THEORY OF NUMBERS.** Two credits. The year. Prerequisites, Math. 5 or Math. 4a. For juniors, seniors and graduates. Dr. BELL.

*27-28. **THEORY OF FUNCTIONS OF A COMPLEX VARIABLE.** Two credits. The year. Prerequisites, Math. 5 and Math. 6. For seniors and graduates. Dr. BELL.

31. **MATHEMATICS JOURNAL AND RESEARCH CLUB.** Meets on the second Tuesday of each month in Science building, room 2, at 8 p. m. The club consists of advanced students and teachers in the department of mathematics. The purpose of the club is primarily to discuss the research work carried on by members of the club, and secondarily to review important recent mathematical literature.

II. ASTRONOMY

(The Observatory)

*6. **ADJUSTMENTS OF OBSERVATIONS.** Three credits. First semester. Open to seniors, graduates and engineers. Prerequisites, Astronomy 3a or Astronomy 4. Associate Professor BOOTHROYD.

The best methods for the adjustments of observations. For engineering students the applications to surveying will be especially considered.

7. **ANALYTICAL MECHANICS.** Three credits. First semester. Open to engineers, juniors, seniors and graduates. Prerequisites, preceded or accompanied by Math. 5 or Math. 4a, Physics 1-2. Associate Professor BOOTHROYD.

8. **CELESTIAL MECHANICS.** Three credits. Second semester. Open to juniors, seniors and graduates. Prerequisite, Astronomy 7. Associate Professor BOOTHROYD.

*9-10. **ADVANCED ASTRONOMY.** Four or six credits. Either semester. Open to seniors and graduates. Prerequisites, 16 credits in Astronomy, 16 credits in Mathematics. Associate Professor BOOTHROYD.

* Not given in 1915-16.

PHARMACY AND PHARMACEUTICAL CHEMISTRY

(Office, Room 203, Bagley Hall)

PROFESSOR JOHNSON, ASSOCIATE PROFESSOR LINTON, MISS HINDMAN,
AND MR. PLATT.

FOR UPPERCLASSMEN AND GRADUATES

11-12. PLANT ANALYSIS. Four credits. The year. Professor JOHNSON and Miss HINDMAN.

A course for upperclassmen and graduates in the analysis of plants for alkaloids, glucosides, volatile oils and other active constituents, and the analysis of medicinal preparations.

Deposit, ten dollars per semester.

13-14. FOOD ANALYSIS. Four credits. The year. Laboratory, three times per week. Professor JOHNSON and Miss HINDMAN.

Laboratory and class work in the study of methods of analysis of food products and the study of Federal and state laws regulating the sale of foods and drugs. Graduate students if prepared may elect a research problem in food analysis.

Deposit, ten dollars per semester.

15-16. MANUFACTURING PHARMACY. Credit to be arranged. Associate Professor LINTON.

An advanced course in pharmaceutical manufacturing, including the manufacture of some of the more difficult of pharmacopoeial and national formulary preparations as well as a number of inorganic and organic compounds used in pharmacy and medicine.

Deposit, five or ten dollars, according to hours.

17. TOXICOLOGY. Credit to be arranged. The year. Professor JOHNSON and Miss HINDMAN.

A laboratory course on the detection and estimation of poisons in animal tissues and practice in the preparation of testimony for legal cases.

Deposit, five or ten dollars, according to hours.

19. INVESTIGATION. Credit to be arranged. The year.

Senior and graduate students may undertake some original investigation in pharmacy, pharmaceutical chemistry or chemistry of foods under the direction of one of the instructors.

Deposit, five or ten dollars, according to hours.

PHILOSOPHY AND PSYCHOLOGY

(Denny Hall and Science Hall)

PROFESSOR SAVERY, ASSOCIATE PROFESSOR SMITH, DR. DUCASSE, MR. WILCOX, DR. GUTHRIE, DR. GIVLER, MISS WILKINSON.

5-6. HISTORY OF PHILOSOPHY. Four credits. The year. Dr. GUTHRIE.

Ancient, Medieval and Modern. The views of the classical philosophers on the nature of the universe and man, the values of life, the ideal form of society, the origin and limits of knowledge, the relation of the individual to the world, etc. Portions of the most important works of the greater philosophers will be read. Some of the more recent philosophical movements, such as Pragmatism and Neo-Realism will be very briefly touched upon at the end of the course.

7-8. PRINCIPLES OF PHILOSOPHY. Three credits. The year. Prerequisite, 8 credits in philosophy. Professor SAVERY.

A course in systematic philosophy. (1) The meaning and tests of truth, with special reference to Pragmatism. (2) The construction of a theory of the universe, including an account of the nature of the human self, its relation to the body, the nature of matter, the problem of the freedom of the will. Study of idealism. (3) The foundation of morality, pessimism and optimism, the evolution and destiny of man.

9-10. PHILOSOPHY OF SCIENCE. Two credits. The year. Prerequisite, 1 or 5, 6. Professor SAVERY.

An account of scientific method; and of the fundamental laws and concepts of the sciences, mathematical, physical and biological. Interpretation of the scientific view of the world and its place in the human economy. Primarily for majors in science.

*11-12. HISTORY OF RELIGION. Two credits. The year. Professor GOWEN.

The nature, origin and early development of religion, and its advanced types in Brahmanism, Buddhism, Confucianism, Zoroastrianism and Judaism.

* Not given in 1915-16.

13-14. PHILOSOPHY OF RELIGION. Two credits. The year. Prerequisite, one course in philosophy. Professor SAVERY.

(1) The religious experience: The origin, nature and types of religion, the sense of sin, conversion, faith, the value of religion, and its effect on individual happiness and morality. The social aspect of religion and the religion of democracy. Study of mystical experiences. (2) The truth of religion: The proofs of the existence of God, the basis of faith, pessimism, optimism and mellorism, immortality. Discussion of agnosticism.

***15-16. PHILOSOPHY IN ENGLISH LITERATURE OF THE NINETEENTH CENTURY.** Two credits. The year. Prerequisite, one course previous or concurrent. Required for seniors in library training course. Professor SAVERY.

Conceptions of the universe, evolution, the destiny of man, the individual and social ideal in Wordsworth, Shelley, Emerson, Browning, Tennyson, Fitzgerald's Omar Khayyam, James Thompson, Arnold, Swinburne, Meredith and Whitman. An account of the social ideals of Carlyle, Ruskin, Morris, Shaw, Dickinson, Wells and Chesterton.

17-18. PHILOSOPHY OF THE MODERN DRAMA. Two credits. The year. Prerequisite, one course previous or concurrent. Associate Professor BENHAM.

Philosophical, ethical and social ideas in Ibsen, Strindberg, Hauptmann, Sudermann, Maeterlinck, Brieux, Bernard Shaw, Galsworthy, and other recent dramatists. Introductory study of similar ideas in the Greek drama, the book of Job and Shakespeare.

19-20. ESTHETICS. Two credits. The year. Required for seniors in music. Dr. GIVLER and Dr. DUCASSE.

The origin and motives of art, and the esthetic principles of architecture, sculpture, painting, music, poetry, the drama, and the decorative arts. The nature of beauty, the sublime, the comic, the tragic. Standards of criticism. Social and democratic theories of art.

22. ADVANCED LOGIC. Two credits. Second semester. Prerequisite, 3 or analytical geometry or calculus. Dr. GUTHRIE.

The development of symbolic logic and the logic of mathematics, with a discussion of logical theory.

* Not given in 1915-16.

23-24. **PLATO AND ARISTOTLE.** Two credits. The year. Prerequisite, 1 or 5, 6. Dr. GUTHRIE.

A study of the philosophical works of Plato and Aristotle with a brief account of Greek philosophy before Plato.

25-26. **SEMINARY. HUME AND KANT.** Two or three credits. The year. Open to students upon approval of instructor. One evening a week. Dr. DUCASSE.

Hume's *Treatise of Human Nature*, and Kant's *Critique of Pure Reason* will be read and discussed.

33. **PHYSIOLOGICAL PSYCHOLOGY.** Four credits. First semester. Prerequisite, 31. One lecture, one recitation, two laboratory periods. Laboratory deposit, \$2.00. Mr. WILCOX.

The human brain and spinal cord, summation of stimuli, inhibition, rate of transmission of the nerve impulse, Weber's law and space perception.

34. **EXPERIMENTAL PSYCHOLOGY.** Four credits. Second semester. Prerequisite, 31. One lecture, one recitation and two laboratory periods. Laboratory deposit, \$1.00. Dr. GIVLER.

Qualitative and quantitative aspects of reaction in the various sense fields and higher processes. Such phenomena as thresholds, latent period, after image, summation, fusion, perception, of time and space are studied, as well as the functions of memory and the unifying processes of selective attention.

35-36. **PRINCIPLES OF PSYCHOLOGY.** Three credits. The year. Prerequisite, 31. Associate Professor SMITH.

A systematic study. Students are urged to precede this by physiological or experimental psychology.

*37. **ANIMAL BEHAVIOR.** Three credits. First semester. Prerequisite, 31. Mr. WILCOX.

38. **EDUCATIONAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 31. Dr. GIVLER.

The psychological basis of education. Perception, the learning process, practice, memory, habit, judgment, attention, and motor functions, with reference to age, sex, race and individual differences.

40. **ABNORMAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 31. For pre-medical students and others by permission of instructor. Mr. WILCOX.

* Not given in 1915-16.

Sleep, dreams, hypnotism, mediumships, possessions, hallucinations, motor automatisms, double personality and the subconscious.

42. CHILD PSYCHOLOGY. Three credits. Second semester. Prerequisite, 31. Associate Professor SMITH.

A study of mental development from infancy to adult age. The course will include the following subjects: The starting point of mental life, the behavior of the newborn, the nature and occurrence of instincts throughout childhood, individual differences, the analysis of temperament, the psychology of learning, heredity. The mind of the child will be examined in the light of systematic psychology with the purpose of giving the student some scientific understanding of childhood.

45. PSYCHOLOGY OF EXCEPTIONAL CHILDREN. Three credits. First semester. Prerequisite, 31. Associate Professor SMITH.

The nature and cause of mental defects and peculiarities of children, with special reference to methods of diagnosis and to physical pathology. Prerequisite to the course in the Education of Exceptional Children and to Philosophy 46.

46. METHODS OF MENTAL AND PHYSICAL TESTS AND METHODS OF MEASUREMENT. Two credits. Second semester. Prerequisite, 45. Laboratory deposit, \$1.00. Associate Professor SMITH and Miss WILKINSON.

Laboratory course with conferences. The student will be given practical training in Clinical Psychology and in Experimental Child Psychology.

49-50. RESEARCH IN PSYCHOLOGY. First and second semester. Prerequisite, 33 or 34. Associate Professor SMITH.

Opportunity for original investigation.

PHYSICS

(Basement, Denny Hall)

PROFESSOR OSBORN, ASSISTANT PROFESSOR BRAKEL, AND DR. ANDERSON

*6. VIBRATORY PHENOMENA AND SOUND. Four credits. First semester. Prerequisites, physics 1, 2, and calculus. Professor OSBORN.

* Not given in 1915-16.

7. **LIGHT.** Four credits. First semester. Prerequisites, physics 1, 2; Math. 4 hours. Professor OSBORN.

This course aims to discuss the more important optical researches and their mathematical theory in elementary form. Their applications to practical problems will be given attention.

8. **ELECTRICITY AND MAGNETISM.** Four credits. First semester. Prerequisites, physics 1, 2; Math. 4 hours. Three class periods and one laboratory period. Professor BRAKEL.

This course is planned with a view to familiarize the student with the more important experimental and theoretical aspects of the subject.

9. **DIRECT AND ALTERNATING CURRENTS.** Four credits. Second semester. Prerequisites, physics 8 or 5a and mathematics, 8 hours. Three class periods and one laboratory period. Professor BRAKEL.

A study of the fundamental principles of direct and alternating currents and the development of methods for the solution of practical problems.

12. **HISTORY OF PHYSICS.** One credit. The year. Prerequisite, 16 hours of physics. Professor OSBORN.

*16. **DYNAMICS.** Two credits. The year. Two class periods. Prerequisites, physics 10, and differential equations. Dr. ANDERSON.

A rigorous mathematical treatment of fundamental principles.

17. **THEORETICAL ELECTRICITY AND MAGNETISM.** Two credits. The year. Prerequisites, 16 hours of physics, 16 hours of Math. Professor BRAKEL.

A rigorous mathematical treatment of the fundamentals.

18. **ADVANCED OPTICS.** Two credits. Second semester. Professor OSBORN.

Special problems.

* 19. **THERMODYNAMICS AND KINETIC THEORY OF GASES.** Two credits. The year. Prerequisites, physics 10, and differential equations. Dr. ANDERSON.

Two class periods.

* 20. **HIGH TEMPERATURE THERMOMETRY.** One credit. Second semester. Prerequisites, physics 5, 16 hours Math. Dr. ANDERSON. One laboratory period.

* Not given in 1915-16.

21. **ELECTRO-CHEMISTRY AND THEORIES OF E. M. F.** Three credits. Second semester. Professor BRAKEL.

22. **ELECTRON THEORY.** Three credits. Second semester. Prerequisites, 16 hours physics, 16 hours Math. or special arrangement. Dr. ANDERSON.

Discussion of recent researches in conduction of electricity through gases, photo-electric effect and radioactivity with bearing on the electron theory. Two class periods.

24. **COLLOQUIUM.**

Laboratory deposits are \$2.50 per semester in the following courses: 6, 7, 8, 9, 18, 20, 21.

POLITICAL AND SOCIAL SCIENCE

(Office, Room 6, Denny Hall)

PROFESSOR SMITH, PROFESSOR BEACH, ASSISTANT PROFESSOR CUSTIS,
ASSISTANT PROFESSOR MC MAHON.

OPEN TO JUNIORS, SENIORS AND GRADUATES

*21-22. **POLITICAL THEORIES.** Two credits. The year. Prerequisite, six credits in government. Professor SMITH.

55-56. **POLITICAL PROBLEMS.** Two credits. The year. Prerequisite, six credits in Government. Professor SMITH.

The theory of the separation of powers; political parties and limited government; the United States Supreme Court and Democracy; division of functions between central and local government; recent tendencies in governmental organization. Courses 21-22 and 55-56 are given in alternate years.

*23. **THE GOVERNMENT OF ENGLAND.** Two credits. First semester. Prerequisite, six credits in government. Professor SMITH.

53. **COMPARATIVE GOVERNMENT.** Two credits. First semester. Prerequisite, six credits in government. Professor SMITH.

A study of the chief features of the governmental systems of the countries of central and western Europe.

Courses 23 and 53 are given in alternate years.

* Not given in 1915-16.

29. **SOCIAL AMELIORATION.** Three credits. First semester. Prerequisites, 3 and 4. Professor BEACH.

A study of the attempt of society under the present industrial system, to effect improvement in the life of the less fortunate classes.

30. **SOCIAL PSYCHOLOGY.** Three credits. Second semester. Prerequisite, 6 hours in the department. Professor BEACH.

The growth and nature of custom and convention, and the formation of public opinion. It is desirable that the student should have had a course in general psychology.

33-34. **JOINT SEMINAR.** Two credits. The year. Professor SMITH, Professor CONDON and Professor MEANY.

Designed for study and reports upon the problems in the historical, political and legal development of the state of Washington and the Pacific Northwest.

35-36. **PRINCIPLES OF ECONOMICS.** Three credits. The year. Prerequisite, 6 hours in economics. Assistant Professor CUSTIS.

A study of the production, distribution, exchange, and consumption of wealth with special reference to present day problems.

37. **LABOR PROBLEMS.** Three credits. First semester. Prerequisite, 6 hours in Economics. Assistant Professor McMAHON.

This course covers the topics of strikes, trade unions, employers' associations, arbitration, immigration, child labor.

38. **LABOR LEGISLATION.** Three credits. Second semester. Prerequisite, 37. Assistant Professor McMAHON.

American and foreign. A study of wages, hours, accidents, industrial hygiene.

*44. **THE FAMILY.** Three credits. Second semester. Prerequisite, 6 hours in Sociology. Professor BEACH.

57-58. **SOCIAL RESEARCH.** Two or three credits. The year. Professor BEACH.

This course is intended to afford opportunity for investigation of special social problems. It is open only to graduates or advanced students, and in each case consent of the instructor is necessary.

* Not given in 1915-16.

OPEN TO GRADUATES ONLY

45-46. SEMINAR IN POLITICAL AND SOCIAL SCIENCE. Two credits. The year.

Primarily for graduate students majoring in the department.

SCANDINAVIAN

(Room 26, Law Building)

PROFESSOR VICKNER

FOR UNDERGRADUATES AND GRADUATES

9-10. OLD ICELANDIC. Two credits. The year.

Grammar, prose selection, poems from the Edda, lectures on Scandinavian mythology and antiquities, Scandinavian philology.

17-18. OLD SWEDISH. Two credits. The year.

This course includes a study of the origin and development of the Swedish language.

FOR GRADUATES

19-20. SCANDINAVIAN LITERATURE IN THE NINETEENTH CENTURY. Two credits. The year.

Other graduate work with the consent of the head of the department.

SPANISH

(Denny Hall)

PROFESSOR OBER, ASSOCIATE PROFESSOR UMPHREY, ASSISTANT

PROFESSOR STRONG

GRADUATE SCHOOL

*13-14. CERVANTES. Two credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

15-16. LOPE DE VEGA AND CALDERON. Three credits. The year. Prerequisite, 5-6. Professor OBER.

17-18. THE NOVEL. Three credits. The year. Prerequisite, 5-6. Assistant Professor STRONG.

19-20. THE DRAMA. Three credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

*21. LYRIC POETRY. Two credits. First semester. Prerequisite, 5-6. Associate Professor UMPHREY.

*22. THE SPANISH POPULAR BALLAD. Two credits. Second semester. Prerequisite, 5-6. Associate Professor UMPHREY.

* Not given in 1915-16

23-24. SPANISH-AMERICAN LITERATURE. Two credits. The year. Prerequisite, 5-6. Associate Professor UMPHREY.

FOR GRADUATES

33-34. OLD SPANISH. Two credits. The year. Associate Professor UMPHREY.

Philology. History of Spanish literature to the sixteenth century. Reading of the Poema del Cid and selections from other early Spanish writings. Reports on special topics.

ZOOLOGY

(Science Hall)

PROFESSOR KINCAID, ASSISTANT PROFESSOR E. VICTOR SMITH,

MR. OSTERUD

3-4. VERTEBRATE ANATOMY. Four credits. The year. Assistant Professor SMITH.

5. NORMAL HISTOLOGY. Four credits. First semester. Mr. OSTERUD.

6. EMBRYOLOGY. Four credits. Second semester. Mr. OSTERUD.

7. COMPARATIVE HISTOLOGY. Four credits. First semester. Mr. OSTERUD.

8. NEUROLOGY. Four credits. First semester. Assistant Professor SMITH.

Comparative structure and genesis of sense organs and central nervous system. To be given in alternate years with 8a.

17-18. GENERAL ENTOMOLOGY. Four credits. The year. Professor KINCAID.

Introduction to study of insects, their structure, classification, ecology and economic relations.

19-20. MUSEUM AND FIELD WORK. Four credits. The year. Professor KINCAID.

Systematic investigation of the local fauna including studies based upon material in the state museum.

21-22. RESEARCH. The year.

Students capable of carrying on independent research will be allowed to do so under the direction of the instructors in charge.

UNIVERSITY EXTENSION DIVISION

OFFICERS OF ADMINISTRATION

HENRY LANDES, A. M., Acting President.

EDWIN A. START, A. M., Director of the University Extension Division.

HERMAN A. BRAUER, PH. D., Chief, Bureau of Municipal Research.

LEO JONES, A. B., Chief, Bureau of Debate and Discussion.

OFFICE STAFF

AGNES MOBECK, A. B., Assistant, Department of Instruction.

LYDIA M. MCCUTCHEON, A. B., Assistant, Bureau of Debate and Discussion.

ETHEL E. WEISENSEE, Assistant, Bureau of Municipal and Legislative Reference.

VIOLET WILHELMINA DUNGAN, A. B., Secretary to the Director.

The University Extension Division was organized in May, 1912, as an integral part of the University of Washington, to extend the usefulness of the University, both as a teaching institution for those who cannot avail themselves of the ordinary opportunities of resident study, and as a source of research and information for the state, its communities, and its people. Its activities are organized in

I. The Department of Instruction.

II. The Bureaus of

(a) Municipal Research.

(b) Debate and Discussion.

(c) Lectures.

III. The Department of Publication.

The main offices of the Division are in the Administration Building of the University. A branch office and down-town class room are in Rooms 1041-1044, Henry Building, Fourth Avenue.

I. DEPARTMENT OF INSTRUCTION**FACULTY**

EDWIN A. START, A. M., Director, and Chairman of the University Extension Faculty.

The Extension Faculty is composed of all instructors giving extension courses and of the following:

MARY F. RAUSCH, B. S. (Colorado), Assistant Professor of Home Economics in the Extension Division.

CHARLES A. GUERARD, B. L. (University of Paris), Extension Instructor in French.

ALLETTA M. GILLETTE, A. M. (University of Washington), Instructor in English in the Extension Division.

JOSEPH BARLOW HARRISON, A. B. (Oxford University), Instructor in English in the Extension Division.

EVERETT FRANCIS DAHM, A. B. (University of Wisconsin), Instructor in Business Administration in the Extension Division.

RUDOLF RIEDER, A. B. (University of Wisconsin), Instructor in German in the Extension Division.

EXTENSION STUDY

Extension study is carried on by means of:

(1) Correspondence courses, through which individual students may be reached in any part of the state.

(2) Lecture courses with class work at different centers out in the state where classes may be organized, the extent of this depending upon the availability of instructors for field work.

Extension study is not to be regarded as a quick and easy means of obtaining a degree. Its last and least important use is to obtain formal University credit. Primarily the service of the Extension Division in its courses of instruction is for the benefit of those who are unable to come to the University but who need and desire some of the advantages which university teaching offers. There are offered in the Department of Instruction:

1. Regular university studies which may, under certain conditions, be offered for credit toward a degree.

2. Advanced courses to assist graduates and others in professional or business life to keep in touch with the progress of knowledge.

3. Preparatory studies for those who may not be able to attend the secondary schools.

4. Vocational courses to supply knowledge or training which will directly affect the student's efficiency in his occupation.

CORRESPONDENCE STUDY

The University Extension Division publishes circulars describing in detail the courses offered by the Department of Instruction and the method of entering upon and carrying them on. Any student contemplating taking extension work should send to the Division for the circulars in which he is interested.

The instruction in these courses is prepared and given by members of the University Faculty, and each course represents a definite amount of work corresponding to an equivalence of work done in residence at the University, or in the standardized schools of our educational system.

To make the work thorough and permanent, the various courses will be arranged, whenever practicable, in co-ordination with the regular residence work, the short courses, and the Summer Session.

Correspondence courses may be begun at any time during the year.

Requirements for Admission.—No preliminary examination is required for admission to correspondence courses, but the student will be required to give at the time of registration evidence that he is capable of pursuing the desired studies with advantage to himself. Those taking correspondence courses with a view to University credit must comply with the requirements that are imposed upon the resident students for a degree.

Expenses.—The giving of extension courses is special and personal service and fees are charged for all courses on account of the extra expense involved in instruction carried on away from the University. The basis of this fee is \$16 for a course of thirty-two assignments, or a proportionate charge for shorter courses. This charge will cover the expense of the instruction and postage one way. Text books, apparatus, and supplies of any kind that will be required for any course in addition to the text furnished by the Division must be purchased by the student. When these supplies cannot be obtained of local dealers they may be ordered through the University Extension Division, which will obtain

them through the co-operative bookstore maintained at the University by the Associated Students of the University of Washington.

University Credit.—Correspondence students who have had the required preparation for admission to the University and whose program has been approved, will, upon satisfactory completion of a course of correspondence study, be awarded a certificate of credit in the University, but the maximum University credit for work done by correspondence may not exceed one-half of the units required of resident students for graduation. Records of credit for correspondence study are filed until the student has satisfactorily completed one year in residence, when, if the requirements have been satisfied, the credits may be applied toward a degree.

The requirement of residence may often be satisfied, in whole or in part, by attendance at the Summer Session of the University. Four summer sessions are accepted for a year of residence.

CLASSES

A few courses, necessarily limited as to number and locality, will be given in accessible centres as lecture courses, accompanied with the usual class exercises. Such courses have already been given at Aberdeen, Bellingham, Mt. Vernon, Olympia, Seattle, and Tacoma, and may be arranged for other near-by cities. The Division is especially prepared at present to offer such courses in Business, Education, English, French, German, and Home Economics.

Short courses of lectures may be arranged to run parallel with correspondence courses. The lectures may be open to others besides those carrying on the correspondence course, and two objects thus served.

Fees for courses given to classes are adjusted according to the number of the class and the distance from Seattle.

COURSES OF INSTRUCTION

The list of extension courses at present offered is subject to change at any time, and additions are frequently made; therefore, if courses are desired in departments not mentioned in this list, inquiry should be made. Full descriptions of the courses will be found in the circulars of information issued by the Division from time to time.

ASTRONOMY. Two credit courses of 16 assignments each in General Astronomy are given in this department.

BOTANY. Eight courses in botany and horticulture are offered in this department. All of these are credit courses.

BUSINESS ADMINISTRATION. Classes and correspondence study in Principles of Accounting, Advertising, and Selling and Business Efficiency, and correspondence course in Salesmanship.

CHEMISTRY. Two evening courses in general chemistry are given at the University by the Department of Chemistry in 1914-1915.

ECONOMICS. One correspondence course.

EDUCATION. Three lecture courses and four correspondence courses, all credit courses, are offered in the Department of Education.

ENGINEERING. Three courses in Civil Engineering, and three in Mechanical Engineering are offered in the College of Engineering. Some of these may be credit courses.

ENGLISH. Five courses of high school grade and thirteen of college grade are offered in this department. Some of these are correspondence and some are lecture courses. All may be taken for university credit.

FORESTRY. Five courses in Forestry are offered. They may be taken for credit.

FRENCH. Ten courses in French are offered. All of these may be taken for credit.

GEOLOGY. Five correspondence courses in Geology, all of which may be taken for credit, are offered.

GERMAN. Eight courses in German are offered, all of which may be taken for credit.

GREEK. The Greek Department offers courses covering the three years' work of the high school, to meet the needs of those who may not be otherwise able to prepare for college. Courses of college grade will also be offered when called for.

HISTORY. A course in History and one in Civil Government of high school grade and one course in American History are offered by this department. The latter course may be taken for credit.

HOME ECONOMICS. Four correspondence courses and class work in several forms are offered in this department. Some of these may be taken for university credit.

JOURNALISM. Four correspondence courses are offered in the Department of Journalism.

LATIN. The Latin Department offers courses covering the four years' work of the high school, to meet the needs of those who may not be able otherwise to prepare for college. Courses of college grade will be opened if there is a call for them.

MATHEMATICS. Four courses in Mathematics are offered, all of them open for university credit.

MECHANICAL DRAWING. Two courses in Mechanical Drawing are offered. These may be taken for credit.

METALLURGY AND MINING. Special work is offered in the School of Mines for those who are not able to attend the regular courses of the school. Systematic courses along these lines cannot at present be formulated, as the work will have to be directed to meeting individual needs as far as possible. Inquiry should, therefore, be made by anyone interested, accompanied with a full statement of his personal problems and requirements.

PHILOSOPHY. One class in Seattle and one correspondence course.

PRINTING. A practical correspondence course in cost accounting and estimating for printers is offered. This is not a credit course.

PUBLIC SPEAKING. Class and correspondence course in Brief-making and Argumentation.

PHYSICS. One correspondence course in Mechanics.

SPANISH. Five courses in Spanish, all of which may be taken for university credit, are offered.

II. COMMUNITY SERVICE

BUREAU OF MUNICIPAL RESEARCH

HERMAN A. BRAUER, CHIEF

This bureau was organized in the University Extension Division in November, 1912, for the purpose of collecting, classifying, indexing, and making available for the work of the University, for state legislators, state and municipal officers, and for others as far as practicable, accurate data on questions of government, administration and comparative legislation.

The establishment of this bureau by the University is in line with the best precedents of some of our foremost universities, states and municipalities. The public official is at a disadvantage owing to lack of time for adequate investigation of the questions with which he has to deal. It is the duty of the people whom he serves to provide him with expert aid for the study of legislative and administrative problems. This cannot be done better than through the University with its already large corps of experts and its established and steadily growing libraries.

OFFICE. The headquarters are at the University where the chief of the bureau may be consulted. The two libraries of the University—general and law—are here available and the bureau is likewise accumulating a large collection of material of immediate value, laws, ordinances, charters, reports, etc.—all of which is classified and indexed for quick reference.

MUNICIPAL GOVERNMENT. The bureau aims to be in close touch with the municipalities of the state and to be prepared to aid their officers in dealing with the problems of municipal government. These problems are various and are often closely involved with state legislation. There are questions of health and sanitation, of traffic and transportation, of street paving, street cleaning, water supply, garbage and sewage disposal, milk and food inspection, public works, public utilities, and public service rates; questions of municipal employment, city planning, parks and playgrounds, civic centers, art commissions, schools, charities and corrections, accounting methods, commission government and the hundred and one other subjects of municipal interest which now exist or from time to time may arise.

It will be seen that the Bureau aims to be a clearing house for municipal and legislative experiments and experience all over

the world, so that our public men may be placed in a position to profit both by the wisdom and by the mistakes of states and cities in this and other countries.

The work of this bureau is a natural development of the public service function of the state university. As such public service, it is rendered without fee or charge at any time, except travelling expenses when it is necessary for a representative of the bureau to visit any locality.

It is non-partisan, non-political, and absolutely confidential. Its function is not to convert or convince, nor even to recommend or to offer advice, but to give information in a purely non-partisan spirit, so that facts may speak for themselves. Its services are equally open to those on all sides of any question, its sole object being to provide them with the necessary data for intelligent action.

A circular of information setting forth more in detail the plans and work of the bureau may be had upon application to the Extension Division, Bureau of Municipal Research.

BUREAU OF DEBATE AND DISCUSSION

LEO JONES, CHIEF

The purpose of this bureau is to foster and assist the practice of debating and open discussion of public questions. There is no more wholesome way of developing habits of right thinking and open mindedness than through full and fair discussion, in which both sides of important questions may be adequately presented. It is, indeed, a most valuable means of general education. Such debating has been organized and carried on in the high schools of Washington under the auspices of the state department of education and has been stimulated by the annual prizes for competition of accredited high schools of the state given by Senator Wesley L. Jones.

This bureau hopes to further promote and extend this practice, not only in the high schools, but in civic, women's, and farmers' clubs, and in any other organizations interested in such work, by advice, guidance and assistance in obtaining references and materials.

The work of this bureau is closely allied to that of municipal and legislative reference, but it covers the field of information upon public questions in a somewhat different manner and for a different but related purpose.

PUBLICATIONS

The bureau has published practical manuals of the principles of debate, organization and procedure which have been widely distributed to schools throughout the state. There are also published from time to time bulletins outlining in the form of briefs the arguments for and against propositions of public interest. The range of subjects is wide and growing wider; the need of thorough and intelligent discussion of them in a country like ours, where the people are taking the control of affairs more and more into their own hands, is obvious. These bulletins contain adequate working reference lists of published material which is likely to be available or can be furnished by the Bureau. Five bulletins have already been published by the Bureau. In addition to the printed bulletins, the bureau has furnished upon request type-written outlines similar to the bulletins relating to several subjects which have been debated in certain localities.

PACKAGE LIBRARIES

Much of the most serviceable material upon these public questions is contained in magazines, newspapers, and government documents, which are not always and everywhere accessible. With the co-operation and assistance of the University Library, the bureau will collect and classify much of this material, preparing it in convenient package libraries, which may be borrowed without charge for a period not to exceed fourteen days, which time may in some cases be extended upon request. Particular paragraphs or chapters of books will in some cases be copied and the copies included in the package libraries.

HOW THIS SERVICE IS OBTAINED

The services of this bureau are rendered without charge to all citizens of the state. For any information in regard to this work not here given and for publications of the bureau, application should be made to the University Extension Division, Bureau of Debate and Discussion, University of Washington, Seattle.

BUREAU OF LECTURES

The University Extension Division offers a list of lectures, single or in courses, some of them popular in character, others designed primarily for study classes. The lectures listed by this bureau are, however, distinct from the lecture classes mentioned

under the Department of Instruction. As most of the lecturers are members of the University Faculty, the securing of dates for lectures will have to be limited by the prior demands of their university engagements. When arrangements are made sufficiently far in advance, it may be possible to group appointments to the advantage of the lecturer and the local organizations.

The ordinary fee for Extension Lectures is ten dollars (\$10.00) and expenses. This is intended to provide, in addition to his traveling expenses, only a moderate personal fee for the lecturer. The service of the Extension Division is rendered without charge. For illustrated lectures there will sometimes be additional expense, but this is slight, as the Bureau of Lectures provides its own apparatus, reducing the cost of illustration to a minimum.

The policy of this bureau is to provide the best lectures possible for the greatest possible number of auditors at the lowest possible cost. Arrangements can best be through some local organization which can secure the audience and the necessary local work.

The bureau will also provide commencement and teachers' institute speakers when desired.

Those interested in obtaining lectures should apply to the bureau for its list of lectures and any information in regard to arrangements will be cheerfully furnished and all possible assistance given.

BUREAU OF SOCIAL WELFARE

It is proposed, as opportunity and desire for such service may arise to promote the organization and helpful activity of social centres, to encourage the wise use of school and other public buildings, the institution of lecture courses and other educational work, and to assist in general in the advancement of communities, large and small, and the quickening of their intellectual life. The Director will be pleased to correspond or confer with persons interested in such work with a view to determining how and to what extent the University may serve in this direction the welfare of the state.

A preliminary bulletin on "The Social and Civic Centre" (University Extension Series No. 2), a summary outline of the subject with a bibliography, has been published and may be had upon application.

EXHIBITS

It is proposed to prepare collections which may be obtained for specified periods for exhibition in libraries and schools, or to use for educational purposes. There is now in preparation by the College of Mines a number of sets, of about one hundred specimens each, showing the economic minerals of the state. These collections, when complete, will be furnished to high schools for permanent use, the only charge being for transportation. Principals of schools wishing to obtain one of these sets should apply to the Director of the Extension Division.

III. PUBLICATION

This is an important department of Extension work. The Division published in 1914 the UNIVERSITY EXTENSION JOURNAL (quarterly), and numerous bulletins and circulars of information.

BULLETINS

PRELIMINARY ANNOUNCEMENT. Univ. Ext. Series No. 1. An outline of the work and purposes of the Division. Pp. 46. (Out of print.)

THE SOCIAL AND CIVIC CENTER. Univ. Ext. Series No. 2. Bureau of Civic Development No. 1. Pp. 12.

STATE ROADS AND PERMANENT HIGHWAYS. An outline for debate. Univ. Ext. Series No. 3. Bureau of Debate and Discussion No. 1. Pp. 16.

THE RECALL OF JUDGES. An outline for debate. Univ. Ext. Series No. 4. Bureau of Debate and Discussion No. 2. Pp. 16. Price 10 cents.

DEPARTMENT OF INSTRUCTION. Revised statement. Univ. Ext. Series No. 5. Pp. 36. (Out of print.)

THE SINGLE TAX. An outline for debate. Univ. Ext. Series No. 6. Bureau of Debate and Discussion No. 3. Pp. 16. Price 10 cents.

THE MAKING OF A NEWSPAPER. Univ. Ext. Series No. 7. Pp. 120. Price 25 cents.

A MANUAL FOR DEBATERS, by Leo Jones. Univ. Ext. Series No. 8. Bureau of Debate and Discussion. No. 4. Pp. 81. Price 25 cents.

IMMIGRATION. An outline for debate. Univ. Ext. Series No. 9. Bureau of Debate and Discussion No. 5. Pp. 20. Price 10 cents.

THE BETTER NEWSPAPER. Univ. Ext. Series No. 10. Pp. 181. Price 30 cents.

SUPPLEMENTARY LECTURE IN JOURNALISM, 1913-1914. Univ. Ext. Series No. 11. Pp. 83. Price 25 cents.

TAXATION IN WASHINGTON. Univ. Ext. Series No. 12. Pp. 302. Price 50 cents.

TAXATION OF LAND VALUES. Univ. Ext. Series No. 13. A bibliography. Pp. 20. Price 10 cents.

GOVERNMENT OWNERSHIP OF TELEGRAPH AND TELEPHONE. Univ. Ext. Series No. 14. An outline for debate. Pp. 16. Price 10 cents.

CIRCULARS OF INFORMATION

2. General Circular of Information relating to the work of the Extension Division.
3. Bureau of Municipal and Legislative Research.
5. Extension Work in Home Economics (Revised edition).
6. Bureau of Lectures.
7. Extension Work in Forestry.
8. Extension Work in English.
9. Extension Work in Journalism and Printing.
10. Bureau of Debate and Discussion.
11. Department of Instruction: General Information.
12. Extension Work in Business.
13. Business Training Courses.

Any of these publications, not out of print, may be obtained by anyone in the State of Washington, without charge, except where a price is indicated, on request to the DEPARTMENT OF PUBLICATION, EXTENSION DIVISION, University of Washington, Seattle, Washington. A charge is made for all copies furnished outside the state.

SUMMER SESSION

The twelfth annual summer session will be held from June 21st to July 30th, 1915. The date of opening has been placed late enough for teachers coming from long distances or from schools which close late to reach the University in time for the opening.

ADMISSION

Formal entrance examinations are not required. Applicants, however, must give evidence of sufficient maturity and preparation to profit by the work offered.

CREDITS

A maximum of six semester hours of credit may be obtained during the session. Students registering after July 1st will not be permitted except under unusual circumstances to secure the maximum number of hours.

TEXT BOOKS

Text books may be purchased at reduced rates at the University Book Store. The book store is located on the campus near Denny Hall.

FOR WHOM INTENDED

The summer session is designed to meet the needs of the following classes of persons:

1. College graduates who wish to specialize or to work for advanced degrees.
2. Superintendents and principals who wish to acquaint themselves with recent progress in education or to study special problems.
3. High school teachers who wish to advance in their special lines of work.
4. Elementary and grammar school teachers who wish to work towards a collegiate degree.
5. Undergraduates who for some good reason find it necessary to shorten the period of their college course.
6. Candidates for certificates who need special courses in education and psychology or other subjects.

7. Persons who are preparing to become specialists in college and normal school positions.

8. Persons who desire practical field-work in botany, geology, and zoology.

9. Persons who wish special instruction in music, drawing, manual training or physical training.

FACILITIES

The Summer Session is especially designed to be of assistance to teachers who cannot be in attendance during the regular sessions. The University places at the service of teachers practically all of the facilities of the College of Liberal Arts and the College of Science, the College of Education, the College of Fine Arts, and the Graduate School. In addition, there is work offered in manual training, music, drawing, and physical training. The laboratories, libraries, and museum are open and the various departments offer both undergraduate and graduate work equal in quality to that offered during the rest of the year. In a very large number of cases heads of departments are in charge of the work. In addition to regular members of the faculty, several prominent lecturers from outside the University will give courses.

REGISTRATION

Saturday, June 19th, and Monday, June 21st, will be regular registration days. As many as possible should plan to register on Saturday. Class work will begin on Tuesday, June 22nd, at 8 o'clock.

FEES

The regular tuition fee of ten dollars (\$10) is required of all students, and admits to all the privileges of the Summer Session, except certain laboratory courses and to special music courses requiring individual instruction. See the statements of these courses for the special fees. No reduction of fees will be made because of late registration or early withdrawal. Open lectures are free to all students regularly registered in the Summer Session.

MASTER'S DEGREE THROUGH SUMMER SESSIONS

At each succeeding Summer Session a larger number of graduate students are in attendance. In 1914 nearly one third of the whole number of attendants were graduate students. Many

were planning definitely to apply their work toward higher degrees. The University will accept four Summer Sessions of work as a fulfillment of the year of required residence, provided the student does work between the sessions under regulations prescribed by the graduate faculty and the departments concerned. With the new opportunities for extension work many will doubtless be enabled to secure master's degrees in the above manner.

CORRESPONDENCE COURSES

The University has established correspondence courses in many departments. These will be of special advantage to students who have been in attendance at Summer Sessions and who wish to go forward to degrees. The correspondence work can be very advantageously planned as a continuation of the regular Summer Session. For detailed information concerning correspondence courses write Director Edwin A. Start.

COLLEGE OF EDUCATION

The Summer Session and the College of Education stand in very close relations to each other. Doubtless a large number who plan to secure a degree or a Normal Diploma through the College of Education will accomplish much of the work in summer sessions. The work of the Summer Session being especially arranged for teachers will make it possible to accomplish this.

For bulletin of the Summer Session address Recorder E. N. Stone. For other information address Frederick E. Bolton, Director of the Summer Session.

PUGET SOUND MARINE STATION

FRIDAY HARBOR, WASHINGTON

June 21—July 30, 1915.

DIRECTOR

T. C. FRYE, University of Washington.

COUNCIL

W. J. BAUMGARTNER, University of Kansas.

HOWARD S. BRODIE, Whitman College.

WILLIAM MOODIE, Bellingham State Normal.

TREVOR KINCAID, University of Washington.

ALBERT R. SWEETSER, University of Oregon.

This institution is the outgrowth of work in marine exploration carried on for many years by the University of Washington and other institutions. In 1904 a marine station was definitely established in rented quarters at Friday Harbor in the San Juan Archipelago, and sessions have been regularly held since that date. A number of universities and colleges are cooperating with the University of Washington in its organization.

The chief purposes of the Marine Station are these: (a) To enable biologists to pursue their researches on marine life in one of the richest fields for biology on the coast of the United States. (b) To enable teachers and students to study animals and plants in their natural habitats. (c) To serve the state and the Northwest through the study of its commercial forms of marine animals and plants. (d) To serve as a meeting place for biologists, to afford mutual inspiration and exchange of ideas, thus bettering the teaching of biology.

The location of the Station in the midst of the picturesque islands of the San Juan Archipelago, which lies in the northern section of Puget Sound, surrounded by waters unrivaled for their wealth of ocean life, makes the site an ideal one for the study of marine organisms; while the land flora and fauna of the islands are also of great interest, and present favorable opportunities for the study of many striking species of birds, plants and insects.

In the spring of 1910 a commodious building was constructed upon a site donated by Mr. Andrew Newhall of Friday Harbor. This structure contains upon its main floor a general laboratory for class work, the office of the director, a store room for two large salt water aquaria. The second floor is occupied by a lecture room and by nine rooms for the convenience of persons engaged in research work. The third story is utilized as a store room and drying loft. The laboratory is abundantly supplied with running fresh and salt water and is lighted by electricity.

The equipment of the Station includes microscopes and general laboratory glassware, also a small library bearing upon the biology of the Pacific Northwest. A steamer is employed to transport parties to points of vantage among the islands, as well as to manipulate the dredge used in exploring the deep waters of the channels and bays in search of bottom forms. Plankton nets are also available, as well as material for quantitative work along this line.

A maximum of six credits may be earned at the Station during a session, and these will be accepted at par by any of the affiliated institutions.

The cost of living is minimized as far as possible for those taking courses at the Station. Tent houses are provided as sleeping quarters at about \$6 for the six weeks, whether occupied by one or more persons. The tents are 10x12 feet. Table board is furnished at \$4 or \$4.50 per week. This is gauged in such a manner that over a period of years the Station neither gains nor loses. The same is true of the tents and their equipment.

The expenses attached to a stay of six weeks at the Station, including the tuition fee of ten dollars, board, lodging and incidentals, need not exceed fifty dollars.

For more detailed information apply to the director, Dr. T. C. Frye, University of Washington, Seattle, Wash.

DEGREES

Degrees Conferred June 17, 1914.

(For degrees conferred at the end of the Summer Session, see page 412.)

BACHELOR DEGREES

College of Liberal Arts

Bachelor of Arts

Anderson, Alice Olivia	Grier, Gladys Carney
Anderson, Victoria	Griffin, Arthur Russell
Aspinwall, Mabel Gates	Guild, Grace
Axtell, Ruth Cleveland	Gulstine, Edna
Barto, Thomas Coffin	Gwilym, Gertrude
Bash, Mary Iola	Halferdahl, Alice
Bechen, Carrie Isadore	Hall, Ethel Ellen
Benjamin, Ralph James	Hanley, Charlotte Josephine
Bonsall, Opal Irene	Harris, John Jay
Brinck, Stephen M.	Heyes, Lucy Jackson
Bruce, Harriet Lucinda	Hile, Edith Elizabeth
Bunnell, Esther	Hishikawa, Selichi
Burns, Josepha Barbara	Hoard, Mary Gladys
Cameron, Annie Betsey	Hobi, Agnes Louise
Chisholm, Theresa Blanche	Hurd, Laura Alice
Collins, Lillian Ellice	Ikeda Choichi
Cook, Inez Cassa	Ingersoll, Louise Julia
Cook, Jessie Gordon	Jacobs, Claude Victor
Crawford, Zillah Calanthe	Johanson, Edna Theresa
Davenport, Noah Cleveland	Johnson, Abbie Frances
Donaldson, Jeannette Shirley	Johnson, Geneva Alice
Drum, Dorothy Frances	Johnson, Winifred Josephine
Eberle, Sidney Sohns	Jones, Zola Martha
Farrar, Mayme	Kawal, Solchi
Firth, Mildred	Kittilsby, Alma Otelie
Fleming, Esther Frances	Knapp, Ralph Read
Friant, Josephine Nellie	Lamberty, Anna Margaret
Fritz, Chester William	Lewis, Jessie Mildread
Gabel, Marie	Lovejoy, Lorna Jeannette
Garvey, Erma Catherine	McClelland, Paul Heuston
Gay, Ruth Edney	McDowell, Sadie Belle
George, Blanche Venita	McGlauffin, March
Gottlieb, Ruth Anna	McGranahan, Chester Claude
Gourman, David Zanvil	McLean, Dollie Lomila

McNamara, Eugene James
 MacPherson, William
 Miller, Leah
 Mourant, Ethel May
 Moyer, Lillian Adele
 Nell, Mabel Ione
 Nelson, Elizabeth Kahrs
 Nelson, Eva
 Neumen, Frances Harriet
 Nickerson, John Harding
 Nord, Andrea
 Orner, Pearl Lillian
 Parker, Alice Leila
 Platt, Imogene Bash
 Porter, Margaret Alice
 Pratt, Frank Linden
 Price, William Kyle
 Pusey, Edna Margaret
 Randall, Bernice Hazel
 Randolph, Hazel Fitz
 Ringer, Frances Claire
 Roberts, John Vincent
 Roe, Nellie Virginia

Rosaaen, Evelyn Hamilton
 Schumacher, Wilhelmina
 Scott, Oma Beatrice
 Semmen, Florence Inez
 Shackelford, Charlotte
 Siemens, Margaret
 Smith, Bess Irene
 Stephens, Eleanor Sharpless
 St. John, Lewis Holland
 Strong, Clara Alta
 Sweet, Elsie Sears
 Thaanum, Margaret Gertrude
 Trempe, Louis Adolph
 Waldrip, Sarah Pauline
 Wallace, Mary Alicia
 Waugh, James Ruggles
 Wells, Norma Mae
 Welts, Robin Victor
 White, May Ella
 Wilson, Marie Helen
 Wright, Farnsworth
 Wright, Robert Creighton
 Zinkie, Marjorie Jeannette

College of Science

Bachelor of Science

Amidon, Mabel Jessie
 Bedell, Mary Elizabeth
 Boyd, Louise Bailey
 Clift, Ruby Moser
 Day, Florence Adelaide
 Drummond, Jessie Smith
 Eddy, Beulah Lydia
 Fettke, Margaret Elizabeth
 Freeser, Laura Louise
 Hamilton, Gladys Gertrude
 Havens, Marena
 Headrick, Grace Mahalah
 Keene, Gertrude Beckett
 Kerr, Lelah Belle
 Livingston, Carl Donnan
 Long, Ruby Olive
 Lyon, Donn Dee
 McClarren, Mabel Lillian

McGee, Eva Angeline
 Macaulay, Margaret
 Mower, Lulu Ione
 Myers, Margaret
 Oldfield, Helen Iona
 Reed, Paul Marlon
 Seydel, Grace Viola
 Sowerby, Mina Belle
 Taylor, Marion Olive
 Tomlinson, Margaret May
 Turesson, Göte Wilhelm
 Waite, Netta Marguerite
 Waynick, Dean David
 Welch, George Bernard
 Wilson, Emma Frances
 Wilson, Stanley Ramsdell
 Wright, Harrison Garner

School of Education

Bachelor of Arts in Education

Knapton, Mary Alice

*College of Engineering***Bachelor of Science in Chemical Engineering**

Herrick, John Sidney	Stillson, George Hamilton
Schwabland, George Arthur	Tremper, Bailey

Bachelor of Science in Civil Engineering

Anderson, Edwin Charles	Hunt, George Elwood
Beam, Carl Eugene	Manson, Harry Emil Petri
Crell, Julius Jacob	Martin, Walter Glenn
Dana, Forest Charles	Vaille, Frank Waldo, Jr.
Dean, Iris Chester	Viele, Morris Marshall
Hartson, Joseph Tracy	

Bachelor of Science in Electrical Engineering

Bigelow, Paul T.	Izhuroff, Basil Alexandrowich
Bliss, James Bernard	Izumi, Ichisaburo
Bowen, Hiram	Newberry, Arthur Percival
Coy, Roy	Rader, Ray
Darland, Alvin Franklin	Rogers, Foy Ogan
Gordon, Claude Philip	Stanwick, Charles Arnes
Grady, Roger Jones	Thwing, Edward Payson

Bachelor of Science in Mechanical Engineering

Campbell, John	Royal, James Millard
McCoy, Ray	Shaw, Melvin Cummings
Park, Quias Workman	Wheeler, Leon Herbut

Bachelor of Science

Blair, Homer Orrin	Swartz, Leo
Burns, Alfred Aretus	Wehmhoff, Byron Louis
Swartz, Albert William	

*College of Mines***Bachelor of Science in Geology and Mining**

Godbe, Earl Thompson

Bachelor of Science in Metallurgical Engineering

Halferdahl, Arthur Clarence

Bachelor of Science in Mining Engineering

Berg, James Edward	Cogswell, Louis Harold
Burgert, Wilbur Clarence	Johnson, Guy Jonas

*College of Forestry***Bachelor of Science in Forestry**

Bonney, Parker Samuel	Monks, Howard Irvin
Escher, Wiley Emert	Mueller, Moritz Ludwig
Klobucher, Frank Joseph	Stinson, Henry Curtis
Macaulay, Norman Gladstone	Welch, Arthur Edward

Bachelor of Science

Billingslea, James Howell, Jr.	Williams, John Sanford
Schneider, Isaac	

*College of Pharmacy***Bachelor of Science**

Ball, Alice Augusta	Gannon, Bertha
Bonebrake, Allen Crede	Goodrich, Forest Jackson
Eager, Benjamin Franklin	Platt, Earl Milliron

Pharmaceutical Chemist

Boatman, Willis William	McNerthney, Henrietta
Bock, Elfrieda Charlotte	Palmer, James Clarence
Carroll, Burdine Heiston	Richey, Charles Archer
Carroll, Ruth Helena	Schreuder, Otis Blaine
Donahue, Charles David	Sewell, Hugh Finis
Gregg, Raleigh Allured	Umbarger, Francis Bernard
Kinne, Seward B.	

*School of Law***Bachelor of Laws**

Barnett, George Dolph	Gruber, Edwin
Beltz, Frederick Alexis	Haight, James Augustus, Jr.
Brockett, Earl Melvin	Hardy, Warren Henry
Brooks, Zola Olds	Hayfield, Mark Frederick
Calderhead, Samuel John	Hazen, Raymond Crandall
Dawson, Lewis Madison	Hughes, Charles D. T.
Donley, Levi Boyd	Hurd, Charles Sumner
Douglas, Malcolm	Kenney, Samuel Emmer
Fairbrook, Glenn Joseph	Kirk, James, Jr.
Fisher, Walter Fred	Lind, John Arthur
Forde, Mathias Hanson	Loneragan, Pierce Arthur Francis
Gamble, Alexander James	Murray, John Emmett
Griffin, Arthur Russell	Nakai, Kiyoshi
Godsave, Alfred Viele	Navarre, Guy Francis
Gore, Lester Otis	Neibling, Harold Edmund

Patten, John Paul
 Riley, Frank Gilbert
 Roberts, John Vincent
 Robertson, Edward White
 Robison, Mabel Bass
 Sipprell, James Ernest
 Skewis, Francis James

Stone, William Edward
 Taylor, Edward Richard
 Urquhart, William Muir
 Van Winter, Rex Oliver
 Viele, William Arthur
 Walsh, John Raphael
 Welts, Robin Victor

GRADUATE DEGREES

Graduate School

Electrical Engineer

Kurt Friedrich Johannes Kirsten

B. S. in E. E., University of Washington, 1909

Master of Arts

Ethel Mary Bardell (Botany)

A. B., University of Washington, 1912

Margaret Corbet (English)

A. B., University of Washington, 1910

Adelaide Dorothy Fischer (German)

A. B., University of Washington, 1909

Nellie Linda Higgins (Political and Social Science)

A. B., University of Washington, 1913

Archie Lewis Ide (Psychology)

A. B., Hamlin University, 1904

Alice Lovina Kibbe (Botany)

A. B., University of Washington, 1910

Francis Ernest Millay (Education)

A. B., University of Washington, 1913

Annah Louise Shelton (French)

A. B., University of Washington, 1913

Thomas Alexander Ferguson Williams (Mathematics)

A. B., Marysville College, 1910

Master of Science

Sydney Evans Johnson (Zoology)

A. B., University of Washington, 1913

Carl Henry Walter (Chemistry)

B. S., Carthage College, 1909

Master of Science in Education

Frank William Denny

A. B., University of Washington, 1909

Charles Lester Maxfield

A. B., Kalamazoo College, 1901

Master of Science in Forestry

Clarence Ross Garvey

B. S., Michigan Agricultural College, 1912

Master of Science in Pharmacy

Frances Edith Hindman

B. S. in Pharmacy, University of Washington, 1912

Doctor of Philosophy

Frank Alexander Hartman (Chemistry)

M. A., University of Kansas, 1909

NORMAL DIPLOMAS

University Life Diploma

Ames, Laura
Anderson, Victoria
Bartow, Jeannette M.
Bennett, Mary Pearl
Bolger, Mary Elizabeth
Colkett, Marion Lombard
Craig, Gladys Louise
Craven, Inez Helena
Cummins, Robert Alexander
Dixon, Elsa Klore
Dootson, Charlotte
Fraser, Alice Sinclair
Glasgow, Eliza Grace
Greenberg, Edith Lois
Henry, Zella Jane
Hill, Sallie Haddock
Howes, Alice
Jeans, Ethel Jay
Johnson, Anne Ogden
Johnstone, Annabel Milligan
Lindborg, Linda Wilkie

McKay, Bess Olive
Mathieu, Mae
Mauermann, Olive Maybelle
Leone
Moody, Ruth
Mowrey, Ruth Alice Mae
Olsan, Charles Edward
Osberg, Rosanna
Peaslee, Emilie Stewart
Peterson, Roxie Minnie
Philben, Honoria
Robinson, Elizabeth Langley
Schreiber, Louise P.
Searle, Elizabeth Pauline G.
Sutton, Mary Catherine
Sutton, Sarah Patience
Twinam, Louise Elinor
Williams, Bertha Krogoll
Williams, Jane Richards
Williams, Marie Bertha

University Normal Diploma

Amidon, Mabell Jessie
 Anderson, Alice Olivia
 Axtell, Ruth Cleveland
 Bash, Mary Iola
 Bechen, Carrie Isadore
 Bonsall, Opal Irene
 Bruce, Harriet Lucinda
 Bunnell, Esther
 Burns, Josepha Barbara
 Cameron, Annie Betsey
 Chisholm, Theresa Blanche
 Cook, Inez Cassa
 Cook, Jessie Gordon
 Day, Florence Adelaide
 Drummond, Jessie Smith
 Fettke, Margaret Elizabeth
 Firth, Mildred
 Friant, Josephine Nellie
 Garvey, Irma Catherine
 Gay, Ruth Edney
 Grier, Gladys Carney
 Gourman, David Zanvil
 Guild, Grace
 Gulstine, Edna
 Gwilym, Gertrude
 Halferdahl, Alice
 Hall, Ethel Ellen
 Hamilton, Gladys Gertrude
 Hanley, Charlotte Josephine
 Havens, Mareta
 Heyes, Lucy Jackson
 Hille, Edith Elizabeth
 Hurd, Laura Alice
 Ikeda, Choichi
 Ingersoll, Louise Julia
 Johanson, Edna Theresa

Johnson, Winifred Josephine
 Jones, Zola Martha
 Keene, Gertrude Beckett
 Kittilsby, Alma Otelie
 Lamberty, Anna Margaret
 Lewis, Jessie Mildread
 Long, Ruby Olive
 McClarren, Mabel Lillian
 McGlauffin, March
 McNamara, Eugene James
 Mahler, Eva Elliott
 Mourant, Ethel May
 Nelson, Elizabeth Kahrs
 Nelson, Eva
 Neumen, Frances
 Oldfield, Helen Iona
 Platt, Imogene Bash
 Porter, Margaret Alice
 Price, William Kyle
 Randall, Bernice Hazel
 Ringer, Frances Claire
 Roe, Nellie Virginia
 Rosaaen, Evelyn Hamilton
 Shackelford, Charlotte
 Stevenson, Janet
 Strong, Clara Alta
 Sowerby, Mina Belle
 Sweet, Elsie Sears
 Taylor, Marion Olive
 Thaanum, Margaret Gertrude
 Waite, Netta Marguerite
 Waldrip, Sarah Pauline
 Wallace, Mary Alicia
 Wilson, Marie Helen
 Zinkie, Marjorie Jeannette

Degrees Conferred July 30, 1914

July 30, 1914

BACHELOR DEGREES

College of Liberal Arts

Bachelor of Arts

Brown, Laura Elizabeth
 Greffoz, Hortense Perrine
 Griffin, Hazel Belle
 Hanville, Merrill Francis

Harkness, Hazel Alice
 Studebaker, Herbert Earl
 Swan, Eleanor Josephine
 Walters, Hazel Belle

*College of Science***Bachelor of Science**

Cornelius, Philip Alvin
Jones, Frank Milton

Spannagel, Edna Genevieve

*School of Law***Bachelor of Laws**

Langer, Frank Emil

Schiveley, Hugh Pitcairn

GRADUATE DEGREES*Graduate School***Master of Arts**

Grover Rawle Greenslade (Physics)

B. S., Whitman College, 1912

Cassie May Marston (German)

A. B., Greenville College, 1902

Edward Mathieu (French)

A. B., Harvard University, 1910

Eugene James McNamara (History)

A. B., University of Washington, 1914

Edith Beatrice Mitchell (History)

A. B., University of Washington, 1913

William Francis Parish (English)

A. B., University of Washington, 1913

Master of Science

Milton Victor Veldee (Bacteriology)

B. S. in Pharmacy, University of Washington, 1913

Master of Arts in Education

Mary Caroline Doremus

A. B., State Normal College, Albany, New York, 1908

NORMAL DIPLOMAS

University Life Diplomas

Doremus, Mary Caroline	Parks, Helena Eleanor
Easterday, Fay Beatrice	Parton, Ida
Evans, Virginia Harriet	Peterson, Tillman
Fallis, Anna Louise	Rogers, Emily Alberta
Fraser, Eva Florence	Stilwill, Edward Matthewson
Gault, Georgia	Stotler, Frank M.
Herthum, Florence Emery	Whittle, Marguerite
Hively, Mary Margaret	Wilbur, Bess Rebecca

University Normal Diplomas

Greffoz, Hortense Perrine	Mower, Lulu
Griffin, Hazel Belle	Schumacher, Herman Joseph
Jones, Evelyn	Sorenson, Beatrice
Knapp, Ellen	Walters, Hazel
McDowell, Sadie	

SCHOLARSHIPS AND PRIZES AWARDED

June 17, 1914

The John Walter Ackerson Prize for Women of \$100.00
Vivian SoRelle

The Women's League Scholarship of \$100.00
Mary Baskowske

The Judge Alfred Battle Debating Prize of \$75.00
Ray R. Greenwood Lewis Baxter Schwellenbach

The Philo Sherman Bennett Essay Prize of \$25.00
Frank Harrison

The E. F. Blaine Oratorical Prize of \$100.00
Robin Victor Welts Frederick Allan Woelflen

The Vivian W. Carkeek Law Essay Prize of \$25.00
John Vincent Roberts

A Scholarship in Chemistry (Anonymous) of \$150.00
George Glockler

The L. J. Corkery Oratorical Prize of \$15.00
Not awarded in 1914

The Jacob Furth Electrical Engineering Prize of \$100.00
Claude Phillips Gordon

The Washington Bankers' Association Prizes
Noah C. Davenport, First Prize \$15.00
Henry M. Grant, Second Prize \$10.00

The Chi Omega Social Service Prize of \$15.00
Vivian SoRelle

The N. Paoletta Gold Medal
Marion Southard

REGISTER OF STUDENTS

GRADUATE SCHOOL

<i>Name of Student</i>	<i>Home Address</i>
Abernethy, Mary B.....	Seattle
A. B., University of Washington, 1910.	
Ake, Mary Frances.....	Mountain Home, Idaho
A. B., University of Washington, 1913.	
Amidon, Mabell Jessie.....	Seattle
B. S., University of Washington, 1914.	M. S., Botany.
Anderson, Agnes Katherine.....	LaCrosse, Wis.
Ph. B., University of Chicago, 1913.	M. A., English.
Ashton, Fred William.....	Seattle
A. B., University of Washington, 1912.	M. S., Chemistry.
Athen, Mrs. Sara Jane.....	Seattle
B. S., Fremont College, Neb., 1893.	
Athen, Virginia Forrest.....	Seattle
B. S., Fremont College, 1904.	
Baker, Lois Leonora.....	Seattle
B. S., Iowa College, 1910.	M. S., Mathematics.
Bardell, Ethel M.....	Seattle
A. B., University of Washington, 1912.	
M. A., University of Washington, 1914.	
Barish, Matilda	Seattle
B. S. in Education, Teacher's College, Columbia University, 1910.	
Barish, Saul W.....	Seattle
B. S. in Education, Teacher's College, Columbia University, 1910.	
	M. A., German.
Beard, Frank Wilson....	Minneapolis, Minn.
B. S. in Forestry, University of Minnesota, 1911.	
	M. S., Forestry.
Bedell, Mary Elizabeth.....	Seattle
B. S., University of Washington, 1914.	M. S., Chemistry.
Beebe, Cornelius	Ellensburg
A. B., University of Oregon, 1899.	M. A., Political Science.
Behling, Glenola E.....	Seattle
A. B., University of Chicago, 1913.	M. S., Chemistry.
Benjamin, Ralph James.....	Seattle
A. B., University of Washington, 1914.	M. A., English.
Berglund, Edna Glass.....	Seattle
A. B., Washington State College, 1909.	M. A., English.
Bishop, George Holman.....	Ann Arbor, Mich.
A. B., University of Michigan, 1912.	M. A., Zoology.
Bliss, Charles King.....	Seattle
A. B., University of Chicago, 1907.	
M. A., University of Illinois, 1909.	

Bloomguist, Ernest C.....	Tacoma
A. B., Gustavus Adolphus College, 1901.	M. A., Scandinavian.
Blough, Allie	Seattle
A. B., University of Washington, 1913.	M. A., Education.
Boddy, Estie Terissa.....	Seattle
Ph. B., Morningside College, 1906.	M. A., Oriental Literature.
Boucher, Laura Elizabeth.....	Walla Walla
B. L., University of California, 1914.	M. A., English.
Bouillon, Victor Joseph.....	Seattle
A. B., University of Washington, 1913.	
Brayton, Fannie Elizabeth.....	Seattle
A. B., University of Wisconsin, 1903.	M. A., Latin.
Bunch, Agnes	Seattle
A. B., University of Washington, 1911.	
Bundy, Bird	Seattle
A. B., Iowa State Teachers College, 1913.	
Burdick, Earl Franklin.....	Chicago, Ill.
B. S., Northwestern University, 1914.	M. A., Chemistry.
Burns, Alfred A.....	Seattle
B. S., University of Washington, 1914.	
	M. S. in Civil Engineering.
Burns, Omar Allen.....	Seattle
A. B., Greenville College.	
M. A., University of Washington, 1906.	
Campbell, Fannie	Seattle
A. B., Northwestern University, 1905.	M. A., English.
Carstensen, H. Lulu.....	Seattle
A. B., Pennsylvania College, 1902.	
Caywood, Noal F.....	Everett
B. S. in Forestry, University of Washington, 1913.	
	M. S., Forestry.
Challis, Bertha Mary.....	Seattle
A. B., University of Washington, 1910.	
M. A., University of Washington, 1911.	
Chisholm, Theresa Blanche.....	Seattle
A. B., University of Washington, 1914.	
Clark, Louise	Seattle
A. B., University of Michigan, 1903.	
Clark, Earle J.....	Seattle
B. S., University of California, 1914.	
Clift, Ruby Moser.....	Selah
B. S., University of Washington, 1914.	M. S., Chemistry.
Cline, Effie Mabel.....	Spokane
A. B., York College, 1911.	M. A., Latin.
Cook, Helen Adelia.....	Seattle
A. B., Mount Holyoke College, 1910.	M. A., Education.
Crosno, May Frances.....	Seattle
A. B., University of Washington, 1904.	M. A., History.
Dahm, Grace E.....	Seattle
A. B., University of Wisconsin, 1912.	

Davenport, Noah Cleveland.....	Bellingham
A. B., University of Washington, 1914.	M. A., History.
Davis, Mrs. M. Martelle Elliott.....	Seattle
B. L., Ohio Wesleyan University, 1897.	
Davison, Celia Leah Madeline.....	Clyde
A. B., University of Southern California, 1914.	
Day, George M.....	Tacoma
A. B., University of Puget Sound, 1912.	
deTourville, Audrey.....	Seattle
A. B., University of Washington, 1913.	
Duckering, William E.....	Seattle
A. B., University of Washington, 1903.	
B. S. in Civil Engineering, University of Washington, 1909.	
Eager, Louise Downer.....	Mount Vernon
A. B., University of Louisville, Ky., 1914.	M. A., English.
Eberle, Sidney Sohns.....	Vancouver, Wn.
A. B., University of Washington, 1914.	
Eddy, Addie Cornwall.....	Seattle
A. B., Simpson College, 1907.	M. A., German.
Edwards, Lola Edith.....	Port Townsend
A. B., University of Washington, 1911.	M. A., Botany.
Ellert, William H.....	Seattle
B. S., Carleton College, 1903.	
Evans, Frank O.....	Seattle
A. B., Whitman College, 1906.	
Evison, Samuel Herbert.....	Seattle
A. B., Trinity College, Hartford, Conn., 1913.	
Farnham, Frances E.....	Seattle
A. B., University of Washington, 1912.	
Farrar, Mayme.....	Seattle
A. B., University of Washington, 1914.	M. A., English.
Farrar, Myrtle.....	Pueblo, Colo.
A. B., State Teachers College, Greeley, Colo., 1913.	
Fassett, Agnes, Radford.....	Seattle
A. B., University of Kansas, 1908.	
Fay, Alice Ober.....	Seattle
A. B., Vassar College, 1914.	
Fay, Dorothy Wheaton.....	Seattle
A. B., Vassar College, 1912.	M. A., English.
Firth, Mildred.....	Seattle
A. B., University of Washington, 1914.	M. A., German.
Flodin, John.....	Seattle
B. S. in Mech. Eng., University of Washington, 1913.	
Ford, Herbert Ezra.....	Seattle
A. B., University of Kansas, 1912.	
Foster, Anna E.....	Burton
A. B., McMinnville College, 1913.	
Fox, Viva.....	Seattle
A. B., Hamline University, 1914.	
Fraser, Eva F.....	Seattle
A. B., University of Washington, 1911.	

Freeman, David Wellington.....	Bellingham
A. B., Drake University, 1903.	
A. M., Drake University, 1904.	
Frisk, Carl E.....	Seattle
A. B., Augustana College, 1893.	
Gabel, Marie.....	Seattle
A. B., University of Washington, 1914.	M. A., Education.
Gandolfo, Florence Catherine.....	Seattle
A. B., Stanford University, 1910.	
Gannon, Bertha.....	Seattle
B. S., University of Washington, 1914.	
Gilbreath, James A.....	Seattle
M. A., Whitman College, 1907.	
Gillette, Alletta Marie.....	Seattle
A. B., Smith College, 1907.	
M. A., University of Washington, 1911.	
Gleason, Mabel E.....	Seattle
A. B., University of Washington, 1909.	M. A., History.
Goddard, Florence M.....	Seattle
Ph. B., University of Chicago, 1912.	M. A., Education.
Golisch, Edward Herman.....	Seattle
Ph. B., Simpson College, 1907.	M. A., Education.
Goodrich, Forest Jackson.....	Seattle
B. S., University of Washington, 1914.	M. S., Pharmacy.
Graham, Joseph William.....	Seattle
C. E., Rensselaer Polytechnic Institute, 1910.	
M. S. in Civil Engineering.	
Gregg, Kate Lella.....	Chehalis
A. B., University of Washington, 1908.	M. A., English.
Grindrod, Ione.....	Seattle
A. B., University of Washington, 1911.	M. A., English.
Groves, Allen Morton.....	Seattle
A. B., Hamilton College, 1913.	M. A., Political Science.
Halbach, Norma Catherine.....	Milwaukee, Wis.
A. B., University of Wisconsin, 1904.	
Halferdahl, Alice.....	Seattle
A. B., University of Washington, 1914.	M. A., Education.
Heines, John Cornelius.....	Seattle
A. B., Rutgers College, 1913.	M. A., English.
Herring, John P.....	Seattle
A. B., Brown University, 1904.	M. A., Political Science.
Hile, Edith Elizabeth.....	Seattle
A. B., University of Washington, 1914.	
Hilton, Edmund Wilbur.....	Seattle
A. B., University of Washington, 1912.	
Hipkoe, George August.....	Seattle
A. B., University of Washington, 1913.	M. A., English.
Hoffenreich, Herman.....	Buda-Pesth, Hungary
Magister Artis Phar., University of Buda-Pesth, 1903.	
Hopkins, Olive F.....	Seattle
A. B., Indiana University, 1905.	

- Houghten, Ferry C.....Oakland, Mich.
A. B., Olivet College, 1913. M. S., Physics.
- Howe, Ellen Ford.....Seattle
A. B., University of Washington, 1911.
- Hultgren, Claes Leonard.....Seattle
A. B., Ohio Wesleyan University, 1903. M. A., Education.
- Hutchison, Dora.....Tacoma
A. B. and B. S., Valparaiso University, 1912.
- Ide, Archie Lewis.....Seattle
A. B., Hamlin University, 1904.
M. S., University of Washington, 1914.
- Jillson, Willard Rouse.....Seattle
B. S., Syracuse University, 1912. M. S., Geology.
- Johnson, David Hjalmar.....Tacoma
B. S., Whitworth College, 1913. M. S., Chemistry.
- Jones, Frank M.....Ritzville
B. S., University of Washington, 1914.
- Jones, Zola Martha.....Bremerton
A. B., University of Washington, 1914. M. A., History.
- Karlstrom, Otto Reinhold.....Seattle
A. B., Augustana College, 1909. M. A., Scandinavian.
- Kenny, Kathryn.....Seattle
A. B., University of Washington, 1911.
- Knapp, Ralph Read.....Seattle
LL. B., University of Washington, 1910; A. B., 1914.
- Knapton, Mary Alice.....Seattle
A. B. in Education, University of Washington, 1914.
M. A., Education.
- Koch, Samuel.....Seattle
B. L., University of Cincinnati, 1899.
M. A., University of Cincinnati, 1901.
- Korstad, Mary Greene.....Seattle
A. B., University of Washington, 1911. M. S., Zoology.
- Kruse, Alice Manney.....Seattle
A. B., University of Iowa, 1909.
- Lamberty, Anna Margaret.....Seattle
A. B., University of Washington, 1914.
- Langdon, Seth Chapin.....Bosler, Wyo.
B. S., Northwestern University, 1911.
M. A., University of Washington, 1913. Ph. D., Chemistry.
- Lawler, Lillian Donovan.....Seattle
A. B., University of Washington, 1907.
- Lindborg, Arthur E.....Tacoma
A. B., University of Washington, 1913.
- Linton, Arthur Wilson.....Seattle
B. S., University of Michigan, 1909. M. S., Chemistry.
- Lisse, Martin W.....Harrisburg, Pa.
B. S., Pennsylvania State College, 1914. M. S., Chemistry.
- Longenecker, Albert Maurice.....Seattle
A. B., University of Kansas, 1906. M. A., History.
- Lorbeer, Sarah Elizabeth.....Pomona, Cal.
B. A., Pomona College, 1914.

McCarney, Margaret.....	Seattle
A. B., University of Washington, 1909.	
McGaudy, Grace L.....	Sumner
Ph. B., University of Puget Sound, 1907. M. A., Latin.	
MacKinnon, Marion Grace.....	Seattle
A. B., McGill University, 1910.	
McLean, Dollie Lomila.....	Seattle
A. B., University of Washington, 1914.	
McNair, Marie Louise.....	Seattle
A. B., Smith College, 1914.	
Macleay, Elizabeth.....	Olympia
A. B., University of Washington, 1909. M. A., English.	
Marston, C. May.....	Seattle
M. A., University of Washington, 1914.	
Martin, Howard Lucius.....	Burlington, Vt.
A. B., University of Vermont, 1902. M. A., French.	
Mathieu, Mae.....	Seattle
A. B., University of Washington, 1910. M. A., French.	
Mearns, Edith Helena.....	Seattle
A. B., Geneva College, 1914.	
Melick, Katherine May.....	Havelock, Neb.
M. A., University of Nebraska, 1897.	
Moriarty, James T.....	Seattle
A. B., Gonzaga University, 1912.	
Moyer, Lillian Adele.....	Seattle
A. B., University of Washington, 1914.	
Neikirk, Jessie.....	Seattle
Ph. B., University of Colorado, 1897. M. S., Botany.	
Nelson, Ellen Eustina.....	Randolph, Kan.
B. S., Kansas Agricultural College, 1911.	
Nickson, Delbert Harry.....	Platteville, Wis.
B. S., University of Wisconsin, 1913. M. S., Bacteriology.	
Ohlson, David.....	Seattle
A. B., University of Washington, 1913. M. S., Physics.	
Ottestad, Justin W.....	Stevenson
B. S., in Forestry, University of Washington, 1912.	
Park, Lical.....	Seattle
A. B., University of Washington, 1911.	
Parker, Alice Lella.....	Seattle
A. B., University of Washington, 1914.	
Parker, Lela Kathleen.....	Seattle
A. B., University of Washington, 1909.	
Pease, Vinnie A.....	Tacoma
B. S., University of Puget Sound, 1907. M. S., Botany.	
Peterson, Mabel Albertine.....	Seattle
A. B., University of Washington, 1912. M. A., German.	
Phelps, Grace Eleanor.....	Denver, Colo.
A. B., University of Denver, 1911.	
A. M., University of Denver, 1912.	
Philben, Honoria.....	Shelton
A. B., University of Washington, 1908.	

Platt, Earl Milliron.....	Seattle
B. S., University of Washington, 1914.	M. S., Pharmacy.
Pugsley, Harriot May.....	Seattle
A. B., University of Washington, 1907.	
Pusey, Edna Margaret.....	Seattle
A. B., University of Washington, 1914.	M. A., German.
Rader, Ray.....	Oakland, Cal.
B. S. in E. E., University of Washington, 1914.	M. S., Electrical Engineering.
Reekie, Martha.....	Seattle
A. B., University of Washington, 1913.	
Rennie, Wesley Frederic.....	Vancouver, B. C.
A. B., Hillsdale College, 1913.	
Revenaugh, Carl Milhouse.....	Renton
A. B., Denison University, 1904.	
Rhodenbaugh, Edward Franklin.....	Boise, Ida.
B. S., Iowa State College, 1897.	M. A., Chemistry.
Roe, Virginia.....	Seattle
A. B., University of Washington, 1914.	M. A., Political Science.
Sakai, Daisuke.....	Seattle
A. B., Waseda University, Japan, 1914.	
Schneider, Isaac.....	Seattle
B. S., University of Washington, 1914.	M. S., Forestry.
Scott, Winfield, Jr.....	Seattle
A. B., Oberlin College, 1912.	M. A., Chemistry.
Senska, Nellie May.....	Seattle
A. B., Buena Vista College, 1907.	M. A., Education.
Seydell, Grace Viola.....	Seattle
B. S., University of Washington, 1914.	M. S., Botany.
Shoichi, Oshima.....	Japan
A. B., Waseda College, 1906.	M. A., History.
Simonson, Emma Amalia.....	McMinnville, Ore.
B. S., McMinnville College, 1912.	M. A., Education.
Simonson, Louise Katherine.....	McMinnville, Ore.
B. S., McMinnville College, 1911.	M. A., Education.
Skinner, Fred Vernon.....	Big Horn, Wyo.
B. A., University of Wyoming, 1913.	M. A., Chemistry.
Smith, Alice H.....	Tacoma
Ph. B., University of Chicago, 1907.	
Smith, Herman Hale.....	Seattle
A. B., State University of Iowa, 1909.	
Sparks, Bertha E.....	Seattle
A. B., University of Iowa, 1908.	
Streator, Gertrude Inez.....	Seattle
A. B., University of Washington, 1909.	Ph. D., English.
A. M., University of Washington, 1912.	
Sutherland, Esther H.....	Seattle
A. B., University of Washington, 1911.	
Sutton, Fred.....	Seattle
A. B., University of Washington, 1909.	M. A., Mathematics.

- Swenson, Irene Elizabeth.....Lindsborg, Kas.
A. B., Bethany College, Kan., 1907.
- Talbot, Nellie Mackintosh.....Seattle
A. B., University of Washington, 1907.
- Tamura, Teijiro.....Shiga, Japan
A. B., University of Washington, 1913. M. A., Political Science.
- Thaanum, Margaret G.....Seattle
A. B., University of Washington, 1914.
- Thing, Curtis W.....Seattle
B. S., Lenox College, Iowa, 1914. M. S., Chemistry.
- Thompson, Claude S.....Seattle
B. S. in Mining Eng., University of Washington, 1910.
- Thompson, Thomas Gordon.....Torrington, Conn.
A. B., Clark College, 1914. M. A., Chemistry.
- Tomlinson, Margaret May.....Seattle
B. S., University of Washington, 1914. M. S., Physics.
- Trempe, Louis A.....Winslow
A. B., University of Washington, 1914.
- Turesson, Göte Wilhelm.....Malmö, Sweden
B. S., University of Washington, 1914. M. S., Botany.
- Vickner, Bertha Almen.....Seattle
A. B., Gustavus Adolphus College, 1910.
- Wagner, Agustus Allison.....Milwaukee, Oregon
A. B., Pacific University, 1911. M. S., Chemistry.
- Wagoner, Lovisa Catherine.....Seattle
A. B., University of Washington, 1910.
M. A., University of Washington, 1913.
- Waldrip, Sarah Pauline.....New Kamlitche
A. B., University of Washington, 1914.
- Wallace, Isabel Weir.....Seattle
A. B., Whitman College, 1896. M. A., English.
- Waltemeyer, Marie Claudge.....Seattle
B. A., University of Colorado, 1908. M. A., English.
- Way, Evelyn Dorothy.....Seattle
A. B., University of Washington, 1908.
- Weaver, Jessie I.....Seattle
A. B., University of Minnesota, 1903.
- Wells, Norma Mae.....Seattle
A. B., University of Washington, 1914.
- West, Ruth.....Seattle
A. B., University of Washington, 1908. M. S., Chemistry.
- Westerberg, Iwar Sigurd.....Seattle
A. B., Clark University, 1897.
A. M., Harvard University, 1908.
- White, Robert James.....Port Angeles,
A. B. in Education, University of Minnesota, 1911.
M. A., Education.

Williams, Bertha Krogoll.....	Seattle
A. B., University of Washington, 1911.	
Williams, Charlotte Forsyth.....	Seattle
A. B., University of Washington, 1909.	
Wilson, Marie Helen.....	Seattle
A. B., University of Washington, 1914.	
Wright, Farnsworth.....	Seattle
A. B., University of Washington, 1914.	
Yaeno, Hideo.....	Yamaguchi, Japan
A. B., Imperial University, Tokio, 1912.	M. A., History.

COLLEGE OF LIBERAL ARTS

ABBREVIATIONS

Classes

Sr. Senior

Jr. Junior

So. Sophomore

Fr. Freshman

*Name of Student and Rank.**Home Address.*

Abe, Kingo; So.....	Nagaoka, Japan
Abel, Donald George; So.....	Hoquiam
Abel, Robert B.; Fr.....	Hoquiam
Abelset, Marcus; Fr.....	Seattle
Abelset, E. Ruth; Fr.....	Seattle
Adams, Frances T.; Fr.....	Seattle
Adams, Violette B.; So.....	Seattle
Agassiz, Florence M.; Fr.....	Seattle
Albee, Archie; Fr.....	Seattle
Alben, Ellen G.; Jr.....	Vancouver
Alben, Nellie E.; Jr.....	Vancouver
Alderson; C. Geraldine; So.....	Portland, Ore.
Allen, Harold B.; So.....	Seattle
Allison, Mildred L.; Fr.....	Seattle
Alloway, Edna Ruth; Fr.....	Seattle
Altshiller, Sophie R.; Jr.....	Seattle
Alverson, Vida; Jr.....	Seattle
Anasawa, Seichi; So.....	Seattle
Anderson, Arlie M.; So.....	Bellingham
Anderson, Ella Elvera; Fr.....	Hoquiam
Anderson, Fern Viola; Fr.....	Seattle
Anderson, Grace B.; Sr.....	Seattle
Anderson, Herman C.; Sr.....	Mt. Vernon
Anderson, J. Sigurt; Sr.....	Parma, Ida.
Anderson, Lydia C.; Jr.....	Seattle
Anderson, Otto D.; So.....	Edmonds
Anderson, Stanley B.; Fr.....	Seattle
Andrews, Esther H.; So.....	Tacoma
Andrews, Etta; Sr.....	Castle Rock
Angle, J. Eber; Fr.....	Shelton
Angst, Laura; Sr.....	Chehalis
Aono, Frank O.; Fr.....	Seattle
Appleby, Nevada; Fr.....	Seattle
Armin, Martha Rose; Fr.....	Seattle
Armstrong, Irene M.; Jr.....	Tacoma
Arntzen, Edward J.; Fr.....	Parkland
Arthur, Agnes; Fr.....	Cannon City, Colo.
Astel, George Bernard; So.....	Stanwood
Attebery, Hester Josephine; Jr.....	Spokane
Bachrach, Herbert; Fr.....	Tacoma
Backowske, Maryan; Sr.....	Anaconda, Mont.

Badger, Edwin Hill, Fr.....	Seattle
Bain, Helen R.; Jr.....	Seattle
Bair, Lillian; Fr.....	Stellacoom
Baisden, Leo B.; Jr.....	Seattle
Baker, Adella G.; Fr.....	Seattle
Baker, Alfred L.; Fr.....	Seattle
Baker, Alice H.; Fr.....	Seattle
Baker, Anna L.; Jr.....	Seattle
Baker, Elizabeth E.; Fr.....	Deer Park
Baker, Violet E.; Fr.....	Spokane
Baldwin, M. Elizabeth; So.....	Elephant Butte, N. Mex.
Ball, Addie G.; Fr.....	Seattle
Ball, Florence; Sr.....	Seattle
Bardson, Agnes M.; Fr.....	Anacortes
Barker, Stanley F.; So.....	Seattle
Barkwill, Bernard G.; Fr.....	Seattle
Barnes, Mildred; So.....	Seattle
Barr, Helen M.; So.....	Seattle
Barron, Beatrice; Fr.....	Butte, Mont.
Barstad, A. Verna; Sr.....	Spokane
Barter, Etta E.; Sr.....	Seattle
Bartlett, F. Merrill; Fr.....	Port Townsend
Bash, Carolyn; Fr.....	Seattle
Bass, Florence G.; So.....	Red Oak, Ia.
Batcheller, Elva L.; Sr.....	Seattle
Bateman, Stella; Fr.....	Helena, Mont.
Bates, Agnis M.; Fr.....	Olympia
Bates, Bernard R.; Fr.....	Tacoma
Baxter, Catherine C.; So.....	Seattle
Beardsley, George O.; Fr.....	North Yakima
Beckham, Leona M.; Sr.....	Seattle
Beerman, Glen Morton; Fr.....	Wenatchee
Begg, Ruth; Sr.....	Seattle
Bemis, Alva; Fr.....	Castle Rock
Benjamin, Hazel; Fr.....	Seattle
Bennett, Harry T.; Fr.....	Monroe
Bennett, Helen M.; Fr.....	Seattle
Bennett, Leo, F.; Fr.....	Monroe
Bennett, Ruth E.; Fr.....	Seattle
Benz, Fritz R.; Jr.....	Toppenish
Berglund, Fanny; Sr.....	Astoria, Ore.
Bergman, Annie W.; Sr.....	Astoria, Ore.
Berlin, Lawrence D.; Fr.....	Kent
Best, Elva; So.....	Newberg, Ore.
Beymer, Fannie; Fr.....	Tacoma
Beymer, Richard K., Jr.; Fr.....	Tacoma
Binnings, Mildred O.; So.....	Seattle
Bjorkman, Frank W.; Fr.....	Tacoma
Black, Wendell; Fr.....	Everett
Bloyd, Marjorie; Fr.....	Prescott
Blunt, Anne; Fr.....	Seattle

Blyth, Joseph; Fr.....	Bothell
Boddy, Eva May; Jr.....	Seattle
Bolinger, Blanche Elizabeth; So.....	Methow
Bolinger, Clayton; Fr.....	Methow
Bollman, Dean S.; Fr.....	Seattle
Bolster, Helen; Fr.....	Seattle
Bolton, Genevieve; Fr.....	Seattle
Bonker, F. Lucy; Jr.....	Port Angeles
Bonney, Catherine A.; Sr.....	Seattle
Bories, Henry V.; So.....	Seattle
Boucher, Mary S.; Fr.....	Kent
Bovee, Homer T.; Jr.....	Seattle
Bowdoin, Blanche V.; So.....	Bremerton
Bower, Altus Edwin; Fr.....	Cocolalla, Ida.
Bowie, Frances; So.....	Roslyn
Bown, R. Frederick; Sr.....	Seattle
Boyd, M. Elizabeth; Fr.....	Portland, Ore.
Brace, Harry D.; So.....	Seattle
Brace, Mary W.; So.....	Seattle
Brackett, A. Wendell; So.....	Seattle
Bradbury, Laura A.; Fr.....	Port Angeles
Brady, Lorella Ellen; Fr.....	San Francisco, Cal.
Brainerd, Donna F.; Sr.....	Seattle
Brakel, Marguerite B.; Fr.....	Portland, Ore.
Brawley, Edith M.; Fr.....	Seattle
Brawley, Mrs. Marie; So.....	Seattle
Breazeale, I. Edna M.; So.....	Bay View
Breslin, Sarah; Jr.....	Seattle
Bressler, Donald Lee; So.....	Genesee, Ida.
Brevick, Conrad; So.....	Seattle
Brewster, Helen G.; Fr.....	Seattle
Brinck, Raoul A.; Sr.....	Anacortes
Broad, Harry Herman, Sr.....	Seattle
Bronson, Deming; Sr.....	Seattle
Bronson, Doris; Sr.....	Seattle
Bronson, Hallie; Fr.....	Seattle
Brooks, LeRoy A. W.; Fr.....	Seattle
Brown, Charles H.; Fr.....	Chehalis
Brown, Ethel M.; Sr.....	Seattle
Brown, Ford K.; Fr.....	Seattle
Brown, Leland P.; Jr.....	Auburn
Brown, Marian D.; Jr.....	Seattle
Brown, Beryl J.; Sr.....	Seattle
Browne, Edwin C.; Fr.....	Seattle
Bruckart, Leigh M.; Fr.....	Skykomish
Bryant, Boo W.; Jr.....	Seattle
Bryant, David; Fr.....	Seattle
Bryant, Willis R.; Jr.....	Seattle
Buchan, George B.; Fr.....	Seattle
Buckley, Raymond J.; Fr.....	Portland, Ore.
Buren, Anna Louise; So.....	Tacoma

Burkhardt, Margaret Elizabeth; Fr.....	Seattle
Burkheimer, Florence; Jr.....	Seattle
Burnside, Catherine; Fr.....	Raymond
Burton, Alma A.; Fr.....	Seattle
Busby, Charlotte; Jr.....	Seattle
Bush, Agnes S.; So.....	Seattle
Bushell, Dorothy I.; So.....	Seattle
Bushnell, Helen; Fr.....	Seattle
Byerly, Marian; Jr.....	Seattle
Byham, Gladys M.; So.....	Seattle
Calder, M. Dixon; So.....	Montesano
Calderhead, Adelaide; Fr.....	Walla Walla
Calderhead, Samuel J.; Jr.....	Seattle
Caley, Katharine; Jr.....	Seattle
Calhoun, Gladys L.; So.....	Seattle
Callow, Russell S.; Jr.....	Shelton
Calloway, Gertrude; Fr.....	Seattle
Campbell, Agnes S.; So.....	Seattle
Campbell, Ernest W.; Fr.....	Seattle
Campbell, Esther M.; Fr.....	Seattle
Campbell, Lloyd C.; Fr.....	North Yakima
Campbell, Pansy E.; Sr.....	Seattle
Campion, Alfred H.; Fr.....	Tacoma
Capps, Marjorie; So.....	Seattle
Cardle, Maynard M.; Sr.....	Everett
Carlberg, Marguerite; Fr.....	Wenatchee
Carlin, Adele; Fr.....	Colville
Carlson, Ruth Pauline; Fr.....	Seattle
Carmichael, G. Albert; Fr.....	Bloomfield, Ia.
Carothers, Russell; Fr.....	Kelso
Carrigan, Jack B.; Fr.....	Seattle
Carse, Elta; Sr.....	Samish
Cary, Miles E.; So.....	Edmonds
Case, Mary; Fr.....	Kalama
Case, Randall S.; Fr.....	Seattle
Case, Ruth Elizabeth; Fr.....	Kalama
Cassady, Marie; Fr.....	Ritzville
Cassidy, F. Roselind; Fr.....	Seattle
Catton, Lois J.; So.....	Seattle
Chamberlain, C. Martin; Fr.....	Spokane
Chamberlain, James E.; Fr.....	Seattle
Chamberlain, Isabel; Fr.....	Seattle
Chandler, Elsie R.; Fr.....	Seattle
Chandler, Gertrude V.; Sr.....	Richland, Ore.
Chapman, Myers George; So.....	Seattle
Chase, Mrs. May M.; Sr.....	Seattle
Child, Pauline P.; Sr.....	Sprague
Chittenden, Eleanor M.; Jr.....	Seattle
Christensen, Hans; Jr.....	Olympia
Church, Dorothy; Fr.....	Seattle
Church, Mabel M.; Fr.....	Pocatello, Ida.

Clague, Ewan; So.....	Dayton
Clare, Ethel R.; Sr.....	Selleck
Clark, Edith M.; Fr.....	Clarkston
Clark, Ermine; Fr.....	Bellingham
Clarke, Florence Roberta; So.....	Olympia
Cleaver, C. Ray; Fr.....	Creswell, Ore.
Cleaves, Edith L.; Fr.....	Seattle
Clement, Vera; So.....	Seattle
Clements, Colin C.; Jr.....	Seattle
Clyde, Paul D.; Fr.....	Seattle
Coats, Cecil L.; Fr.....	Seattle
Cochran, Avadana M.; Fr.....	Seattle
Coder, Lloyd X.; Fr.....	Seattle
Coe, Winifred E.; Jr.....	Seattle
Coffee, John M.; Fr.....	Tacoma
Coffman, Willow; So.....	Seattle
Cohrs, Theodore M.; Sr.....	Seattle
Cole, Eva M.; Jr.....	Seattle
Coleman, Donald J.; Fr.....	Seattle
Coleman, R. Esther; Jr.....	Tacoma
Coleman, Helen L.; Fr.....	Seattle
Coleman, Louise; Fr.....	Seattle
Collins, James M.; Fr.....	Seattle
Collins, Marie A.; Fr.....	Seattle
Collins, Opal H.; Jr.....	Seattle
Condlon, Edward J.; So.....	Seattle
Connery, Anna L.; Sr.....	Seattle
Connell, Helen Loretta; Jr.....	Helena, Mont.
Conner, Jack; Fr.....	Seattle
Conner, Lewis C.; Jr.....	Everett
Connors, Edna E.; So.....	Seattle
Conrad, Fred Edward; Fr.....	Tacoma
Constantine, Dorothy E.; Fr.....	Seattle
Cook, Horace L.; So.....	Aberdeen
Cooper, Frances; So.....	New York City, N. Y.
Cooper, Mary B.; Jr.....	Seattle
Cope, Dow R.; Fr.....	North Yakima
Copper, John Harris; Fr.....	Hood River, Ore.
Corbiere, Anthony S.; Fr.....	Seattle
Corbitt, Helen D.; Fr.....	Seattle
Corbitt, Marsh M.; So.....	Seattle
Cornue, M. Donald; Fr.....	Selah
Covey, Walter H.; So.....	Seattle
Cox, Mrs. E. V.; Jr.....	Seattle
Cozier, Edna Z.; So.....	Seattle
Cozier, Mary H.; Sr.....	Seattle
Crahan, Margaret; Fr.....	Seattle
Craig, Frances A.; Jr.....	Knob Noster, Mo.
Craig, Samuel; Fr.....	Portland, Ore.
Crandall, Mildred; Fr.....	Seattle
Crane, Glenn E.; So.....	Kalispell, Mont.

Crawford, Edward I.; Jr.....	Seattle
Crawford, Eleanor W.; Fr.....	Seattle
Crawford, Grace R.; Fr.....	Seattle
Cremer, Henry; Sr.....	Seattle
Crippen, Malda M.; So.....	Spokane
Crogstad, Clara; Fr.....	Seattle
Culver, Evelyn Louise; So.....	Friday Harbor
Cunningham, Jessie; Jr.....	Enid, Pa.
Cunningham, B. Theresa; Fr.....	Seattle
Curtis, Paul W.; Fr.....	Seattle
Cushman, Thomas J.; So.....	Seattle
Cutter, Charles E.; Fr.....	Seattle
Dabney, Elmer S.; Jr.....	Seattle
Dahlgreen, Arvid H. L.; Fr.....	Tacoma
Damitio, Sylvester James; Fr.....	Elma
Dana, Clyde A.; Fr.....	Seattle
Dancer, David A.; So.....	Lamoni, Ia.
Daniels, E. Clair; Fr.....	Spokane
Daniels, Mrs. Gladys F.; Sr.....	Seattle
Darrin, Dorothy de Lepine; Jr.....	Bellingham
Darville, Olive F.; Jr.....	Seattle
Daulton, Elizabeth K.; So.....	Seattle
Davidson, John Frederic; So.....	Seattle
Davis, Eugene Clark; So.....	Port Angeles
Davis, Glenn; Fr.....	Mt. Vernon
Davis, Jennie W.; Fr.....	Seattle
Davis, Lester A.; Fr.....	Seattle
Davis, Martha; So.....	Seattle
Davis, Ruth G.; Jr.....	Tacoma
Dean, Mildred; Fr.....	Walla Walla
DeBruyn, Paul M.; Fr.....	Seattle
DeCan, Ina Arletta; Fr.....	Seattle
deCrane, May C. P.; Sr.....	Lakebay
Delaney, Kathleen; Fr.....	Seattle
de la Pole, Dorothy B.; So.....	Seattle
Delkin, Fred L.; Jr.....	Seattle
Dellar, Rae; Fr.....	Portland, Ore.
Deming, William Arthur; Fr.....	Bellingham
Dempsey, Pearle K.; Fr.....	Seattle
Denny, Madge; So.....	Seattle
Derr, Lola C.; So.....	West Stayton, Ore.
Devine, Richard D.; Fr.....	Pendleton, Ore.
De Voe, Franklin E.; Fr.....	North Yakima
de Witt, Julia B.; Fr.....	Raymond
Dickerson, William E.; Fr.....	Seattle
Dickinson, Lois A.; Fr.....	Dayton
Dickson, Cecil L.; Fr.....	Tacoma
Dietrichs, Leota I.; Fr.....	Seattle
Dill, Daniel George; Jr.....	Mt. Vernon
Ditlefsen, Louise A.; Fr.....	Seattle
Dobbs, Thomas E.; Fr.....	Tacoma

Donaldson, Harry C.; Fr.....	Delevan, Wis.
Donnell, Georgia M.; Fr.....	Snohomish
Doran, Eunice W.; Jr.....	Mt. Vernon
Dorgan, Mary; So.....	Seattle
Dorgan, Yvonne; Fr.....	Seattle
Doty, Walter L.; So.....	Seattle
Dougherty, Dola M.; Sr.....	Seattle
Douglas, George S.; So.....	Seattle
Douglas, Muriel; So.....	Seattle
Dow, Neal; Fr.....	Seattle
Dowell, Alice M.; So.....	Seattle
Dowling, Mrs. Grace Thompson; Sr.....	Seattle
Downie, Mrs. Bernice Merl; Fr.....	Seattle
Draper, Edgar Marian; Jr.....	Ontario, Ore.
Draper, Elizabeth; Fr.....	Greeley, Colo.
Dubuque, Emma; Jr.....	Seattle
Duffy, Alex; Fr.....	Seattle
Duffy, Maurice Matthew; Fr.....	Seattle
Dumett, Ray; So.....	Seattle
Dunbar, Camilla K.; So.....	North Yakima
Dunlap, M. Donna; Fr.....	Seattle
Dunlap, Sadie L.; Sr.....	Pe Ell
Dunn, Frank Clyde; Fr.....	Bellingham
Du Pree, Grace L.; Fr.....	Seattle
Durgan, Frank Raymond; Fr.....	Stanwood
Durham, F. Wayne; Fr.....	Spokane
Durham, Hazel A.; So.....	Seattle
Dyer, Alvin E.; Fr.....	Spokane
Dykeman, Roe; So.....	Seattle
Dysart, Lloyd B.; Sr.....	Centralla
Easterbrook, Gladys F.; Fr.....	Port Townsend
Eaton, George E.; Fr.....	Seattle
Eaton, Philip K.; Fr.....	Seattle
Ebright, Carroll M.; Jr.....	Seattle
Eckhart, F. Louisa; So.....	Enumclaw
Edmonds, Rupert O.; Jr.....	Mt. Vernon
Edwards, George K.; So.....	Seattle
Egan, Dorothy E.; Fr.....	Seattle
Eidemiller, George B.; So.....	Tacoma
Elder, Roger E.; Fr.....	Tacoma
Ellis, Eleanor; Fr.....	Seattle
Ellis, Floyd E.; Fr.....	Spokane
Ellis, J. Ruth; Sr.....	Seattle
Elmore, Luther; Fr.....	North Yakima
Elwood, Rose E.; Fr.....	Portland, Ore.
Embree, Felix V.; So.....	Seattle
Emerson, Frances M.; So.....	Butte, Mont.
Emery, Ethel A.; Sr.....	Seattle
Englehart, O. Philip; So.....	North Yakima
English, Alice; Fr.....	Seattle
English, Elsie; Jr.....	Seattle

English, Redmond F.; Fr.....	Arcadia, Wis.
Erickson, Harry Walter; Fr.....	Seattle
Eriksen, Geneva A.; So.....	Seattle
Esterly, Katherine; Sr.....	Seattle
Etzler, Mrs. Florence; Jr.....	Seattle
Eva, Mary M.; Fr.....	Seattle
Evans, Frank S.; Sr.....	Seattle
Everest, Harold P.; Fr.....	Kirkland
Everett, Donna A.; Fr.....	Seattle
Everett, Elizabetta Rhinehart; Jr.....	Seattle
Everett, W. Herbert; Fr.....	Seattle
Everton, Clara M.; So.....	Edmonds
Eyman, Bradford; Fr.....	Seattle
Fairchild, Muir S.; So.....	Seattle
Fenn, Grace; Fr.....	Seattle
Ferryman, Helen L.; Fr.....	Wenatchee
Fetters, E. Lueree; Fr.....	Seattle
Ficks, George W.; Fr.....	Seattle
Fisher, C. Lucile; Sr.....	Spokane
Fisken, Mary C.; Sr.....	Spokane
Flanagan, Thomas; Fr.....	Seattle
Flanley, W. Fred; So.....	Seattle
Fleming, Eloine; So.....	Seattle
Fleming, Eloise; So.....	Seattle
Flint, Lois E. A.; So.....	Port Townsend
Foltz, Laura A.; Fr.....	Tacoma
Fonda, Ada Elizabeth; So.....	Seattle
Forbes, Ramie; Fr.....	Seattle
Ford, Jack L.; So.....	Spokane
Foresman, Kennedy; Fr.....	North Yakima
Fosdick, Ruth; So.....	Goldendale
Fosnaugh, Mildred O.; Fr.....	Kirkland
Fowler, Mrs. Grace Auld; Jr.....	Seattle
Fowler, Louise H.; Sr.....	Seattle
Francis, Violet; So.....	Seattle
Franklin, Helen D.; Fr.....	Seattle
Fraser, Mabel; Jr.....	Port Blakely
Fraser, A. Rosena; Fr.....	Burlington
Freeman, Harry B.; Fr.....	Seattle
French, Irma; So.....	Seattle
French, Leslie E.; Fr.....	Elma
French, Merle C.; Fr.....	Vancouver
Frenger, Eugene A.; So.....	Seattle
Freyd, Florence S.; Fr.....	Seattle
Freyd, Max; Fr.....	Seattle
Fujitomi, Egi; Sr.....	Seattle
Fulton, Orra S.; Sr.....	Quilcene
Gabbert, Gertrude M.; Sr.....	Seattle
Gallaher, Joseph E.; Fr.....	Seattle
Gallup, Lucy; So.....	Seattle
Gardner, Raymond L.; Fr.....	Spokane

Garland, Martha M.; Sr.....	Seattle
Gast, Francis M.; Jr.....	Tacoma
Gates, Louise M.; Fr.....	Seattle
Gaul, Helen; So.....	Seattle
Gay, Donald W.; Fr.....	Seattle
Gay, Gladys; So.....	Seattle
Gellatly, Lester L.; So.....	Wenatchee
Gerretsen, Will H., Jr.; Fr.....	Portland, Ore.
Gerriets, Anna; Fr.....	Mt. Vernon
Gershen, Esther; Fr.....	Seattle
Gibb, Frank Pearse; Fr.....	Seattle
Giberson, Albert L.; Jr.....	Seattle
Gibson, Fred E.; Fr.....	Bellingham
Gilbert, Curtiss R.; So.....	North Yakima
Gilbert, John; Fr.....	Seattle
Gill, Vivian G.; Fr.....	Seattle
Gilmer, Josephine Maude; Fr.....	Seattle
Gindici, Pauline Amanda; Fr.....	Dillon, Mont.
Gist, Arthur S.; Sr.....	Seattle
Glass, Cornelia; Fr.....	Seattle
Gleason, Helena Marie; Fr.....	Montesano
Glover, Oscar Kern; Jr.....	Cambridge Springs, Pa.
Goodall, Kenneth C.; So.....	Portland, Ore.
Goodman, Keith D.; So.....	Tacoma
Goodman, Leo; So.....	Chehalis
Goodman, Steine M.; Fr.....	Seattle
Goodrich, Evelyn F.; Fr.....	Port Townsend
Goodrick, Blanche E.; Jr.....	Bellingham
Goodwin, E. Crawford; Fr.....	Seattle
Gorham, Mrs. Fordyce C.; Sr.....	Seattle
Gorrill, Athol Blair; Fr.....	Spokane
Gourman, Mottle; Fr.....	Seattle
Graham, George H.; Jr.....	Seattle
Graham, Liwellyn I.; Fr.....	Aberdeen
Granger, Thomas; So.....	Zillah
Grant, Catherine S.; Fr.....	Seattle
Grant, Henry M.; Sr.....	Seattle
Grant, Marguerite F.; Fr.....	Seattle
Grant, Thomas; Fr.....	Seattle
Gray, Spencer; So.....	Viola, Ida.
Green, D. Gwendolyn; So.....	Seattle
Greenberg, Estelle; Fr.....	Seattle
Greene, Clyde J.; Sr.....	Seattle
Greene, Gaylard; Sr.....	Seattle
Greig, Wallace; Fr.....	Seattle
Gresham, Marie C.; So.....	Seattle
Griffith, Irwin; Fr.....	Prosser
Griggs, Alexander; Fr.....	Seattle
Grignon, Jessie; Fr.....	Seattle
Grimes, Harper D.; So.....	North Yakima
Grimstvedt, George; Sr.....	Kristiania, Norway

Grosse, Frederic B.; So.....	Calgary, Alta.
Grout, Dorothy K.; So.....	Seattle
Grout, Elsie C.; So.....	Seattle
Grout, Genevieve A.; So.....	Seattle
Gule, Heister Dean; Fr.....	Seattle
Guthrie, Rosemond D.; Fr.....	Seattle
Hadley, Margaret; So.....	Seattle
Hagmo, Mildred E.; Fr.....	Seattle
Haley, Stirling C.; Fr.....	Seattle
Hall, Alfred F.; Fr.....	Seattle
Hall, Charlotte Mary; So.....	Vancouver
Hall, Emily; Fr.....	Seattle
Hall, Eva R.; Sr.....	Seattle
Hall, L. Merle; Jr.....	Seattle
Hall, M. E. Louise; Fr.....	Seattle
Hall, Sigrid M.; So.....	Seattle
Halling, George; Fr.....	Portland, Ore.
Hamilton, Gordon Francis; Fr.....	Seattle
Hamilton, Jaunita; Sr.....	Seattle
Hammond, Esther; So.....	Tacoma
Hannon, Cecile Catherine; Jr.....	Seattle
Hansen, Carl A.; So.....	Dresser Jct., Wis.
Hansen, Harry P.; Jr.....	Tacoma
Hansen, Howard H.; Fr.....	Vashon
Happy, John; Fr.....	Spokane
Hargrave, R. Wade; Fr.....	Spokane
Harper, Joseph C.; Fr.....	Seattle
Harris, Charles L.; Fr.....	Seattle
Harris, Laura Loretta; Sr.....	Seattle
Harris, Olive M.; Jr.....	Seattle
Harrison, Frank; Sr.....	Seattle
Harrison, Webster R.; Fr.....	Seattle
Harsh, Ruby M.; Fr.....	Mt. Vernon
Hartmann, Elsie A.; Fr.....	Anacortes
Haskell, Irene Marie; Fr.....	Seattle
Hassett, Daisy Marie; Fr.....	Seattle
Haugum, Cyrus J.; Fr.....	Seattle
Havrevold, Olav; Fr.....	Christiania, Norway
Hayes, Dorothy; Fr.....	Seattle
Hayes, Margaret; Fr.....	Seattle
Haynes, Rhea; Jr.....	Seattle
Hedges, Birdie; Jr.....	Seattle
Heermans, Jerome T.; So.....	Seattle
Heermans, Joseph F.; So.....	Seattle
Hegman, Bertha; Jr.....	Seattle
Heines, Thomas; Fr.....	Seattle
Hemphill, Lena; So.....	Seattle
Henderlite, E. Claude V.; Fr.....	Seattle
Henderson, Harold H.; Sr.....	Seattle
Henderson, Lloyd P.; Jr.....	Seattle
Hendricks, Mrs. Ford; Sr.....	Seattle

Henneken, Madeline; Fr.....	Seattle
Henry, Elizabeth G.; Fr.....	Seattle
Hering, George E.; Fr.....	Fairbanks, Alaska
Herman, Hallgrimur; So.....	Seattle
Herrett, John E.; So.....	Coupeville
Herrick, Barrett; So.....	Seattle
Herzog, Sol A.; So.....	Portland, Ore.
Higgins, F. Irene; So.....	Seattle
Hill, John L.; Fr.....	Olympia
Hill, Merton A.; Fr.....	Seattle
Hillard, Robert; Fr.....	Spokane
Hilstrom, Theresa Ada; Sr.....	Vancouver
Hindman, Edna; Fr.....	Baker, Ore.
Hindley, M. Roberta; Fr.....	Spokane
Hinton, Chas. W.; Fr.....	Seattle
Hirschhelmer, Helen Zoriel; So.....	Seattle
Hitch, Martha Pauline; Fr.....	Seattle
Hitt, O. Gladys; So.....	Weiser, Ida.
Hobart, Madeleine C.; Fr.....	Seattle
Hodge, Paul H.; So.....	Seattle
Hodge, Walter H.; Fr.....	Seattle
Hofmeister, Lillie M.; Jr.....	Seattle
Hogan, Marian; So.....	Aberdeen
Hogg, Ed R., Jr.; Fr.....	Seattle
Hoiby, Alfred C.; Fr.....	Seattle
Hoisington, Earl Malcolm; Fr.....	Seattle
Hoit, Doris M.; Fr.....	Adelaide
Hoke, Everett; Fr.....	Seattle
Hoke, Herbert Sumner; Fr.....	Seattle
Holland, Kathleen; Jr.....	Davenport
Hollander, Mrs. Vivian Lesley; Fr.....	Seattle
Hollingsworth, R. Riley; Sr.....	Roy
Hollingshead, Marion M.; Jr.....	Seattle
Holman, Norma B.; Fr.....	Oregon City, Ore.
Holmes, Anne M.; Fr.....	Seattle
Holmes, Ione; Sr.....	Seattle
Hooper, Mary V.; Jr.....	Seattle
Horton, Millie; Fr.....	Seattle
Horton, Russell; Fr.....	Seattle
Hosner, Ruth Racheal; Fr.....	Seattle
Hotelling, A. Harold; So.....	Seattle
Houlahan, Marie; Fr.....	Seattle
Hover, Ernest J.; Fr.....	Tacoma
Howard, Hamilton; Fr.....	Detroit
Howard, William; Fr.....	Coupeville
Howell, Helen C.; So.....	Pomeroy
Hubbard, Glenn; Fr.....	Spokane
Huff, Virginia; Fr.....	Seattle
Huggett, Ralph A.; Fr.....	Seattle
Hughes, Harold C.; Fr.....	Seattle
Hunt, M. Jean; Sr.....	Seattle

Hunter, Gordon C.; Sr.....	Edmonds
Hurd, Madeleine H.; Fr.....	Seattle
Hurja, Emil E.; Fr.....	Fairbanks, Alaska
Hurlbut, Robert M.; Fr.....	Salt Lake City, Utah
Huston, Helen; Jr.....	Seattle
Hutchins, Chester E.; Fr.....	Seattle
Hutchinson, Orrel E.; Jr.....	Seattle
Hutchinson, Pansy E.; Fr.....	Mt. Vernon
Hutula, Walter A.; Fr.....	Aberdeen
Ide, Mrs. Gladys Geneva; Sr.....	Seattle
Imus, Raymond M.; Fr.....	Kalama
Inglis, Lloyd L.; Fr.....	Everett
Irving, Winifred; So.....	Everett
Iwamura, Shimataro; Fr.....	Seattle
Jackson, Margaret C.; So.....	Portland, Ore.
Jackson, Reynold D.; So.....	Montesano
Jacobs, Isabel; Fr.....	Seattle
Jaeger, Waldemar; Fr.....	Seattle
James, Jeannette; Fr.....	Black Diamond
Jamieson, Harriett; Fr.....	Seattle
Jamieson, Lydia M.; So.....	Tacoma
Jenner, Cornelia E.; Fr.....	Seattle
Joergensen, Merrill H.; Fr.....	LaConner
Johanson, Hanna H.; Fr.....	Winlock
Johnson, Alfred P.; So.....	Enumclaw
Johnson, Alice M.; Fr.....	Seattle
Johnson, Eric Alan; Fr.....	Spokane
Johnson, Anna H.; Jr.....	Seattle
Johnson, Eva May; Fr.....	Tacoma
Johnson, Evelyn; Fr.....	Seattle
Johnson, Fannie; Jr.....	Great Falls, Mont.
Johnson, Lyle Gilbert; Fr.....	Kennewick
Johnson, Martha R.; So.....	Seattle
Johnson, Minnie L.; Jr.....	Seattle
Johnson, William E.; Fr.....	Selah
Johnston, Jeanette A.; So.....	Seattle
Johnston, Rolland B.; Sr.....	Seattle
Johnston, Violet K.; Fr.....	Ritzville
Joiner, Anna E.; Fr.....	Anacortes
Jolliffe, Ellen M.; So.....	Seattle
Jolliffe, Russell D.; Fr.....	Seattle
Jones, Ella; Fr.....	Seattle
Jones, Evelyn C.; Fr.....	Seattle
Jones, Hays; Fr.....	Tacoma
Jones, Hazel E.; So.....	Seattle
Jones, Irene V.; So.....	Renton
Jones, Katherine A.; Fr.....	Los Angeles, Cal.
Jones, Margaret O.; So.....	Seattle
Jones, Minabell; Sr.....	Pendleton, Ore.
Jones, Richard P.; Fr.....	Mt. Vernon
Jones, Roy Franklin; Fr.....	Seattle

Jones, Stacy V.; Jr.....	Tacoma
Joyner, Isabelle M.; Fr.....	Seattle
Judd, Myron V.; Fr.....	Seattle
Kamrath, C. Lloyd; Fr.....	Spokane
Karrer, Rosella; Fr.....	Seattle
Kastner, George C.; So.....	Seattle
Kastner, Louis; So.....	Seattle
Keenan, Helen R.; So.....	Seattle
Keenan, Mary A.; Fr.....	Seattle
Kelley, Thomas C.; Fr.....	Spokane
Kellogg, Lottie; Jr.....	Tacoma
Kelly, Helen G.; Fr.....	Seattle
Kelly, Samuel P.; Jr.....	Bellingham
Kelton, Charles C.; Fr.....	Dawson, Y. T.
Kelton, Viola; Fr.....	Dawson, Y. T.
Kemper, Leo E.; Fr.....	Toppenish
Kennedy, Harry J.; Fr.....	Seattle
Kermen, Pearl; Fr.....	Blaine
Kerr, Kathryn L.; Fr.....	Seattle
Ketcham, Weaver V.; Fr.....	Seattle
Kiehl, Laura A.; So.....	Seattle
King, Marianne; So.....	Seattle
Kirkham, Virgil R. D.; Fr.....	Ritzville
Kirkpatrick, E. May; Sr.....	Oconto, Neb.
Kirtland, Mary F.; Fr.....	Evanston, Wyo.
Kittilsby, Gudrun; So.....	Seattle
Kittrell, Beatrice; So.....	Seattle
Klaeboe, John; Fr.....	Seattle
Knapp, Dora E.; Sr.....	Everett
Knapp, Earl H.; Fr.....	Seattle
Knapp, Martha G.; Fr.....	Seattle
Knight, J. Ernest; Sr.....	San Luis Obispo, Cal.
Knight, Gayton L.; Fr.....	Spokane
Knox, Wanda; Sr.....	Centralia
Knutson, Knute J.; Fr.....	Seattle
Kobayashi, Nuiunosuke; Sr.....	Seattle
Koester, Christine M.; So.....	Seattle
Kohler, Ellen Lenore; Fr.....	Seattle
Kohlman, Marjorie X.; Fr.....	Vancouver, B. C.
Koller, Helen; Fr.....	Seattle
Kolmitz, Charlotte; So.....	Seattle
Kolstad, Arthur; So.....	Stanwood
Kozlowski, Frances; Jr.....	Seattle
Kraus, Ethel M.; Jr.....	Seattle
Kraus, Minnie L.; Sr.....	Seattle
Krieger, Blanche Isabelle; So.....	Seattle
Kronschnable, Mercedes E.; Fr.....	Tacoma
Lafromboise, Arthur; Fr.....	Enumclaw
Lambert, Sidney S.; So.....	Sumas
Lamson, Katherine; Fr.....	Tacoma
Lane, Josephine; Fr.....	Portland, Ore.

Laney, Frances W.; Fr.....	Seattle
Langdon, Clarence R.; Fr.....	Seattle
Lange, Johann H.; Fr.....	Denison, Ia.
Langenbach, John J.; So.....	Malone
Larrison, Winnifred F.; Sr.....	Seattle
Larson, Emma C.; So.....	Lisabeula
Larson, E. Mildred; Fr.....	Port Townsend
Lathe, Helen R.; Jr.....	Seattle
La Tour, E. Virginia; Fr.....	Seattle
Lauthers, Gladys; So.....	Portland, Ore.
LaViolette, E. Josephine; Jr.....	Seattle
Lawrence, Cassie; Jr.....	Chehalis
Lawson, P. Belle; Fr.....	Spokane
Leavitt, Harry B.; So.....	Seattle
Lee, Beatrice E.; Fr.....	Seattle
Lee, Borghild Constance; Fr.....	Seattle
Lee, Jean E.; Fr.....	Seattle
Legg, Helen T.; So.....	Quilcene
Leitch, Ellsworth J.; Fr.....	Seattle
Leslie, Mirian; Fr.....	North Yakima
Lewis, Ruth L.; Fr.....	Seattle
Lieberg, Vivian H.; Fr.....	Seattle
Lina, Fred A.; Jr.....	Seattle
Lindaas, Anna; Jr.....	Tacoma
Linder, Muriel; So.....	Seattle
Lindsay, Irma; So.....	Seattle
Linne, Harvey E.; Fr.....	Seattle
Listman, Grace; So.....	North Yakima
Littell, Helen H.; Sr.....	Seattle
Lively, John W.; Sr.....	Seattle
Livermore, Francesse M.; Fr.....	Seattle
Logg, David G.; So.....	Rolling Bay
London, Maryhelen; So.....	Seattle
Lovejoy, W. Ellsworth; Fr.....	Coupeville
Luce, Anne Elizabeth; Sr.....	Mabton
Ludgate, Katie E.; So.....	Seattle
Lund, Katherine L.; So.....	Seattle
Luther, Arthur; Fr.....	Seattle
McAllaster, Marion; So.....	Seattle
McCabe, Lucile M.; So.....	Seattle
MacCallum, G. Howard; So.....	Seattle
McCann, Richard J.; Sr.....	Seattle
McClellan, Hortense; Fr.....	Seattle
McClelland, Clara E.; So.....	Seattle
McClelland, George Zell; Sr.....	Seattle
McColl, Nellie; Fr.....	Spokane
McCormick, Helen F.; Fr.....	Black Diamond
McCoy, Wade; Fr.....	Seattle
McCracken, Floyd; Fr.....	Clarkston
McCready, Irving Spencer; Fr.....	Snohomish

McCready, Norman M.; So.....	Snohomish
McCullough, John J. Jr.; Fr.....	Seattle
McDermott, Paul E.; Fr.....	Seattle
McDonald, Agnes; So.....	Seattle
McDonald, Clarie; So.....	Seattle
McDonald, Mayme; Fr.....	Seattle
McDougall, C. Bryant; Fr.....	Seattle
McDowell, Minnie M.; Fr.....	Seattle
McDuffee, Phila M.; So.....	Seattle
McEntee, Mary E.; Jr.....	Spokane
McEuen, M. Lee; Fr.....	Seattle
McFaul, Helen; Fr.....	Portland, Ore.
McFee, Jean; Fr.....	Seattle
McGee, Helen; Fr.....	Seattle
McGinnis, John Joseph; Fr.....	Kirkland
McGovern, Foster L.; Fr.....	Tacoma
McGregor, Mabel; Fr.....	Tacoma
McGuire, F. Edith; So.....	Seattle
McGuire, Margaret H.; Fr.....	Seattle
McIntyre, Enola; Jr.....	Tacoma
McKay, Iva Virginia; Jr.....	Seattle
McKee, Mary E.; Jr.....	Everett
McKinney, Grace; Fr.....	Tacoma
McKinnon, Helen May; So.....	Seattle
McKittrick, Homer E.; Fr.....	Seattle
McLaughlin, Earl E.; So.....	Seattle
McLean, Margaret V.; So.....	Seattle
McLean, Victoria; Sr.....	Seattle
McLellan, Roy Davison; Jr.....	Vancouver, B. C.
McLeod, Norman; Fr.....	Seattle
McMillen, Geraldine M.; So.....	Seattle
McMillen, Mabel; Sr.....	Seattle
McNaghten, Eugenia; Fr.....	Seattle
McPhee, A. Sophia; Jr.....	Seattle
MacPherson, Lexie; Fr.....	Seattle
McQuarrie, Flora Lillian; Fr.....	Seattle
MacRae, Lucile A.; Fr.....	Seattle
MacRae, Rennie; Fr.....	Burton
McReavy, C. Cecelia; Fr.....	Seattle
Macdonald, Helen M.; So.....	Seattle
Mackey, Cora L.; So.....	Everett
MacLennan, Jean A.; Fr.....	Seattle
Madigan, Virginia H.; Fr.....	Seattle
Madsen, Ruth C.; Fr.....	Arlington
Magill, W. Fulton Jr.; Fr.....	Portland, Ore.
Magillicuddy, Martha; Sr.....	Seattle
Malette, Lester; Fr.....	Spokane
Malloy, Ralph W.; So.....	Seattle
Malmo, Clarence; Jr.....	Seattle
Mann, Charlotte; Fr.....	Seattle

Mann, C. Marguerite; Fr.....	Port Townsend
Manning, Mrs. Mary L.; Jr.....	Seattle
Mantz, Helen O.; Sr.....	Seattle
Marquette, Elizabeth; Jr.....	Seattle
Marion, Helen I.; So.....	North Yakima
Martin, David Paulin; Fr.....	Seattle
Martin, Erma L.; Fr.....	Seattle
Martin, Ruth E.; Fr.....	Seattle
Matheson, Katherine W.; Fr.....	Anacortes
Mathews, Gertrude A.; Fr.....	Seattle
Mathieu, Beatrice; Fr.....	Seattle
Mathis, Floy; Fr.....	Seattle
Mathews, M. Lucile; Sr.....	Seattle
Mattson, Norma C.; Fr.....	Seattle
Maughlin, Frances J.; Jr.....	Snohomish
Maxwell, Edmund F.; Fr.....	Seattle
May, Martha H.; Fr.....	Seattle
Mayer, Frieda; Fr.....	Seattle
Meany, Margaret; Sr.....	Seattle
Meckstroth, Esther Elizabeth; Fr.....	Seattle
Meerscheidt, Erna; Jr.....	East Seattle
Melbert, Setha; So.....	Seattle
Melkild, Mildred E.; Fr.....	Seattle
Mercer, Beatrice; Jr.....	Seattle
Merrill, Honor; Fr.....	Seattle
Meyer, George Frederick; Fr.....	Lind
Michael, Frank; So.....	Chehalis
Michael, Sadie; Fr.....	Chehalis
Middleton, Una B.; Fr.....	Seattle
Mleir, T. Clark; Fr.....	Seattle
Mignon, Louis C.; Fr.....	Seattle
Miles, Alice; Fr.....	Seattle
Miles, Louise; Fr.....	Seattle
Miller, Margery M.; Fr.....	Vancouver
Miller, Merrill; Fr.....	Seattle
Miller, Ruth A.; Sr.....	Seattle
Miller, Thelma; Fr.....	Seattle
Mills, Gertrude D.; Fr.....	Tacoma
Mills, Reed C.; Fr.....	Seattle
Minahan, Cletus L.; Jr.....	Seattle
Miner, Grace Edith; Jr.....	Seattle
Mitchell, Neva I.; Jr.....	Spokane
Miura, Mataji; So.....	Japan
Myasaki, Taichiro; Fr.....	Seattle
Moffett, Edith P.; Fr.....	Woodinville
Moir, L. Ruth; Fr.....	Aberdeen
Mongerson, Valeda L.; Jr.....	St. Charles, Ill.
Monk, Edith M.; Fr.....	Thomas
Moody, Anson; Fr.....	Everett
Moody, Frank; Jr.....	Seattle

Moody, Miriam I.; So.....	Seattle
Moomaw, Helen; Fr.....	Seattle
Moore, Gerald Edwin; Fr.....	Seattle
Moore, Helen S.; Sr.....	Seattle
Moore, R. W.; Fr.....	Seattle
More, Carleton; So.....	Seattle
Morehouse, Dorothy; Fr.....	Seattle
Mori, Kenkichi; Fr.....	Seattle
Morris, Z. Gladys; Fr.....	Seattle
Morris, Ralph; Fr.....	Seattle
Morris, Russell; Fr.....	Seattle
Morrison, Bessie M.; Sr.....	Seattle
Morrison, Edna; Fr.....	Seattle
Morrison, Lily; Fr.....	Bellingham
Morse, Velma M.; Fr.....	Redmond
Morse, Vera B.; Fr.....	Redmond
Mossford, Frances M.; So.....	Seattle
Mougin, Gladys Marie; Fr.....	Seattle
Moulton, Clarence L.; Jr.....	Seattle
Moulton, William Roy; So.....	Aberdeen
Mowrey, C. Wynne; Fr.....	Pomeroy
Moyer, Winfield S.; Fr.....	Seattle
Mullon, Edward A.; So.....	Kirkland
Murchison, M. Kathleen; Sr.....	Seattle
Murphy, Ernest C.; So.....	Seattle
Murray, J. Blaine; Fr.....	Seattle
Myer, Edna M.; Fr.....	Seattle
Myers, Dorothy; Fr.....	Seattle
Nafe, Helen; Jr.....	Seattle
Nafe, Robert Wallace; Jr.....	Seattle
Neely, C. Bertis; Fr.....	Spokane
Neergaard, John Henry; So.....	Oakesdale
Neill, Paul; So.....	Spokane
Nelson, Adilene R.; Fr.....	Friday Harbor
Nelson, Agnes E.; Fr.....	Bellingham
Nelson, Carolyn; Jr.....	Seattle
Nelson, Clare E.; Sr.....	Indianapolis, Ind.
Nelson, Earl C.; Fr.....	Seattle
Nelson, Finn; Fr.....	Seattle
Nelson, Fristoe; Fr.....	Seattle
Nelson, Genevieve I.; So.....	Nezperce, Ida.
Nelson, Helen; Fr.....	Seattle
Newell, A. Coal; So.....	Kirkland
Newell, P. Clover; Jr.....	Kirkland
Newton, Arthur M.; So.....	Everett
Nichols, Robert; So.....	Tacoma
Nickson, Mrs. Elvira W.; Jr.....	Seattle
Nieder, Mandel; Jr.....	Seattle
Noble, Elmer J.; So.....	Centralla
Nordberg, Erika; Sr.....	Seattle

Nordhoff, Arthur A.; Fr.....	Seattle
Norton, John E.; Jr.....	Tacoma
Nunn, Frances A.; Sr.....	Seattle
Nye, Elizabeth; Fr.....	Seattle
O'Connell, Agnes E.; Jr.....	Tacoma
O'Connell, Marie; Fr.....	Seattle
O'Conner, Matthew; So.....	Seattle
Oda, Frank Mitsuji; So.....	Seattle
O'Leary, Mary Carter; So.....	Seattle
Oleson, Carrie E.; Jr.....	Seattle
Oliphant, J. Orin; Jr.....	Elberton
Oliver, Chester J.; Fr.....	Colfax
Oliver, Marlon Flora; Fr.....	Seattle
Olmsted, Amy C.; Jr.....	Seattle
Olsen, Paul C.; Fr.....	Seattle
Olson, J. Almada; Sr.....	Seattle
Olswang, Cecelia; So.....	Seattle
Oman, Carl Reuben; So.....	Seattle
O'Neill, Angus; Fr.....	Shelton
O'Neill, J. Philip; Jr.....	Seattle
Osawa, Yuki Geda; Fr.....	Seattle
Ostlund, Charles William; Sr.....	Seattle
Otsuki, George J.; So.....	Tokio, Japan
Ott, Esther M.; Fr.....	Preston, Minn.
Overmeyer, Bertha; Fr.....	Seattle
Owen, Eleanor M.; Fr.....	Seattle
Packard, Howard Abner; Fr.....	Tacoma
Palmer, Ethel; Fr.....	Seattle
Palmer, Harry George; Fr.....	Toppenish
Palmer, Kimball B.; Fr.....	Seattle
Parker, George B.; So.....	Tacoma
Parks, Grace Amelia; So.....	Seattle
Parks, Walter M.; Fr.....	Seattle
Parlin, Hazel Emma; Sr.....	Concrete
Parsons, Floy C.; Fr.....	Stanwood
Parsons, Rosamond; Fr.....	Seattle
Partee, Ethel Gertrude; Fr.....	Seattle
Pascoe, Myra A.; Jr.....	Warehouse Point, Conn.
Patterson, H. Drue; So.....	Seattle
Paulsen, Alice D.; So.....	Seattle
Paulsen, David F.; So.....	Seattle
Pedersen, Frederick Louis; Jr.....	Skagway, Alaska
Pedersen, Ralph M.; So.....	Skagway, Alaska
Pendergast, Wirt Wendell; Fr.....	Conconully
Pendleton, Brooks L.; Fr.....	Everett
Pennell, Louise F.; Sr.....	Seattle
Pepper, Leah H. E.; Fr.....	Seattle
Perine, Esther S.; Jr.....	Seattle
Perkins, Mary F.; So.....	Montesano
Perry, Edward P.; So.....	Outlook

Perry, Francis W.; Fr.....	North Yakima
Perry, Howard; So.....	Seattle
Peterson, Frank Lynn; Fr.....	Portland, Ore.
Peterson, Inez H.; Fr.....	Seattle
Peterson, Julius E.; Fr.....	Seattle
Peterson, Russell; Fr.....	Seattle
Pettibone, Louise Anita; Sr.....	Seattle
Pfaffe, Lois G.; Fr.....	Meridian, Ida.
Phelan, Hazel Marguerite; Fr.....	Seattle
Phillips, Herbert J.; So.....	Seattle
Pierot, George F.; Fr.....	Seattle
Pierrot, Marjorie; Fr.....	Seattle
Pike, Amy Katherine; So.....	Seattle
Pingry, Madeline; Sr.....	Seattle
Pinkerton, Harold J.; Fr.....	Cashmere
Pinneo, Beulah Fay; So.....	Seattle
Plants, Clyde M.; Fr.....	Seattle
Platt, Luella B.; So.....	Seattle
Plimmer, Hilda M.; Fr.....	Seattle
Pohll, Emma Katherine; Fr.....	Seattle
Poole, Jessie Lee; Sr.....	Seattle
Pope, Victor E.; Fr.....	Hoxie, Kans.
Porter, Frances R.; Fr.....	Seattle
Porter, Jean; Sr.....	Seattle
Post, Harry G.; So.....	Seattle
Potter, Elizabeth A.; So.....	Grandview
Potter, Herbert B.; Fr.....	Blaine
Potter, Mabel I.; Jr.....	Blaine
Potter, Walter E.; Fr.....	Seattle
Poulson, Lillian; Fr.....	Seattle
Powell, Charles J.; Sr.....	Seattle
Powell, Cornelia F.; Fr.....	Seattle
Powell, Lora M.; So.....	Hoquiam
Powell, Margaret I.; Fr.....	Seattle
Powers, James M.; Sr.....	Seattle
Pratt, Helen M.; Fr.....	Oak Harbor
Preston, Frank M.; So.....	Seattle
Pringle, Henry H.; Fr.....	Tacoma
Prins, Alwine C. E.; Fr.....	Seattle
Prior, Pothena R.; So.....	Seattle
Priteca, Esther A.; Fr.....	Seattle
Proctor, Genevieve B.; Fr.....	Seattle
Proctor, M. Esther; Fr.....	Seattle
Prouty, Alva; Fr.....	Boise, Ida.
Pryde, Joel J.; Sr.....	Hoquiam
Pucher, George W.; Fr.....	Seattle
Puffer, Floyd A.; So.....	Belding, Mich.
Pyle, Lucy L.; So.....	Seattle
Quast, Iola R.; Fr.....	Seattle
Quilliam, Elsie B.; Sr.....	Portland, Ore.

Quilliam, Louise M.; So.....	Portland, Ore.
Rader, Donald H.; Fr.....	Spokane
Ragsdale, W. Ralph; Fr.....	Wapato
Ramage, Jerrine; Fr.....	Spokane
Ramage, Muriel; Sr.....	Spokane
Rambo, Florence M.; Sr.....	Everett
Randell, V. Katherine; Fr.....	Seattle
Raney, Grace Pauline; Fr.....	Seattle
Rawn, Walter Huston; So.....	Seattle
Rawson, Ralph F.; Sr.....	Seattle
Read, James Wesley; So.....	Seattle
Reavis, Nan Preston; Jr.....	Seattle
Redeker, Carroll; Fr.....	Spokane
Reder, Harry L.; Fr.....	Bothell
Redington, Bernice O.; Fr.....	Seattle
Reyburn, Ed.; Fr.....	Seattle
Reynolds, Ruth M.; Jr.....	Chehalis
Rhodes, Florence; Fr.....	Seattle
Rice, Mary Elizabeth; Fr.....	Seattle
Richards, John S.; Jr.....	North Yakima
Rickles, Abraham; Fr.....	Seattle
Rieder, Miriam; Sr.....	Seattle
Risbell, Nadine M.; Fr.....	Seattle
Ritchie, Terry V.; Sr.....	Los Angeles, Cal.
Roberts, Marguerite P.; Fr.....	Seattle
Robertson, Richard R.; Fr.....	Seattle
Robins, Morris A.; Fr.....	Seattle
Robinson, Estella E.; Jr.....	Tacoma
Rochester, Lettle Lee; Jr.....	Seattle
Rode, Alfred E.; Fr.....	Bellingham
Roegner, Kenneth A.; Fr.....	Ellensburg
Rogers, Charles L.; Fr.....	Colville
Rogers, Leroy Anderson; Sr.....	Seattle
Rose, Clyde B.; Fr.....	Seattle
Roseleaf, Dorothy E.; Fr.....	Seattle
Rosenberg, Edith; Jr.....	Seattle
Rosenstein, Julie; So.....	Seattle
Rosenthal, Roy G.; Fr.....	Seattle
Rosling, Edward L.; Fr.....	Tacoma
Ross, Edith M.; Jr.....	Friday Harbor
Ross, Ella M.; So.....	Chewelah
Ross, Marian E.; So.....	Hoquiam
Rothenhoefer, Elizabeth; Fr.....	Seattle
Rowe, Gladess Marie; Fr.....	Olympia
Rowland, Harold; Fr.....	Seattle
Rude, Myrtle A.; Fr.....	Seattle
Ruelle, H. Wells; Fr.....	Seattle
Rushmer, Allan B.; Fr.....	Tacoma
Russell, Buelah H.; So.....	Seattle
Russell, Gladys E.; Fr.....	Wenatchee

Russell, Kathleen; Jr.	Seattle
Ruttle, Corinne R.; So.	Seattle
Ryan, Hal D.; Fr.	Seattle
Ryan, Raymond F.; Fr.	Seattle
Rydh, Tillie M.; Fr.	Seattle
Sakamoto, Kei; So.	Seattle
Sakamoto, Mine; Fr.	Seattle
Sample, Earle; Jr.	Roslyn
Sanders, Rowland; So.	Seattle
Sangster, Reid G.; Fr.	Clarkston
Sanwick, Emma; So.	Suquamish
Sargent, Noel; Sr.	Seattle
Sartoris, Roma M.; Fr.	Enumclaw
Sater, Gertrude P.; Fr.	Seattle
Sato, Hirochi; So.	Japan
Savage, Anthony; Sr.	Seattle
Scheurer, Genevieve B.; Fr.	Long Beach, Cal.
Schiffer, Wilson E.; Fr.	Portland, Ore.
Schively, Charles S.; Fr.	Seattle
Schlack, Leila; Fr.	Post Falls, Ida.
Schmid, Henry G.; Jr.	Seattle
Schoettler, Miriam C.; Jr.	Seattle
Schopper, John; Jr.	Seattle
Schulz, Antoinette L.; Fr.	Seattle
Schulz, B. Max Jr.; Fr.	Seattle
Schumacher, Margaret C.; So.	Bellingham
Scott, Burton F.; Fr.	Oakley, Kans.
Scott, Winfield; So.	Camas
Seagrave, Louis H.; So.	Spokane
Seal, Irene; Jr.	Colville
Seely, Harriet Butler; Fr.	Seattle
Seibert, Marjorie D.; Jr.	Seattle
Selig, Isabel; Jr.	Seattle
Settle, Edith B.; Fr.	Kelso
Sexton, Ray L.; Fr.	Everett
Shackleford, Elizabeth; Fr.	Tacoma
Shaff, Louise; Sr.	Lewiston, Ida.
Shannon, Thelma L.; Fr.	Hamilton
Sharpe, Eva M.; Fr.	Seattle
Sharpe, Ruth C.; Fr.	Seattle
Shaw, Grover Cleighton; Fr.	Snohomish
Shaw, Mark Thomas; Fr.	Seattle
Shawler, Florence; Sr.	Spokane
Shearer, M. Edith; Fr.	Weiser, Ida.
Shearer, Preston B.; Fr.	Toppenish
Sheehan, Madeline; Jr.	Walla Walla
Shepherd, Paul C.; Fr.	Seattle
Shields, Calhoun; Fr.	Mt. Vernon
Shivvers, Clarence H.; Jr.	Tacoma
Shoemaker, H. Curtis; So.	Spokane

Shook, Mary Elizabeth; Fr.....	Seattle
Short, Jean; Fr.....	Tacoma
Shotwell, Catherine M.; Fr.....	Seattle
Silver, Max Arthur; So.....	Seattle
Silverstone, Libbie; Jr.....	Seattle
Simon, Arthur E.; So.....	Seattle
Simonds, Esther; Fr.....	Seattle
Sims, Agnes, H.; So.....	Walla Walla
Simson, Lillian L.; So.....	Nome, Alaska
Skinner, Laura Cathrene; Fr.....	Seattle
Slater, Glen J.; Jr.....	Ferndale
Slater, Herbert N.; Fr.....	Deer Park
Sloan, Freda; So.....	Seattle
Smallwood, Gladys N.; Fr.....	Seattle
Smith, Alice Ward; Jr.....	Seattle
Smith, A. Earl; Fr.....	Seattle
Smith, C. Doris; Fr.....	Portland, Ore.
Smith, Eleanore; Fr.....	Mt. Vernon
Smith, George Edward; Fr.....	Seattle
Smith, Harriet; Jr.....	Tacoma
Smith, Harriet Holbrook; Fr.....	Seattle
Smith, Mark E.; So.....	Everett
Smith, Margaret Lucy; Fr.....	Tacoma
Smith, Pauline; Fr.....	Everett
Smith, Ralph R.; Fr.....	Seattle
Smith, Zella E.; Fr.....	Coeur d'Alene, Ida.
Snowdon, James M.; So.....	Ellensburg
SoRelle, Vivian; Sr.....	Seattle
Soule, Nadine; So.....	Tacoma
Southard, Marion; Jr.....	Seattle
Southwood, Marion E.; Fr.....	Spokane
Sparks, Percy S.; So.....	Montesano
Spaulding, Helen E.; Fr.....	Seattle
Spelger, F. Marian; So.....	Seattle
Spencer, Eunice A.; Jr.....	Seattle
Spidel, George Albert; Fr.....	LaJunta, Colo.
Squier, Emma-Lindsay; Fr.....	Port Orchard
Squire, Clark A.; Jr.....	Seattle
Staatz, Stanley W.; So.....	Tacoma
Stanton, Kathryn B.; Fr.....	Seattle
Staples, Elva D.; Fr.....	Astoria, Ore.
Startup, Elmer; So.....	Startup
Startup, Kenneth; Fr.....	Startup
Stebbins, Paul R.; Fr.....	Seattle
Steele, Grace M.; Fr.....	Seattle
Steendahl, Anna S.; So.....	Seattle
Stein, Waldemar L.; Fr.....	Seattle
Stenstrom, Samuel A.; Fr.....	Spokane
Stevens, Anna L.; Fr.....	Seattle
Stevenson, Rebecca; So.....	Seattle

Stewart, Clare Douglas; So.....	Seattle
Stewart, Charles W.; So.....	Buckley
Stewart, Donald C.; Fr.....	Richmond Beach
Stewart, Howard G.; Fr.....	Spokane
Stiles, Frances; Fr.....	Portland, Ore.
Stilson, Lenore A.; Fr.....	Spokane
Stilson, Leslie A.; Fr.....	Seattle
Stilwell, Ruth B.; Fr.....	Seattle
Stone, Ella G.; So.....	Seattle
Stone, Frances A.; Jr.....	Vancouver
Stone, Helen M.; Fr.....	Seattle
Street, Gladys C.; Fr.....	Seattle
Strelau, Marian; Jr.....	Seattle
Stryker, Jetret; So.....	Bellevue
Stubb, Albert C.; Fr.....	Seattle
Sullivan, J. Vernon; Fr.....	Pine City
Sullivan, Kathleen; Sr.....	Butte, Mont.
Sully, C. Fredericka; So.....	Seattle
Sundquist, Leona; Fr.....	Mt. Vernon
Sutherland, D'Loss; Jr.....	Seattle
Sutherland, Margaret; Fr.....	Kirkland
Sutton, A. Merle; Fr.....	Port Townsend
Sutton, Wayne C.; Sr.....	Seattle
Swale, Jack; So.....	Everett
Swanson, Edward B.; Fr.....	Tacoma
Swanson, LeRoy Dwight; So.....	Seattle
Swarts, Zella; So.....	Kent
Swartzbaugh, Garnet M.; Fr.....	Seattle
Swigart, Howard Finnell; Fr.....	Seattle
Takegawa, Johane T.; So.....	Seattle
Takemoto, Kyhei; Jr.....	Tokyo, Japan
Talbot, Caroline B.; Jr.....	Seattle
Talbot, George S.; Fr.....	Seattle
Tanaka, Shinichi; Fr.....	Shigaken, Japan
Taylor, Cyril E.; So.....	Seattle
Taylor, Dorothea; Fr.....	Seattle
Taylor, Gladys; Fr.....	Seattle
Taylor, William D.; Fr.....	Seattle
Tewinkel, Ruth M.; So.....	Spokane
Thickens, Jane G.; So.....	Seattle
Thomas, Christine; Fr.....	Seattle
Thomas, Gezina; Jr.....	Seattle
Thomas, Irving W.; So.....	Seattle
Thomas, Kramer; Fr.....	Seattle
Thomas, Vivian L.; Fr.....	Seattle
Thomle, Gudvig; Jr.....	Seattle
Thomle, Kristine; Sr.....	Stanwood
Thompson, Guy W.; Jr.....	Seattle
Thompson, Hannah; Fr.....	Seattle
Thompson, Richard; Fr.....	Conconully

Thompson, Ruth; Jr.	Seattle
Thompson, Zella; Fr.	Pendleton, Ore.
Thorkelson, Borghild Victoria; Fr.	Seattle
Tift, Lillian; So.	Seattle
Toomey, Floyd; So.	Seattle
Totten, Mabel P.; Fr.	Seattle
Tracy, Mrs. Ada M.; Fr.	Seattle
Tracy, Rachel; Fr.	Seattle
Travers, Harrison F.; Fr.	Ellensburg
Treat, Alice Ruth; Fr.	Orange, Conn.
Treece, Manley; Fr.	Portland, Ore.
Trenholm, Mae; So.	Seattle
Trethaway, Bessie L.; Sr.	Butte, Mont.
Tronsrud, Anna Christine; Sr.	Seattle
Troutman, Blanche V.; So.	Seattle
Tucker, Josephine O.; Fr.	Seattle
Tucker, Ruth Elizabeth; Fr.	Seattle
Tuesley, Walter H.; Fr.	North Yakima
Turnbull, George S.; Sr.	Seattle
Turner, Everett W.; Fr.	Modesto, Cal.
Turner, Ruth; Fr.	Seattle
Tvete, Raymond Walter; So.	Seattle
Tyler, Angela R.; Fr.	Seattle
Uchikata, Henson M.; Fr.	Seattle
Unger, Nell A.; Fr.	Tacoma
Ungersma, Bernadine; Fr.	Palouse
Upper, Euart S.; Jr.	Orillia
Vaas, Bertha Louise; Fr.	Seattle
Vande Bogart, Paul M.; So.	Hillyard
Van Devanter, Louise M.; Sr.	Seattle
Vining, Marie T.; Fr.	Seattle
Virtue, Chauncey; Fr.	Seattle
Votaw, Aimee; So.	Tekoa
Wada, Toshimasa; So.	Japan
Wallace, Edith; Fr.	Seattle
Walsh, Mildred; Fr.	Seattle
Walsworth, Esther; Fr.	Butte, Mont.
Ward, Frank D.; Fr.	Seattle
Ward, George P.; Fr.	Nyssa, Ore.
Ward, Pearl E.; So.	Seattle
Warren, Edith; So.	Seattle
Warren, Elgine J.; Sr.	Davenport
Washburn, Eleanor; Fr.	Clear Lake
Wassard, A. C.; So.	Seattle
Waterhouse, Carolyn J. M.; Fr.	Warrenton, Ore.
Watters, Aimee A.; Jr.	Seattle
Waugh, Grace E.; Fr.	Auburn
Waugh, Howard C.; So.	Seattle
Wayland, Margaret; So.	Seattle
Weiss, Phil J.; Jr.	Seattle

Weixel, Besse; So.....	Seattle
Welch, Julia; Sr.....	Seattle
Welts, Florence A.; Fr.....	Seattle
Wenzel, Arthur E.; Fr.....	Seattle
Werby, Mamie M.; So.....	Seattle
Werner, Caroline C.; Fr.....	Edmonds
Weston, Alvah; Jr.....	Portland, Ore.
Weston, Josephine; Fr.....	Seattle
Wheeler, Gladys F.; Jr.....	Seattle
Wheeler, Henry O.; Fr.....	Tacoma
Wheeler, Marjorie Clark; Fr.....	Seattle
White, Emma; Fr.....	Seattle
White, Frank E.; So.....	Seattle
White, Frank P. I.; Fr.....	Seattle
White, Helen F.; Fr.....	Bellingham
White, Lena H.; Sr.....	Whitehorse, Y. T.
White, Marjorie; So.....	Seattle
White, Mildred K.; Fr.....	Seattle
White, Priscilla E.; Fr.....	LaConner
White, Roy W.; So.....	Seattle
Whitlock, Marion A.; Jr.....	Seattle
Whyte, Kenneth G.; Fr.....	Boise, Idaho
Wiegman, Marie; Fr.....	Spokane
Wiester, Grace M.; Sr.....	Wenatchee
Wilbur, Alvira; Sr.....	Seattle
Wiley, Gladys P.; Fr.....	Spokane
Wiley, Richard E.; Jr.....	Hillsboro, Ore.
Wilkey, Florence J.; Fr.....	Tacoma
Wilkie, Florence M.; Sr.....	Seattle
Williams, Anne J.; Jr.....	Butte, Mont.
Williams, Charlotte; Sr.....	Seattle
Williams, Edith L.; Fr.....	Walsen, Colo.
Williams, Walter J.; So.....	Seattle
Wilsey, W. Ralph; Sr.....	Walla Walla
Wilson, Donald C.; Fr.....	Seattle
Wilson, Doris G.; Fr.....	Seattle
Wilson, Evelyn; Fr.....	Tacoma
Wilson, Florence Margaret; Sr.....	Seattle
Wilson, Isobel; Sr.....	Seattle
Wilson, John M.; Fr.....	Olympia
Wilson, John N.; Jr.....	Seattle
Wilson, Mabel; Jr.....	Spokane
Wilson, Margaret T.; Fr.....	Seattle
Wilson, Ross S.; So.....	Bellingham
Wilson, William R.; Fr.....	Seattle
Wilton, George Lawrence; Fr.....	Seattle
Winslow, Dorothy; Jr.....	Seattle
Winslow, Ella P.; Jr.....	Seattle
Witbeck, Louise A.; So.....	Seattle

Woelflen, Frederick A.; Sr.....	Lewiston, Ida.
Woelflen, Irene; Jr.....	Lewiston, Ida.
Wood, C. Louise; Fr.....	Helena, Mont.
Wood, Gladys; Fr.....	Seattle
Wood, Mrs. Leslie; Fr.....	Seattle
Wood, Roy E.; Fr.....	Aberdeen
Wood, Varian; Fr.....	Granite Falls
Wood, Warren B.; Fr.....	Bellingham
Wood, Wilma B., Jr.....	Seattle
Woodbridge, Dudley W.; Fr.....	Seattle
Woods, Arra Jane; Sr.....	Seattle
Woods, N. Marjorie; Fr.....	Seattle
Woodward, Frances M.; Sr.....	Seattle
Woodworth, Madeline E.; Jr.....	Seattle
Woodyard, Robert A.; So.....	Sunnyside
Worthington, Mariette; Jr.....	Quilcene
Wright, Charlotte; So.....	Ellensburg
Wright, Helen M.; Fr.....	Spokane
Wright, Lulu J. L.; Jr.....	Missoula, Mont.
Wright, Mary A.; So.....	Seattle
Wrucke, Chester T.; Fr.....	Seattle
Wyngaarden, Herman; Sr.....	Holland, Mich.
Wyngaarden, Martin; Sr.....	Holland, Mich.
Yerger, Bessie P.; So.....	Seattle
Young, George Wesley; So.....	Winslow
Young, Jennie R.; So.....	Seattle
Younger, Jesse Arthur; Sr.....	Seattle
Zacharias, Rose L.; Fr.....	Seattle
Zech, Raymond L.; So.....	Auburn
Zelasko, Jozef; Fr.....	Aberdeen
Zimmerman, Charles L.; Fr.....	Seattle

UNCLASSIFIED STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Alexander, Marion	Seattle
Armstrong, Dexter Alden.....	Tacoma
Butler, Ben	Seattle
Carlson, Jessie M.	Spokane
Chilton, Joseph W.	Davenport
Coffman, John B.	Chehalis
Costello, Thomas	Everett
Davis, Mrs. Rose.....	Seattle
Day, Frank F.	Seattle
Denny, Elizabeth C.	Seattle
Draper, Edith M.	Seattle
Eastlake, Francis Royal	Seattle
Eastland, Anna	Seattle
Evers, Majel	Seattle
Fix, Harold Will.....	Lewiston, Ida.
Ganong, Arthur F.	Portland, Ore.

Gies, Ethel H.	Seattle
Gleeson, Mary E.	Butte, Mont.
Gosling, Della	Seattle
Hall, Irene	Seattle
Healy, Chester V.	Tacoma
Hooker, Mary E.	Seattle
Houston, Pauline E.	Port Columbia
Hurwitz, Anna Paula.	Seattle
Krogstad, Karl	Spokane
Louden, Russell	Centralia
McAuslan, DeEtte	Seattle
McAuslan, Marie	Seattle
Maffett, Bertrand H.	Weyerhauser, Wis.
Meenach, Gladys	Seattle
Mendham, Mayme	Spokane
Murray, Henry	Roy
Orion, W. Harold	Spokane
Pidduck, Rena M.	Seattle
Powers, Alvin James.	Parma, Ida.
Reid, Flavia M.	Seattle
Reynolds, Ollie Mildred.	Seattle
Roussellot, Merle E.	Seattle
Schreiner, Gertrude Mary.	Seattle
Schweinbold, Harry	Seattle
Sherman, Thomas Wood.	Seattle
Slater, C. Hestor.	Seattle
Smith, Adelina N.	Spokane
St. Arnold, Elsa	Seattle
Stauffer, Anne E.	Spokane
Tambakis, Cosmas P.	Smyrna, Turkey
Thompson, Thomas	Seattle
Upton, Virgil M.	Ellensburg
Widitz, M. Agnes	Seattle
Winslow, Clyde	Seattle

SPECIAL STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Acklin, Mrs. Helen.	Seattle
Aegerter, Aileen M.	Seattle
Allen, Mildred A.	Seattle
Anderson, Oscar B.	Seattle
Bakenhus, Margaret R.	Seattle
Belden, Fannie E.	Seattle
Berg, Ida Blanche.	Seattle
Berrian, Mrs. Margaret B.	Seattle
Betts, Charles Allen.	Seattle
Bode, Lottie J.	South Bend
Brauser, Mrs. Nellie E.	Seattle
Brayton, Annie C.	Seattle
Brewster, Pearl E.	Seattle

Brilliant, Albert	Seattle
Brintnall, Bert W.	Seattle
Bryan, Clara M.	Seattle
Bundy, T. Walter	Seattle
Cavanaugh, Ella T.	Seattle
Cavanaugh, James A.	Seattle
Chadwick, Harold D.	Seattle
Clarke, Mrs. Ethel H.	Seattle
Costello, Mrs. Rachel	Seattle
Craven, Elsa B.	Seattle
Danielson, Lillian	Tacoma
Dice, Lucy	Seattle
Ducasse, Nesta	Seattle
Duncomb, Mrs. Laureen	Seattle
Eastwood, Lulu E.	Seattle
Elliott, M. Olive	Seattle
Falkoff, Anna	Seattle
Fancher, John T.	Spokane
Folk, Mrs. Katherine	Seattle
Garratt, Mansfield	Seattle
Garvey, Clayton H.	Seattle
Geer, Mrs. Vashti C.	Seattle
Gwinn, George W.	Seattle
Haines, Mrs. May Stanley	Seattle
Haines, Roy T.	Seattle
Hall, Mrs. Madge H.	Seattle
Hanson, Dagne A.	Seattle
Hanson, Tillie Elizabeth	Seattle
Haugen, Anker	Seattle
Hemrich, Frederick Carl	Seattle
Herrick, Maude A.	Seattle
Herring, Mrs. Jessie A.	Seattle
Herring, Mrs. Mary B.	Seattle
Hewson, Marguerite E.	Seattle
Hill, George I.	Tacoma
Hills, Glenn	Aberdeen
Hoover, Ralph L.	Hoquiam
Howell, Eliza B.	Spokane
Huelsdonk, Mrs. Gertrude	Seattle
Hultgren, Ina E.	Seattle
Jack, Elmo C.	Seattle
Jackson, Clarisse	Tacoma
Johnson, Ruth E.	Seattle
Johnston, Alice H.	Seattle
Jones, Nancy Emerson	Seattle
Judd, Elsie G.	Seattle
Keen, Charles Y.	Seattle
Kimura, Asanosuke	Tokyo, Japan
Krenz, Pauline A.	Seattle
Lechner, Leslie A.	Seattle
Leonard, Clara B.	Seattle
Leonhard, Hortense L.	Seattle

Lucks, Carl W.	Seattle
McKee, George Meade.....	Shepherd, Mich.
Macfarlane, Ingeborg T.	Seattle
Marston, Mrs. A. J.	Seattle
Michener, Jeannie R.	Manette
Moore, Clarence F.	Walla Walla
Moroney, Lester	Rockaway, Ore.
Morse, Alice A.	Seattle
Mousseau, Mrs. Elizabeth.....	Seattle
Nash, Thomas Ogden.....	Omak
Nelson, Kathryn	Seattle
Nickerson, Mrs. Phyllis Sherwood.....	Seattle
Norton, Parker L.	Kingfield, Me.
Osborn, Edgar L.	Seattle
Osborne, Mrs. Edward G.	Seattle
Ozaki, Myataro	Seattle
Painter, Richard E.	Seattle
Peterson, Mrs. Fred H.	Seattle
Raitt, Mrs. Janet.....	Seattle
Rathbun, A. Louise.....	Marion, Ia.
Rave, William C.	Tacoma
Rawn, William Lester	Seattle
Reavis, Smith F.	Seattle
Rensing, Herman	Kennydale
Reynolds, Olga G.	Langley
Rhodes, H. Glenn	Tacoma
Ritter, Sarah Jane.....	Butler, Pa.
Ruggles, Mrs. William B.	Seattle
Santander, Elena Benitez de.....	Seattle
Schmitt, Charles V.	Seattle
Senska, Lela B.	Seattle
Sharkey, Harold	North Yakima
Slusser, Grace	South Bend, Ind.
Smith, Cecil L.	Port Angeles
Smith, Martha Elliott	Seattle
Snead, Harold B.....	Dixon, Cal.
Stecher, Mrs. Grace Nixon.....	Seattle
Sterrett, Nellie B.	Seattle
Stoecker, Mamie B.	Seattle
Suman, Charles P.	Seattle
Swift, Henry M.	Boston, Mass.
Tanner, Frances J.	Seattle
Train, Edward N.	Seattle
Treffinger, Fred C.	Seattle
Wafer, M. Barbara	Marysville
Ward, Alma M.	Seattle
Wentworth, Mrs. Lois J.....	Seattle
Wilkinson, Madge W.	Port Blakeley
Wood, Joseph	Seattle
Wright, Della P.	Mexico City, Mex.
Wynn, Inez E.	Seattle
Young, Mary C.	Seattle

COLLEGE OF SCIENCE

ABBREVIATIONS

Classes

Sr. Senior
Jr. Junior

So. Sophomore
Fr. Freshman

*Name of Student and Rank.**Home Address.*

Abel, Helen M.; So.....	Montesano
Abrems, John H.; Fr.....	Spokane
Adams, Russell M.; Fr.....	Seattle
Ainslie, Elsie A.; So.....	Seattle
Ake, Claire Lall; So.....	Mountain Home, Ida.
Aller, Curtis C.; So.....	Wapato
Anderson, Clarence; So.....	Seattle
Anderson, Frances E.; Fr.....	Edmonds
Anderson, Helen M.; Jr.....	Seattle
Anderson, A. Reinhold; Fr.....	Seattle
Andrews, Perry William; Fr.....	Arcadia
Arney, Mary; Fr.....	Thomas
Arthun, Mabel V.; Sr.....	Seattle
Austin, Frederick C.; Fr.....	Seattle
Babcock, Grace Ellen; Sr.....	Port Angeles
Bachelor, Arthur H.; Fr.....	Oakville
Bachmann, Amelia Helen; Jr.....	Seattle
Bagley, Walter E.; Sr.....	Seattle
Bailey, Caroline E.; So.....	Seattle
Bailey, Edith; So.....	Walla Walla
Bale, Robert E.; So.....	South Bend
Bale, Ruth C.; Fr.....	Seattle
Ballaine, Sophronia; Fr.....	Seattle
Banker, Iphigene C.; So.....	Seattle
Carash, Leah; Sr.....	Seattle
Barnum, Gertrude; So.....	Seattle
Barr, Mabel A.; So.....	Seattle
Barter, Ella; So.....	Seattle
Baughman, Pearl; So.....	Seattle
Beckman, Reuben D.; Fr.....	Asotin
Behling, Vera F.; So.....	Seattle
Bell, Doris L.; Fr.....	Eyerett
Benedicto, Arsenio E.; Fr.....	Illoilo, P. I.
Bickford, Ernest Dearnley; Fr.....	Seattle
Billups, John A.; Fr.....	Seattle
Bird, Emma; Fr.....	Seattle
Bjorklund, Irene E.; Sr.....	Seattle
Bliss, Margaret L.; Jr.....	Seattle
Boltz, Oswald H.; So.....	Seattle
Boucher, Jessie L.; Sr.....	Kent
Bowers, Marion R.; Sr.....	Spokane

Brackett, Bertha; Jr.....	Seattle
Bradley, Blythe A.; Fr.....	Seattle
Breck, Margaret; Jr.....	Seattle
Breneman, Fay; Fr.....	Castle Rock
Breuning, Paul Harold; Sr.....	Tacoma
Brobst, Leona J.; Fr.....	Seattle
Brooks, Mildred; Fr.....	Seattle
Brown, Burton A.; Fr.....	Seattle
Brown, Leon V.; So.....	Wenatchee
Brown, Warren; Fr.....	Wilkes Barre, Pa.
Bryan, Goldie A.; Fr.....	Seattle
Burns, James J.; Fr.....	Seattle
Butcher, E. Bessie; Fr.....	Seattle
Cady, Osman H.; Sr.....	Seattle
Caffrey, Genevieve Elizabeth; Jr.....	Seattle
Cameron, Marion B.; Fr.....	Port Huron, Mich.
Campbell, Donald M.; Fr.....	Seattle
Campbell, Eleanor; So.....	Seattle
Canfield, Damon; Fr.....	Seattle
Carlson, Agnes N.; Fr.....	Seattle
Carpenter, Beatrice H.; Jr.....	Seattle
Carpenter, Hazel Bradley; Sr.....	Grandview
Carroll, Emmett R. Jr.; Jr.....	Seattle
Carson, Leslie D.; So.....	Seattle
Case, Dorothy S.; Fr.....	Portland, Ore.
Catlin, Claude; Sr.....	Ellensburg
Chapman, Grace Lillian; So.....	Seattle
Chapman, Hattie May; Fr.....	Seattle
Coffman, Edith M.; Sr.....	Chehalis
Collings, Clyde W.; Fr.....	Vancouver
Combs, Ethel M.; So.....	Seattle
Condron, Lulu Alice; Jr.....	Seattle
Cooper, Evelyn F.; Fr.....	Seattle
Corey, Esther M.; Fr.....	Tacoma
Cornell, Gladys; Fr.....	Tacoma
Corskie, James M.....	Seattle
Coughlin, Frances G.; Jr.....	Spokane
Crawford, R. Donald; So.....	Seattle
Crippen, Inez; Jr.....	Spokane
Cutter, Evelyn T.; Sr.....	Seattle
Dana, Winfred P.; Fr.....	Tacoma
David, Pearl; So.....	Seattle
Davis, May; Fr.....	Seattle
Davison, Dorothy; Jr.....	Seattle
DeMerchant, Leo A.; Fr.....	Oroville
Desmond, Margaret R.; Fr.....	Tacoma
Donaldson, Mildred; Fr.....	Seattle
Donovan, Harrison; So.....	Seattle
Dorgan, Mildred; So.....	Seattle
Downs, Agnes L.; So.....	Mount Vernon

Dykeman, Robert L.; Fr.....	Seattle
Eagleson, James M.; Jr.....	Seattle
Eaton, Mary M.; Jr.....	Endicott
Edgerton, Verna M.; Jr.....	Puyallup
Edlund, Ruth; Fr.....	Seattle
Eggleston, Gertrude; Jr.....	Seattle
Elford, Florence M.; Fr.....	Seattle
Elliott, Mary E.; So.....	Walla Walla
Emmons, Carl; Fr.....	Salem, Ore.
English, Mrs. Clara V.; So.....	Seattle
Engstrom, Ella Catherine; Sr.....	Seattle
Entz, Ruth; Jr.....	Seattle
Erickson, Lorraine M.; So.....	Seattle
Everett, Lillian A.; Sr.....	Seattle
Falknor, Judson F.; So.....	Seattle
Fallis, Robert M.; So.....	Spirit Lake, Ida.
Farrell, Chas. Vincent; Fr.....	Seattle
Fay, Helen F.; So.....	Seattle
Fay, Temple S.; So.....	Seattle
Felder, Herman A.; Sr.....	Toppenish
Fifer, Eva Louella; So.....	Seattle
Fisher, Dorothy R.; Fr.....	Bellingham
Fisk, Frances E.; Fr.....	Parma, Ida.
Flitts, Isabel; Jr.....	Seattle
Flanley, Evelyn, L.; So.....	Seattle
Fleischhauer, Hudson Will; Fr.....	Honolulu, H. I.
Fletcher, Ina M.; Fr.....	Boise, Ida.
Flowers, Ruby J.; Jr.....	Chehalis
Foote, Gertrude M.; Fr.....	Seattle
Foran, Edwin V.; Fr.....	Seattle
Foreman, Leotta M.; So.....	Tacoma
Frame, Paul Warren; Jr.....	Seattle
Fredson, Dora E.; Jr.....	Shelton
Freed, Hugo; Fr.....	Bellevue
Freeman, Robert; So.....	Spokane
French, Wm. Oscar, Jr.; Fr.....	Modesto, Cal.
Frew, Rosamond; So.....	Seattle
Friese, Flora A.; Fr.....	Snohomish
Fujimaki, Samuel Y.; So.....	Kanaiwa, Japan
Garrison, Glenn G.; So.....	Seattle
Gearhart, Esther; So.....	Astoria, Ore.
Gerhardt, Celia L.; Jr.....	Seattle
Gifford, Lola; Jr.....	Bellingham
Gille, Madell; Sr.....	Seattle
Gleason, Ruth; Jr.....	Seattle
Glenn, M. Ethel; Fr.....	Tacoma
Glockler, George; Sr.....	Seattle
Good, Jane; Fr.....	Mt. Vernon
Gosnell, J. Henry; So.....	Seattle
Graves, Harold D.; Fr.....	Cashmere

Gray, Isabel; Jr.	Spokane
Greenwood, Lyle A.; Sr.	Bellingham
Griffiths, Marion Alice; Fr.	Seattle
Haller, Bernardine; Fr.	Seattle
Hamel, Floyd R.; Fr.	Salem, Ore.
Hamilton, Alleen A.; So.	Seattle
Hammond, N. Ardene; Fr.	Tacoma
Hammond, Avis E.; Fr.	Seattle
Hanawalt, Harold O.; Jr.	Tacoma
Hanson, Helen R.; So.	Seattle
Harmon, Don C.; So.	Mt. Vernon
Harris, Arthur K.; Fr.	Colfax
Harrison, A. Myrtle; Sr.	Astoria, Ore.
Hartge, Mrs. Lena A.; Jr.	Seattle
Heath, Harry F.; Jr.	Dryad
Henry, Ruth Varene; So.	Seattle
Herner, Helen; Fr.	Portland, Ore.
Herner, Morrow B.; So.	Seattle
Herzog, Julius A.; Fr.	Portland, Ore.
Hess, Dorothy Ann; Jr.	Seattle
Higgins, Hubert G.; Jr.	Vancouver
Higgs, Paul M.; Fr.	Pine City
Hirata, Mitsuo; Fr.	Miyeken, Japan
Hitchcock, Allan J.; Fr.	Seattle
Holer, Mabel; Fr.	Blaine
Holman, Zelma L.; Fr.	Tacoma
Home, Jessie; So.	Ellensburg
Hopkins, Sheridan; So.	Seattle
Hosner, Clare; Fr.	Seattle
Hostetter, Ingomar; Sr.	Milton
Howard, Alma B.; Jr.	Seattle
Hoxsey, Maurice Y.; Sr.	Spokane
Hunt, Howard Jasper; Fr.	Kalispell, Mont.
Huntington, Roma; Sr.	Seattle
Hurd, Annie May; Sr.	Seattle
Hutchinson, Pearl I.; Sr.	Seattle
Imboden, Mae; Fr.	Castle Rock
Irvine, Marguerite I.; So.	Seattle
Ivey, Ethel P.; So.	Seattle
Jacobson, Julia; Jr.	Seattle
Jacobson, Rose; Sr.	Seattle
Jaqueth, Edna W.; So.	Kalispell, Mont.
Jaycox, Bonnie Jean; Fr.	Walla Walla
Jeans, Mildred; Fr.	Seattle
Jeffrey, Alex; Fr.	Seattle
Jerbert, Arthur R.; Jr.	Seattle
Jerbert, Einar W.; Fr.	Seattle
Johanson, Arthur J.; Fr.	Tacoma
Johnson, Ethel H. Fr.	Seattle
Johnson, Gladys A.; Fr.	Waterman

Johnson, Grace Alice; So.....	Seattle
Johnson, Hilda J.; So.....	Nome, Alaska
Johnson, Ruth F.; Sr.....	North Yakima
Johnson, Wm. Kenneth; Fr.....	Seattle
Johnstone, Margery R.; Sr.....	Seattle
Jones, Margaret C.; So.....	Mt. Vernon
Karrer, Joanne L.; Sr.....	Seattle
Keller, Eunice; Fr.....	Seattle
Keller, William; Fr.....	Redmond
Kellner, Frank E.; So.....	Hamilton
Kelsey, Louise; Fr.....	Seattle
Kenison, Ralph B.; So.....	Twisp
Kennedy, Mabel Josephine; Fr.....	Tacoma
Keppel, Mrs. Susan M.; Fr.....	Seattle
King, Arthur J.; Fr.....	Vashon
Kirschner, Karl K.; Jr.....	Seattle
Knapp, Lena; Jr.....	Seattle
Knapton, Florence Myrtle; Fr.....	Seattle
Knausenberger, L. Clara; So.....	Seattle
Knausenberger, Hilda; So.....	Seattle
Kraus, Ada M.; Jr.....	Seattle
Kuebler, Helen Gertrude, Jr.....	Seattle
Kuehner, Louise M.; Jr.....	South Bend
LaBossler, Inez J.; So.....	Kent
Lacock, H. Gertrude; Jr.....	Columbus, Kans.
Lamoreux, Harvey D.; Fr.....	Burton
Larsin, Josephine C.; So.....	Seattle
Larssen, Kirsten; Fr.....	Seattle
LaViolette, Melvin F.; Fr.....	Seattle
Lawson, Walter E.; So.....	Wahluke
Leaming, Ruth; Fr.....	Castle Rock
Lee, Vaughn; Jr.....	Spokane
Legg, Lois C.; Fr.....	Seattle
Lew, Don G.; Sr.....	Seattle
Libby, Jessie H.; So.....	Seattle
Lincoln, Mattie J.; Sr.....	Seattle
Lindstrom, Agnes H.; Fr.....	Tacoma
Little, Edward M.; Fr.....	Seattle
Lungreen, Edith C.; Jr.....	Seattle
Lusby, Ruth M.; Fr.....	Seattle
McBride, Lois; Jr.....	Seattle
McClellan, Helena R.; Jr.....	Sumner
McConihe, Paul M.; So.....	Tacoma
McCormick, Irma A.; Fr.....	Seattle
McDougall, Alfred; Fr.....	Seattle
McKay, John Alexander; Sr.....	Seattle
MacLaren, Gay E.; Fr.....	Seattle
McMurray, Fred A.; Jr.....	Seattle
McPherson, Andrew F.; Fr.....	Bellingham
Macquarrie, Jessie W.; Fr.....	Seattle

Majors, Irene; So.....	Seattle
Marcuson, Paul I.; So.....	Seattle
Martin, Esther L.; So.....	Seattle
Martin, Merritt Kennard; Fr.....	Bothell
Mattson, Waino; Fr.....	Seattle
Mayer, Siegfried; So.....	Seattle
Mendham, Jeanne B.; Jr.....	Spokane
Merling, Ruth E.; Jr.....	Seattle
Meyer, Mabel June; So.....	Tacoma
Michelson, Aimee; So.....	Seattle
Michener, Marie E.; Fr.....	Portland, Ore.
Milburn, Roszelle; Sr.....	Seattle
Millay, Lottie E.; Jr.....	Chewelah
Miller, Ethel Eliza; Fr.....	Selah
Miller, Helen A.; So.....	Tacoma
Miller, Martha Jane; Sr.....	Seattle
Minnis, Wesley; Jr.....	Seattle
Misner, Doris; So.....	Tacoma
Mitchell, Richard S.; So.....	Olympia
Moore, Alice; Fr.....	Anacortes
Moore, Rita; Fr.....	Anacortes
Morford, Pearl M.; Fr.....	Poulsbo
Morgan, Chas. Wesley; So.....	Seattle
Morgan, Miles Evan; Sr.....	Seattle
Morgan, Mona M.; Jr.....	Marysville
Morton, Lucie W.; Fr.....	Seattle
Moseley, Virginia R.; Fr.....	East Seattle
Myer, Bernice; Jr.....	Seattle
Neighbors, Nancy C.; Sr.....	Seattle
Noble, Claude S.; So.....	Seattle
Noderer, Ruth L.; Sr.....	Seattle
Olson, Cecella O.; So.....	Port Townsend
Olson, Oscar E.; Jr.....	Seattle
O'Neill, Hertha; Jr.....	Castle Rock
Packer, Francis; Fr.....	Seattle
Paige, Caroline T.; Sr.....	Portland, Ore.
Paige, Susie B.; Jr.....	Portland, Ore.
Palmer, Esther R.; Sr.....	Seattle
Parker, Catherine A.; So.....	Seattle
Parker, Charles; Fr.....	Winlock
Parker, Frances Estella; Fr.....	Seattle
Parker, Harriet P.; Fr.....	North Yakima
Parks, George S.; Sr.....	Seattle
Parr, Marie F.; Jr.....	Seattle
Parrott, J. Clifford; Fr.....	Twin Falls, Ida.
Patten, Anna Marie; So.....	Seattle
Patton, Ysabel; Jr.....	Hoquiam
Paust, Edna L. B.; Fr.....	Seattle
Peckenpaugh, Vera P.; Fr.....	Manette
Pendleton, Katherine; Fr.....	Everett

Pennell, Elisabetta C.; Jr.	Seattle
Perry, Clifford; So.	Seattle
Peterson, August William; Fr.	Clarkston
Peterson, Florence M.; So.	Seattle
Peterson, Geneva V.; Jr.	Seattle
Phillips, Gertrude A.; Fr.	Seattle
Platner, Evelyn Idessa; Sr.	Seattle
Platner, Goldie; Sr.	Seattle
Pollard, Christine; So.	Highmore, S. D.
Porter, Beatrice M.; Fr.	Auburn
Powell, Sargent; Jr.	Seattle
Pratt, A. Mae; So.	Ferndale
Pritchard, J. Gordon; So.	Tekoa
Pritchard, Millie Margaret; Fr.	Seattle
Quast, Florence A.; Fr.	Marysville
Ramaker, Hazel Dean; So.	Seattle
Ratliffe, Ruth E.; Sr.	Cheney
Rawson, Errol W.; Fr.	Seattle
Raynor, George E.; Fr.	Seattle
Reekie, Jean; Fr.	Seattle
Rehmke, Antoinnette Maria; Jr.	Seattle
Reid, Elizabeth; Sr.	Estacada, Ore.
Rembe, Armin C.; Fr.	Seattle
Roberts, Ruth M.; So.	Seattle
Robinson, Alice V.; Jr.	Seattle
Robinson, Maude I.; Jr.	Seattle
Robinson, B. Veryl; Fr.	Seattle
Rodman, Harold; So.	Wapato
Rohwer, Chris J.; Jr.	Spangle
Root, M. Hortense; Fr.	Seattle
Rose, Gertrude; Jr.	Seattle
Rounds, Ethelyn B.; Fr.	Seattle
Royal, Mrs. Margaret Lee; So.	Seattle
Saboe, Grace M.; Sr.	Seattle
Sanders, A. Monroe; Fr.	Spokane
Sargent, Winford G.; Fr.	Seattle
Saunders, Lucille; Jr.	Seattle
Schaefer, Franklin H.; Fr.	Davenport
Schutt, Emory Leslie; Fr.	Seattle
Schwartz, George L.; Sr.	Seattle
Scott, George O.; Fr.	Seattle
Sears, Sarah M.; Fr.	Centralia
Selby, Helen H.; Fr.	Spokane
Servis, Max H.; Fr.	Snohomish
Shaffer, Florence; So.	Seattle
Shelton, Lucy Mather; So.	Seattle
Shimomura, M. Henry; Fr.	Seattle
Shipley, Ethelyn; Sr.	Seattle
Shumway, Antoinnette E.; Fr.	Kirkland
Sifton, Edith; Jr.	Seattle

Sigsworth, Lela M.; Fr.....	Seattle
Simpson, Martha; Fr.....	Seattle
Sims, M. Geneva; So.....	Walla Walla
Skinner, Charles Wendell; Fr.....	Big Horn, Wyo.
Slemmons, Wilbert S.; So.....	Ellensburg
Slettengren, Hugo, Jr.; Fr.....	Seattle
Small, Adele; Fr.....	Seattle
Smalley, George; So.....	Seattle
Smith, Carrie E.; Fr.....	Long Beach, Cal.
Smith, Frances K.; So.....	Seattle
Smith, Lem D.; So.....	Spokane
Smith, Lucille; Fr.....	Walla Walla
Smith, Virginia F.; Fr.....	Pocatello, Ida.
Soderberg, Linnea Elizabeth; Fr.....	Seattle
Soule, Kenneth J.; Jr.....	Seattle
Sowers, Joe M.; Jr.....	Sunnyside
Spratley, Donald A.; Fr.....	Bellingham
Stauffer, J. Cassius; Sr.....	Spokane
Steel, Catherine Irene; So.....	Walla Walla
Stephen, J. Howard; Jr.....	Seattle
Stevens, Belle Alice; Fr.....	Maltby
Stewart, May A.; Jr.....	Tacoma
Stilson, Edgar L.; So.....	Seattle
Stuart, George P.; Sr.....	Monroe
Sutter, Pearl E.; Jr.....	Seattle
Swartz, Florence; So.....	Seattle
Swegle, Adele Mae; Fr.....	Seattle
Swope, Alice L.; Fr.....	Seattle
Swope, Helen; Sr.....	Seattle
Talbot, John A. Jr.; So.....	Seattle
Tashjian, Victoria Viola; So.....	Seattle
Taylor, Harold B.; Jr.....	Seattle
Taylor, Margie W. W.; Fr.....	Seattle
Taylor, Martha S.; Sr.....	Seattle
Thomas, Lucile; Jr.....	Seattle
Thompson, Effie Hazle; Fr.....	North Yakima
Thompson, Leonard R.; Jr.....	Everett
Thompson, Luciole M.; Sr.....	Seattle
Thompson, Noel F.; Jr.....	North Yakima
Thorneley, Emma Sarah; Fr.....	Tacoma
Thorp, Nelson Dale; Fr.....	Conconully
Todd, Mary C.; Jr.....	Seattle
Tower, Pearl A.; Jr.....	Seattle
Tyler, Eunice; Fr.....	Seattle
Urner, John Arnold; Fr.....	Seattle
Vader, Zilmah; So.....	Seattle
Van Sant, Helen M.; So.....	Coupeville
Van Winkle, Katherine E.; Fr.....	Oakville
Vinsonhaler, Elizabeth; So.....	Seattle
Von Lossow, Pauline; So.....	Auburn

Wade, Dorothy; Jr.	Seattle
Wagner, Katherine B.; Sr.	Seattle
Wainwright, Mary T.; So.	Tacoma
Waite, Nettie L.; So.	Seattle
Waite, Vera B.; So.	Seattle
Wakefield, Georgia; Fr.	Seattle
Walker, Charles H.; Fr.	Seattle
Walsh, Mamie C.; Jr.	Wenatchee
Walter, Ernest R.; Sr.	Denver, Colo.
Walton, Willis A.; Fr.	Ontario, Cal.
Ward, May D.; Jr.	Seattle
Ware, Sarah Amelia; Fr.	Seattle
Waters, Arthur Victor; Fr.	Lebam
Watney, Stanley A.; Fr.	Seattle
Waynick, Lulu M.; Jr.	Seattle
Wells, Arlo H.; Fr.	Seattle
White, Maynard O.; Fr.	Woodinville
Whitham, Nellie Sarah; Fr.	Seattle
Whitham, Vivian; Fr.	Seattle
Whitney, Carey J.; Fr.	North Yakima
Whittlesey, Susan L.; Fr.	Seattle
Will, Bess R.; Fr.	Seattle
Willard, Dudley; So.	Seattle
Williams, Agnes Bell; Fr.	Seattle
Williams, Louise; Sr.	Orosi, Cal.
Williams, Lowell E.; So.	Seattle
Wilson, Margaret Anne; Jr.	Aberdeen
Wilson, Marjorie F.; So.	Tacoma
Winter, Vonja; Fr.	Everett
Wirt, Harry M.; So.	North Yakima
Woelber, Harry John; Fr.	Seattle
Wold, H. Parell A.; Sr.	Trondhjien, Norway
Wolff, Marie E.; Fr.	Seattle
Wolthausen, Eldon LeRoy; Fr.	North Yakima
Woodard, Ruth; Fr.	Cottage Grove, Ore.
Woodruff, Ruby H.; So.	Bellevue
Wright, Gladys L.; Fr.	Seattle
Wright, Mary Della; Fr.	Missoula, Mont.
Yahya, Mohammed; So.	Aramon, Syria
Yocom, Elizabeth; Sr.	Tacoma

UNCLASSIFIED STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Albin, Mary	Seattle
Bell, Jessie L.	Seattle
Carter, Daisy I.	Manette
Castlebury, Zola E.	Boise, Ida.
Dieckhoff, Lulu J.	Seattle
Greene, Helen M.	Seattle
Hanna, Ada B.	Tacoma

Hawkins, M. Estelle.....	Seattle
Jones, Raymond A.....	Seattle
Knudson, Esther	Rexford, Kans.
McClung, Hugh	Pomeroy
Moore, Olive M.....	Victoria, B. C.
Pike, Wendell A.....	Seattle
Platt, Annie	Seattle
Sexsmith, Clare Wilde.....	Seattle
Spalding, Maurice	Seattle
Spencer, Lavina Lucetta.....	Seattle
St. John, E. Ivalon.....	Richmond Beach
Suzuki, Choji	Tokyo, Japan
Vaughn, Maud	Seattle
Walsh, Raymond	Lynden
Warwick, Charles S.....	Edwall
Waterhouse, Lois J.....	Seattle
Wheeler, N. Claire V.....	Seattle

SPECIAL STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Adams, Rosamond	North Yakima
Babcock, Helen B.....	Seattle
Barber, Alida R.....	Seattle
Bevan, Enid M.....	Seattle
Cameron, L. May.....	Seattle
Emy, Saburo	Seattle
Flodin, Mrs. John.....	Seattle
French, Evelyn Gertrude.....	Conconully
Glaser, Harry	Seattle
Guerrier, Charles Windfield.....	Centralia
Hanson, Harold C.....	Bellingham
Hilsabeck, Mrs. Grace Luella.....	Seattle
Jorgenson, Mrs. Nellie E.....	Seattle
Knowlton, Viola	Salt Lake, Utah
McConahey, Mrs. James M.....	Seattle
Marshall, George Robert.....	Seattle
Myers, Hazel Fay.....	Miles City, Mont.
Norris, Howard Lee.....	Seattle
Oakley, Eldora V.....	Seattle
Pun, Woo Yuen.....	Seattle
Sears, Nina M.....	Butte Falls, Ore.
Serwe, Mrs. P. L.....	Seattle
Smith, Thora Lucetta.....	Medford, Ore.
Tiffin, Lucius D.....	Seattle

COLLEGE OF EDUCATION

ABBREVIATIONS

Classes

Sr. Senior

Jr. Junior

So. Sophomore

Fr. Freshman

*Name of Student and Rank.**Home Address.*

Bond, Elsie Alvira; Fr.....	Selah
Cobb, Tina Marie; Sr.....	Seattle
Corwin, Hazel Irene; Jr.....	Seattle
Dirimble, Belle; Jr.....	Marysville
Doud, Helen Margaret; So.....	Tacoma
Gibson, Clayton E.; Jr.....	Seattle
Hurley, Coila Pearl; Jr.....	Pecatonica, Ill.
Ingalls, Estelle M.; Jr.....	Portland, Ore.
Johnson, Lillie Aleda; Jr.....	Batavia, Ill.
Juillierat, Lee August; Jr.....	Seattle
Koenig, James Victor; Jr.....	Seattle
Lustie, William August; Sr.....	Seattle
McRae, James Everett; Jr.....	Seattle
Miller, Alice; Jr.....	Seattle
Ormsby, George; Sr.....	Sheffield, Iowa
Phillips, Cora Marie; Fr.....	Seattle
Piles, Agnes Gabriela; Fr.....	Seattle
Prior, Ruby G.; Fr.....	Seattle
Rhoades, Luke C.; Jr.....	Puyallup
Rue, Walte J.; Jr.....	Seattle
Sandstedt, Mrs. Etta M.; So.....	Seattle
Simmons, Elma; Sr.....	Seattle
Walsted, Mary B.; Sr.....	Seattle
White, Addie; Sr.....	Seattle

SPECIAL STUDENTS

*Name of Student.**Home Address.*

Anderson, Edward Garrett.....	Seattle
Arneson, Ruby O.....	Harshaw, Wis.
Briggs, Mrs. Grace M.....	Seattle
Burr, Margaret.....	Seattle
Burton, Jennie L.....	Seattle
Clulow, Mrs. Edith Pomeroy.....	Seattle
Dallas, James A.....	Seattle
Hart, Emma C.....	Seattle
Hart, Nell M.....	Everett
McGuane, Anna C.....	Winona, Minn.
Marston, Amos Jesse.....	Seattle
Myers, W. Edward.....	Seattle
Oakley, Enola.....	Seattle
Parker, Alice M.....	Seattle
Parsons, Elva T.....	Seattle
Prescott, Belle F.....	East Jaffrey, N. H.
Rouse, Louise Elizabeth.....	Seattle
Shotwell, Martha Rose.....	Seattle

COLLEGE OF ENGINEERING

ABBREVIATIONS

Classes

Sr. Senior
Jr. Junior

So. Sophomore
Fr. Freshman

Courses

C. E. Civil Engineering M. E. Mechanical Engineering
E. E. Electrical Engineering Ch. E. Chemical Engineering

Name of Student, Rank and Department. Home Address.

Aalto, Ilmi August; Fr., M. E.	Douglas, Alaska
Adams, Jack Middleton; So., C. E.	Bellingham
Aitchison, Clyde S.; Fr., M. E.	Portland, Ore.
Alleman, Albert; Fr., M. E.	Seattle
Allen, Arnold S.; Fr., E. E.	Seattle
Ammon, Lawrence Charles; Fr., E. E.	Seattle
Anderson, Arthur William; Fr., C. E.	Colton, Ore.
Anderson, George, Jr.; Fr., M. E.	Hoquiam
Anderson, Woodworth; Jr., M. E.	Seattle
Andrews, William Earle; Fr., M. E.	Castle Rock
Andrus, Claude Avery; Fr., E. E.	Seattle
Angove, Clarence V.; So., E. E.	Seattle
Aries, Walter James; Fr., E. E.	Wapato
Ashim, Leland E.; Jr., Ch. E.	Seattle
Ashland, Roy R.; Fr., E. E.	Seattle
Baer, Harold; Sr., E. E.	Seattle
Baird, Earl Llewellyn; So., M. E.	Seattle
Bannister, Clyde Eugene; Fr., C. E.	Seattle
Bannon, John Louis; Fr., C. E.	Seattle
Barbee, William Lee; So., E. E.	Seattle
Bardin, Harry Melvin; Sr., E. E.	Seattle
Bardin, James Everett; Fr., Ch. E.	Seattle
Barlow, Russell Calvin; Sr., C. E.	Tacoma
Bartholmew, Wayne Lyle; Fr., E. E.	Puyallup
Batchelder, Harold S.; Jr., Ch. E.	Spokane
Baum, Harold J.; Fr., Ch. E.	Seattle
Baum, Norval D.; Fr., C. E.	Seattle
Beaman, Edward Rollins; Fr., E. E.	Tacoma
Beem, Aubrey Burrows; So., E. E.	Seattle
Bell, Raymond W.; Fr., C. E.	Tacoma
Beisel, Rex Buren; Jr., M. E.	Seattle
Bell, Clarence; Fr., C. E.	North Bend
Benson, Victor Samuel; Fr., E. E.	Ellensburg
Benz, Reuben George; Fr., E. E.	Toppenish
Bergersen, Abner R.; Fr., E. E.	Tacoma
Bessesen, Ben B.; Sr., E. E.	Seattle
Beuschlein, Warren L.; Fr., Ch. E.	Seattle
Bird, Lester; So., E. E.	Seattle

Bissell, Addison G.; Jr., Ch. E.	Seattle
Boissounault, Harry; Fr., E. E.	Everett
Bond, Clarke; Jr., E. E.	Seattle
Bond, John; Fr., C. E.	Tacoma
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Bowles, Nelson Carlisle; Fr., C. E.	Seattle
Bowman, Blaine; Jr., M. E.	Seattle
Boyd, Winfield G.; So., M. E.	Seattle
Boynton, Phillip Edward; So., E. E.	Portland, Ore.
Bracken, V. Earl; So., C. E.	Redmond
Bradford, Alfred J.; Sr., C. E.	Seattle
Brady, Edward Emmet; Fr., E. E.	Tacoma
Brandenthaler, Arthur A.; Fr., Ch. E.	Seattle
Brandenthaler, Rudolph Richard; Jr., Ch. E.	Seattle
Brayton, William Julius; So., Ch. E.	Bellingham
Bridges, Robert Lee; Fr., M. E.	Auburn
Briggs, Erroll Chandler; Fr., E. E.	New Westminster, B. C.
Brokaw, Clyde W.; Jr., C. E.	Seattle
Brokaw, John B.; Fr., E. E.	Tacoma
Brooks, John Miles; Fr., C. E.	Dewatto
Brown, Robert; Jr., E. E.	Goldendale
Buck, Clyde J.; Fr., M. E.	Monroe
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Bushnell, Sherman W.; Fr., E. E.	Seattle
Callow, Ceilan H.; Fr., M. E.	Clarkston
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McMorris, Alfred William; Sr., C. E.	Seattle
McRobbie, Henry William; Jr., E. E.	Seattle
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Malapoff, Abe; Fr., C. E.	Seattle
Maney, Wallace Lincoln; Fr., E. E.	Seattle
Marcy, Charles Goodell; Sr., E. E.	Montesano
Martin, Francis William; Fr., E. E.	Aberdeen
Martin, John Henry; Jr., Ch. E.	Walla Walla
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Masako, Frank Juzo; Sr., C. E.	Japan
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Matson, Herman Albert; Sr., M. E.	Bellingham
Matsumoto, Takao; Fr., Ch. E.	Japan
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Mayer, Roland Adam George; So., M. E.	Seattle
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Mills, Will A.; So., C. E.	Seattle
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Nelles, Roy Hubert; So., E. E.	Madison, S. D.
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Northquist, Oscar Eaver; Fr., M. E.	Seattle
Ohtake, Chotaro; Fr., C. E.	Seattle
Olmstead, Frank L.; Fr., E. E.	Caldwell, Ida.
O'Mera, John; Fr., C. E.	Seattle
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O'Rear, Clyde S.; So., M. E.	Seattle
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Hurwich, David; E. E.	Seattle
McCaffrey, Harold W.; Ch. E.	Seattle
McFarland, James Helms; E. E.	Grants Pass, Ore.
Packard, Raymond P.; M. E.	Tacoma
Robertson, Henry; M. E.	Seattle
Sherman, Arthur J.; M. E.	Tacoma
Valentine, Albert Lorraine; C. E.	Seattle
Wassberg, Clarence E.; Ch. E.	Spokane

SPECIAL STUDENTS

<i>Name of Student and Department.</i>	<i>Home Address.</i>
Baer, Clarence Eugene; E. E.	New Castle, Penna.
Beatty, Vernon Mount; E. E.	Seattle
Bell, Alonzo Edwin; E. E.	Seattle
Bell, C. H.; E. E.	Seattle
Boutwell, Willard; E. E.	Seattle
Brockway, Albert L.; C. E.	Seattle

Brown, Lowell J.; E. E.	Seattle
Browning, William Clark; E. E.	Seattle
Christensen, Andrew; E. E.	Norway
Colvin, William Ralph; E. E.	Seattle
Dearborn, Frank Wilbur; E. E.	Seattle
Deny, Maurice J. J.; E. E.	Seattle
Dofsen, Floyd; E. E.	Seattle
Dunn, Robert J.; E. E.	Seattle
Gardner, Paul L.; E. E.	Seattle
Georgie, Otto; E. E.	Seattle
Gideon, Lester Peter; E. E.	Seattle
Gray, Harold Eugene; E. E.	Seattle
Hanson, Oscar John; E. E.	Seattle
Harbold, Clarence E.; E. E.	Seattle
Harrington, Arthur Clayton; E. E.	Seattle
Hilliard, Charles Parker; E. E.	Somerville, Mass.
Huelsdonk, Adolph; E. E.	Seattle
Jamieson, James E.; E. E.	Seattle
Johnson, Robert E.; E. E.	Seattle
Jones, Alan Walter; E. E.	Walla Walla
Jordan, Archie H.; E. E.	Seattle
Kalin, Albert; E. E.	Portland, Ore.
Kaneko, Takayoshi; Ch. E.	Yachi, Japan
Kent, Irving Fuller; E. E.	Bremerton
Lafferty, Hugh S.; C. E.	Seattle
Larsen, Axel Martin; E. E.	Seattle
Leith, Robert E.; E. E.	Seattle
McCoy, Ray; E. E.	Bremerton
Marshall, Harvey M.; E. E.	Seattle
Matzger, George Waite; E. E.	Seattle
Matzinger, Walter; E. E.	Yesler
Moore, Edward J.; M. E.	Seattle
Nordby, Elmer Carl; E. E.	Seattle
Olson, William J.; E. E.	Seattle
Osgood, Harry L.; E. E.	Seattle
Purdy, Walter; E. E.	Seattle
Rathkey, Lawrence; E. E.	Seattle
Read, Henry B.; E. E.	Seattle
Secrest, Thomas B.; C. E.	Seattle
Talcott, Anson Newell; C. E.	Seattle
Tecklenburg, Harry; E. E.	Seattle
Thomas, David E.; E. E.	Seattle
Tucker, Ralph J.; E. E.	Modesto, Cal.
Virtue, Lawrence W.; E. E.	Seattle
Wages, Charles S.; E. E.	Olympia
Wheeler, Royden Samuel; M. E.	Seattle
Wollaston, A. L.; E. E.	Seattle
Wood, Judson Errett; E. E.	Seattle
Yamamoto, Francis Y.; E. E.	Seattle
Young, Fred S.; E. E.	Seattle
Young, Harry Eugene; C. E.	Seattle

COLLEGE OF FINE ARTS

ABBREVIATIONS

Classes

Sr. Senior

Jr. Junior

So. Sophomore

Fr. Freshman

*Name of Student and Rank.**Home Address.*

Ahrens, Helen; Fr.....	Seattle
Andersen, Gudrun Cecelia; Fr.....	Seattle
Anderson, Clara R.; Fr.....	Seattle
Anderson, Mildred; Fr.....	Mount Vernon
Bardshar, Ruth; So.....	Seattle
Beck, George Frederick; Fr.....	Seattle
Bergh, Florence Helen; So.....	Seattle
Bonell, Aura Minerva; Fr.....	Fall City
Bonell, Hannah Elizabeth; So.....	Fall City
Bouillon, Victorine Marie; So.....	Seattle
Brachvogel, Rosaline; Fr.....	Aberdeen
Bradley, Miriam A.; Fr.....	Seattle
Brier, Royce; Fr.....	Everett
Brown, Hazel Etta; Fr.....	Chehalis
Brown, Rhenie Lillian; Fr.....	Seattle
Buell, Persis; Jr.....	Burlington, Wis.
Campbell, Mary Marguerite; Fr.....	Seattle
Carlson, Marie; Fr.....	Seattle
Carpenter, Grace Delilah Magdalene; Fr.....	Naches
Cason, Vera; Fr.....	Seattle
Chamberlain, Samuel Ingram; So.....	Aberdeen
Charlton, Harriet Jane; Fr.....	Chehalis
Cook, Etha M.; Fr.....	Seattle
Craver, Sallie M.; So.....	Seattle
Dashley, Hazel M.; So.....	Seattle
Davis, Kathleen Martha; So.....	Chinook
Elliott, Mary Frances; Fr.....	Seattle
Erickson, Pauline Gertrude; Fr.....	Seattle
Evans, Lucy E.; Jr.....	Fergus Falls, Minn.
Foster, Doris; Fr.....	Seattle
Fotheringham, Stuart G.; So.....	Seattle
France, Georgia Madgil; Jr.....	Hoquiam
French, Ellene; Jr.....	Seattle
Fry, Irene Winifred; Fr.....	Anacortes
Fullington, Mary Wilkins; Fr.....	Seattle
Gerry, Lillian Gertrude; Fr.....	Seattle
Glenn, M. Lois; Fr.....	Tacoma
Gottfeld, Alice; Sr.....	Seattle
Harms, Ruth; Fr.....	Seattle
Harris, Irene; Fr.....	Olympia
Hart, Agnes Josephine; Fr.....	Blackfoot, Ida.

Hartle, Elizabeth; Fr.....	Seattle
Hatch, Helen Dorothy; Fr.....	Seattle
Hays, Blendine; Jr.....	Olympia
Heintzelman, Ray; So.....	Olympia
Hollinger, Vivian Marie; Fr.....	Bonner's Ferry, Ida.
Holmes, Anna Sarah; Jr.....	Edmonds
Hopkins, Florence Barr; So.....	Seattle
Horton, Persis Margaret; Jr.....	Seattle
Hutchinson, Muriel Lang; Fr.....	Tacoma
Jack, Myrna Neonetta; Sr.....	Seattle
Kinney, Clair A.; So.....	Seattle
Koren, Helen M.; Fr.....	Spokane
Lewis, Margaretta May; Jr.....	Seattle
Liska, Olga; Jr.....	Seattle
Lohman, Loretto; Jr.....	Chinook, Mont.
Lovely, Nell Frances; So.....	Seattle
MacFarlane, Gladys; Fr.....	Ellensburg
McGlauffin, Kathryn; Fr.....	Hoquiam
Manson, Gladys A. C.; Fr.....	Dockton
Marsh, Constance Ardena; Fr.....	Arlington
Martin, Connie Elvira; Fr.....	Cle Elum
Martin, Marjory King; So.....	Ritzville
Miller, Marion Lewis; Fr.....	Ellensburg
Naugle, Mrs. Mary Tait; Jr.....	Seattle
Nelson, Esther; Fr.....	Montborne
Otterson, Judith E.; So.....	Post Falls, Ida.
Payne, Melvin V.; Fr.....	Auburn
Pepper, Ruth Angie; Jr.....	Seattle
Philbrook, Madge H.; So.....	Seattle
Plants, Justine Emma; So.....	Seattle
Proctor, Grace Ross; So.....	Seattle
Remsberg, Mabel Farquhar; Sr.....	Seattle
Rickert, Ethel; Fr.....	Seattle
Ripley, Marie; Fr.....	Seattle
Sanderson, Ruth; Fr.....	Seattle
Schmitz, Emma; Sr.....	Seattle
Schragg, Lavine Cleo; Fr.....	Ritzville
Schumaker, Elizabeth; Jr.....	Centralia
Stahl, Eleanor E.; Sr.....	Seattle
Swearingen, Mary Jane; Fr.....	Tacoma
Thompson, Alicia Genevieve; So.....	North Yakima
Titus, Frances Louise; Fr.....	Portland, Ore.
Tuttle, Blanche; Fr.....	Spokane
Umbarger, Goldine Pauline; Fr.....	Burlington
Wardall, Janet; Fr.....	Seattle
Watt, Evelyn Minnie; Fr.....	Everett
Weaver, Catherine; Fr.....	Seattle
Weaver, Geneita; Fr.....	Seattle
Wicklund, Alma Rebecca; Fr.....	Seattle
Wilkinson, Mrs. Eudora; Jr.....	Seattle

Willard, Donald Franklin; Fr.....	Seattle
Williamson, Myrtle Mary; Fr.....	Seattle
Winsor, Helen; So.....	Seattle

UNCLASSIFIED STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Albert, Mrs. Besse Cooley.....	Everett
Aram, Vivian Emy.....	Seattle
Aubuchon, Elsie H.....	New Lisbon, Wis.
Bailey, George Congdon.....	Seattle
Barron, Fred A.....	Seattle
Bovee, Joyce.....	Seattle
Culliton, Elaine Clozier.....	Spokane
Farlow, Rebecca A.....	Centrallia
Larrison, Margaret Fargo.....	Seattle
Lockwood, Edith.....	Waterville
McClellan, Will.....	Seattle
Wilson, Kathryn Kirk.....	Seattle

SPECIAL STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Adams, Katherine L.....	Seattle
Adams, Mrs. Roma Blake.....	Seattle
Allen, Jean Ethel.....	Seattle
Bogan, Mabel Viola.....	Seattle
Brandt, Nanny Amanda.....	Frankfort
Cogger, Minnie M.....	Seattle
Davidson, Harry T.....	Seattle
Hansard, Milly Edith.....	Seattle
Krisher, Mrs. Emma C.....	Seattle
Lewis, Mrs. Gwendolyn T.....	Seattle
McDonald, Pearl E.....	Seattle
Mackmiller, Irving H.....	Ashland, Wis.
Norfolk, Clara M.....	Seattle
Smith, Betty Dillon.....	Shreveport, La.
Wahlton, Joseph Mauritz.....	Seattle
Wirth, Mrs. Millie D.....	Seattle

COLLEGE OF FORESTRY

ABBREVIATIONS

Classes

Sr. Senior

Jr. Junior

So. Sophomore

Fr. Freshman

*Name of Student and Rank.**Home Address.*

Anderson, Albert C.; So.....	Colton, Ore.
Ault, Byrd M.; So.....	Enterprise, Ore.
Balmer, Jesmond D.; Fr.....	Cle Elum
Barrett, Philip E.; So.....	Tacoma
Bevan, Arthur; So.....	Vavenby, B. C.
Blunt, Joseph R.; So.....	Tacoma
Boyle, Kenneth R.; Fr.....	Tacoma
Brindley, Ralph; So.....	Seattle
Bristol, Maurice A.; Fr.....	Spokane
Brooks, Fred E.; Fr.....	Seattle
Broxon, Donald R.; So.....	Boise, Ida.
Burnham, Roland P.; So.....	Boulder, Colo.
Burris, Michael M.; Sr.....	Seattle
Clark, Donald H.; So.....	Three Pines, Ore.
Cochran, Lamont M.; Fr.....	Seattle
Corbitt, Willis G.; Fr.....	Seattle
Coyle, William J.; Fr.....	Seattle
Davis, Addison J.; Fr.....	Seattle
DeCamp, Lee R.; Jr.....	Lansing, Mich.
Durfee, Harold A.; So.....	Los Angeles, Cal.
Elzey, Arthur S.; Fr.....	Everett
Erickson, Harry; Fr.....	Hoquiam
Evans, W. Vincent; Sr.....	Livingston, Mont.
Faulkner, Ralph B.; Fr.....	Aberdeen
Fish, W. Harold; So.....	Seattle
Fogelquist, C. Fridolph; Fr.....	Selah
Foran, Harold G.; So.....	Seattle
Gardner, W. Kenneth; Fr.....	North Bend
Garrett, Clarence Byrnwood, Jr.; Fr.....	Seattle
Gillespie, James T.; So.....	Albany, Mo.
Hanson, Harley I.; So.....	Grand Forks, N. D.
Hicks, Donald E.; Fr.....	Seattle
Hutton, James F.; Fr.....	Portland, Ore.
Jacobson, William Henry; Fr.....	Seattle
Jillson, Frederick Fellows; Fr.....	Seattle
Knapp, F. Roy; So.....	Seattle
McAdams, Richard L.; Fr.....	Seattle
McClure, Proctor M.; So.....	Sedalia, Mo.
McHenry, Lloyd A.; Fr.....	Baldwin City, Kans.
MacKechnie, A. Ross; Fr.....	Port Angeles
Madigan, Frederick H.; So.....	Seattle
Muncaster, Roy; So.....	Denver, Colo.

Oass, Alf; Fr.....	Seattle
O'Brien, George William; Fr.....	Vancouver, B. C.
Parker, Will A.; Fr.....	Seattle
Powers, Victor; Fr.....	Seattle
Rafinski, Clement J.; Fr.....	Thomaston, Conn.
Rengstorff, Erwin H.; Sr.....	Enumclaw
Roberts, Wesley K.; Fr.....	Chicago, Ill.
Rostedt, Roy V.; So.....	Tacoma
Saylor, O. Dean; Fr.....	Spokane
Schmitz, Henry; Sr.....	Seattle
Sill, Marion Adrian; Fr.....	Seattle
Stanton, Louis G.; Fr.....	Everett
Stephens, James T.; Fr.....	Spokane
Sternberg, Henry B.; Jr.....	Seattle
Studley, J. Donald; Jr.....	Seattle
Sundholm, Frederick O.; Fr.....	Everson
Talbert, Harry W.; Fr.....	White Salmon
Thomas, James M.; Fr.....	Seattle
Torkelson, Timon J.; So.....	Astoria, Ore.
Van Wickle, J. Morgan; Fr.....	Seattle
Watson, Russell; Sr.....	White Bear, Mont.
Westerberg, Joshua Fredrik; So.....	Mill Valley, Cal.
Wirt, William Henry; Fr.....	North Yakima
Wright, Clifford A.; Fr.....	Portland, Ore.
Young, J. Arthur; Jr.....	Seattle
Young, L. Peirce; Sr.....	Seattle

UNCLASSIFIED STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Brown, Edward.....	Wilkes Barre, Pa.
McCullough, Robert S.....	Seattle
McDougall, Edmund H.....	Edmonton, Alta.
Reavis, David B.....	Enterprise, Ore.

SPECIAL AND SHORT COURSE STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Alexander, J. Beverley; Sp.....	Sedro-Woolley
Anderson, Lee N.; Sp.....	Seattle
Brady, Charles C.; Sp.....	Long Beach, Cal.
Browning, Harold Alfred; Sp.....	Seattle
Chartrand, Lee F.; S. C.....	Meadow Creek
Cook, Arthur F.; Sp.....	Seattle
English, Clifford M.; S. C.....	Seattle
Hage, Siguid; S. C.....	Seattle
Hartsuck, David G.; S. C.....	Tumwater
Hellman, Harry P.; S. C.....	Portland, Ore.
Hennig, Henry K.; S. C.....	Portland, Ore.
Huff, Rolland; S. C.....	Halfway, Ore.
Jeffrey, J. H.; S. C.....	Seattle

Langer, Owen J.; S. C.....	Lillooet, B. S.
McGillicuddy, Blaine H.; S. C.....	Aberdeen
McKay, J. W.; S. C.....	Seattle
Malcolm, Gordon Ross; S. C.....	Victoria, B. C.
Morrison, Clarence V.; Sp.....	Seattle
Parker, Donald C.; S. C.....	Greenfield, Mass.
Powell, Harry; S. C.....	Vavenby, B. C.
Russell, Josh W.; Sp.....	Hamilton
Smith, B. F.; S. C.....	Tygh Valley, Ore.
Smith, D. H.; S. C.....	Kamloops, B. C.
SoRelle, Wiley A.; Sp.....	Seattle
Taylor, Thomas B.; S. C.....	New Kamilche
Thompson, George W.; Sp.....	Marion, O.
Thompson, Jackson; S. C.....	Vancouver, B. C.
Waterhouse, Frank G.; Sp.....	Warrenton, Ore.
Wever, W. T.; S. C.....	Molson
Woodruff, R. E.; S. C.....	White Salmon

SCHOOL OF LAW

ABBREVIATIONS

Classes

3rd. Third Year 2nd. Second Year
1st. First Year

<i>Name of Student and Rank.</i>	<i>Home Address.</i>
Adams, Edwin Earle; 1st.....	Seattle
Adams, Jay A.; 3rd.....	Leavenworth
Anderson, Clarence Ray; 2nd.....	Spokane
Arney, Charles J.; 3rd.....	Spokane
Baker, Ray L.; 1st.....	Hoquiam
Bautista, F. B.; 3rd.....	Macabebe, P. I.
Berkey, Harrison M.; 3rd.....	Spokane
Billings, Oscar H.; 1st.....	Harrington
Blaisdell, Christopher Carroll; 3rd.....	Seattle
Burdick, Harold P.; 1st.....	Tacoma
Burford, Waldo E.; 3rd.....	Seattle
Burson, James W.; 3rd.....	Seattle
Byrd, Carroll Foster; 1st.....	Spokane
Carrigan, Paul F.; 3rd.....	Seattle
Chadwick, Stephen Fowler; 3rd.....	Olympia
Chambers, Clarence C.; 2nd.....	Centralia
Clifford, Earl V.; 1st.....	Tacoma
Clinton, Myron B.; 1st.....	Seattle
Cochran, Lloyd T.; 1st.....	Seattle
Cushing, Melzar H.; 2nd.....	Seattle
Dean, Ralph C.; 1st.....	Seattle
Dickinson, Henry; 2nd.....	Seattle
Dickson, Gordon Hunt; 2nd.....	Seattle
Donworth, Charles Tenney; 2nd.....	Seattle
Douglas, Clinton Robert; 1st.....	Seattle
Driver, Samuel Marion; 2nd.....	Wamic, Ore.
Easton, Martin H.; 2nd.....	Seattle
Ellis, Leon; 1st.....	Spokane
Erspamer, Frank; 1st.....	Tacoma
Fairburn, Orville G.; 3rd.....	Seattle
Fielding, Fred Hebbard; 3rd.....	Seattle
Finck, Herbert W.; 1st.....	Seattle
Fitzgerald, Edward R.; 2nd.....	Oakville
Fox, Roy C.; 1st.....	Davenport
Franklin, Edward S.; 2nd.....	Seattle
Geary, John J.; 3rd.....	Helmville, Mont.
Griffin, Tracy Edward; 3rd.....	The Dalles, Ore.
Haines, James Clayton; 1st.....	Kalispell, Mont.
Hall, George T.; 1st.....	Seattle
Hammer, Paul S.; 3rd.....	Tacoma
Hass, Karl Frederick; 3rd.....	Seattle

Hendricks, Carl Herbert; 1st.....	Fossil, Ore.
Hendricks, Ford; 3rd.....	Seattle
Hill, Matthew W.; 1st.....	Lester
Hoard, Mary Gladys; 1st.....	Seattle
Hoffman, Harry A.; 3rd.....	Ellensburg
Hoffman, Edward William; 3rd.....	Seattle
Hohmann, Susan C.; 1st.....	Seattle
Knapp, Clarence; 3rd.....	Seattle
Laughlin, James; 2nd.....	Mount Vernon
Leader, Edwin O.; 2nd.....	Portland, Ore.
Leader, Elmer W.; 2nd.....	Portland, Ore.
Lee, Carl Alphonso; 3rd.....	Bellingham
Lindburg, Arthur Redding; 2nd.....	Seattle
McCullough, Campbell C.; 3rd.....	Seattle
MacCullough, F. H. Dawson; 1st.....	Seattle
McDonald, Grace; 2nd.....	Seattle
McFee, Joel Nason; 3rd.....	Seattle
McMicken, Maurice Rey; 1st.....	Seattle
McMurtrey, Joseph P.; 2nd.....	Troy, Mont.
Major, Archie Moyer; 2nd.....	Seattle
Major, Ralph Day; 2nd.....	Seattle
Malloy, Frank Blaine; 2nd.....	Waterville
Mathieu, George Eugene; 2nd.....	Seattle
Matzger, Manford; 1st.....	Seattle
Matzger, Nathan; 3rd.....	Seattle
Meacham, Eugene; 3rd.....	Seattle
Millican, Alfred Clay; 1st.....	Seattle
Moore, Harold N.; 1st.....	Seattle
Morrison, H. Lorne; 2nd.....	Anacortes
Mount, Wallace, Jr.; 1st.....	Olympia
Naimy, M. J.; 2nd.....	Walla Walla
Nelson, Harry Bernard; 3rd.....	Seattle
Newton, Charles Arthur; 1st.....	Oakville
Norton, Joe; 2nd.....	Mount Vernon
Parker, William Edward; 3rd.....	North Yakima
Peck, Clarence Ronald; 1st.....	Des Moines
Prins, Johan W.; 2nd.....	Seattle
Rains, Lester E.; 3rd.....	Seattle
Rickles, P. Allen; 1st.....	Seattle
Roberts, George W.; 2nd.....	Walla Walla
Rosaaen, James D.; 3rd.....	Seattle
Savage, Lloyd R.; 1st.....	Seattle
Schwellenbach, Lewis Baxter; 1st.....	Seattle
Scott, Earle Winfield; 1st.....	Seattle
Scott, Irving H.; 3rd.....	Puyallup
Severns, Edward E.; 1st.....	Chehalis
Shannon, Arthur James; 1st.....	Seattle
Shiel, Walter Parsons; 1st.....	Spokane
Smith, Charles L.; 3rd.....	Seattle
Soule, John A.; 2nd.....	Seattle

Stevens, Dwight N.; 2nd.....	Seattle
Stewart, Wade Andrew; 1st.....	Seattle
Sutherland, Luther; 1st.....	Seattle
Tolman, Leland I.; 1st.....	Spokane
Totten, William P.; 2nd.....	Seattle
Tracy, Joseph Platt; 1st.....	Seattle
Turner, Arlo Verner; 3rd.....	Seattle
Wallin, James R.; 2nd.....	Seattle
Ward, Arthur Hoyt; 3rd.....	Centralia
Watters, Lisle; 3rd.....	Everett
Waugh, James Ruggles; 1st.....	Seattle
Wetherby, Loren A.; 3rd.....	Tacoma
Wienir, Eimon Lloyd; 3rd.....	Seattle
Wilson, Harry; 3rd.....	Seattle
Winter, Henry Earle; 2nd.....	Everett
York, Arthur F.; 1st.....	Tacoma

SPECIAL STUDENTS AND NIGHT STUDENTS

<i>Name of Student.</i>	<i>Home Address.</i>
Anderson, C. Andy.....	Montevideo, Minn.
Anderson, Enoch Wilford.....	Seattle
Anderson, Jacob.....	Seattle
Anderson, Joseph.....	Seattle
Benolt, Harry J.....	Twin Falls, Ida.
Berger, Henry Oskar.....	Seattle
Bergstrom, A. Walter.....	Seattle
Bush, John K.....	Seattle
Cahill, William S.....	Chicago, Ill.
Carson, Albert Alexander.....	Seattle
Cole, Ernest.....	Galena, Kans.
Conklin, Grover Amos.....	Seattle
Cowley, William Marion, Jr.....	Seattle
Currie, Charles R.....	Seattle
Donnelly, Edward Peter.....	Seattle
Edris, Ned C.....	Seattle
Edris, William.....	Seattle
Emmons, Harris.....	Seattle
Felt, Norris Elliott.....	Seattle
Fisher, Raymond Newell.....	Seattle
Francis, L. Kenneth.....	Seattle
Gibson, John H.....	Spokane
Greenwood, Ray R.....	Seattle
Groshong, Chester C.....	Deer Park
Halls, Anton Christian.....	Hills, Minn.
Harmon, Claude B.....	Tacoma
Hartman, Harold Hoover.....	Seattle
Hathaway, Howard.....	Seattle
Hayes, James Colby.....	Seattle
Hemrich, Ernest E.....	Seattle
Horn, Felix.....	Seattle
Ingstad, Louie M.....	Montevideo, Minn.

Johnson, John.....	Seattle
Keith, George Reece.....	Seattle
Komarowski, Stanislaw Ian.....	Taininy, Russia Poland
Kumm, Ward Confarr.....	Seattle
Kummer, Ernest.....	Waterville
LaFortune, Ed A.....	Seattle
Lingle, Richard W.....	Seattle
Lynch, Thomas Charles.....	Kellogg, Ida.
McCarthy, Roy Winfield.....	Seattle
MacDougall, Joseph Bruce.....	Seattle
McLeod, George John.....	Seattle
Macdonald, William J. A.....	Seattle
Martin, Philip.....	Castlerock
Metz, Raymond Ernest.....	Spokane
Miller, Cedric.....	Vancouver
Miller, Verne M.....	Seattle
Mooers, Clifford Hermann.....	Seattle
Moore, Merlen John.....	Pleyto, Cal.
Morisette, Harry.....	Tacoma
Morley, Joseph Clark.....	Glendive, Mont.
Morris, William Harry.....	Seattle
Mumford, Maurice C.....	Seattle
Norman, Marjorie E.....	Portland, Ore.
Norris, Stuart Matthew.....	Seattle
Oleson, Alfred C.....	Seattle
Olsen, L. Fletcher.....	Seattle
Owen, Thomas Coleman.....	Seattle
Pierce, Frank R.....	Seattle
Raymond, Mabel D.....	Seattle
Richardson, Margaret.....	Seattle
Rickles, Jacob W.....	Seattle
Robbins, Benjamin I.....	Seattle
Robbins, John T.....	Seattle
Robinson, Ralph.....	Spokane
Roloff, Walter Edward.....	Seattle
Ross, Bert C.....	Seattle
Royce, T. M.....	Spokane
Sanders, C. G.....	Seattle
Sandvig, Olaf.....	Zillah
Schmitz, Dietrich Gustav.....	Seattle
Schollmeyer, Herman.....	Nehalem, Ore.
Sessen, William C.....	Seattle
Swanson, Andrew C.....	Seattle
Tucker, W. Sherman.....	Seattle
Walker, H. S.....	Seattle
Wapato, Louie Chief.....	Manson
Weeks, Harold Fairfield.....	Seattle
Wein, Clara G.....	Seattle
Williams, William Carleton.....	Seattle
Wright, Paul Raymond.....	Seattle
Yagle, Joseph Lawrence.....	Seattle

COLLEGE OF MINES

ABBREVIATIONS

Classes

Sr. Senior
Jr. Junior

So. Sophomore
Fr. Freshman

*Name of Student and Rank.**Home Address.*

Abernathy, Donald J.; Fr.....	Seattle
Blogg, Cecil F.; So.....	Seattle
Boulton, Henry G.; So.....	Seattle
Brown, Walter F.; Fr.....	Clarkston
Brown, Warren O.; Jr.....	Seattle
Bruner, Leon Chas.; Fr.....	Kirkland
Burmeister, Harry L.; Fr.....	Tacoma
Buzard, James A.; Fr.....	Seattle
Campbell, Roy E.; Fr.....	Bremerton
Carlson, Clement J.; Fr.....	Matsqui, B. C.
Casady, E. Claude; Fr.....	Seattle
Cochran, Elvin P.; So.....	Seattle
Coleman, Alfred Henry; So.....	Tacoma
Crandall, Seamore A.; Fr.....	Tacoma
Dirkes, Frank J.; Fr.....	Seattle
Dobson, Percy G.; So.....	Vancouver, B. C.
Downing, Fred; Fr.....	Portland, Ore.
Ellis, Hubert I.; Sr.....	Seattle
Gerhardt, Louis G.; Jr.....	Seattle
Gideon, Kenneth Harrison; Fr.....	Winslow
Glaeser, Oscar Arthur; Fr.....	Seattle
Gleason, Villeroy Jr.; Sr.....	Seattle
Hardie, J. Rogers; Fr.....	Spokane
Hoff, Conrad F.; So.....	Seattle
Johnson, Charles F.; Sr.....	Douglas, Alaska
Johnson, Ernest L.; Fr.....	Tacoma
Johnson, Jesse C.; So.....	Seattle
Johnson, Walter W.; Fr.....	Spokane
Jones, William F.; Fr.....	Seattle
Kittilsby, Herbert; Fr.....	Seattle
Larson, Wallace R.; Fr.....	Tacoma
Lee, Robert E., Jr.; So.....	Seattle
Lovejoy, Eugene Owen; Fr.....	Coupeville
Luther, Richard R.; Fr.....	Spokane
McCulloch, Luther John; Fr.....	Seattle
McKibbin, Wilbur B.; So.....	Kanlotus
McLeod, Donald G.; So.....	Seattle
Meenach, Harrison W.; Jr.....	Seattle
Merrill, Levi J.; So.....	Seattle
Moore, Gerald Edward; Fr.....	Portland, Ore.
Moore, William H.; Fr.....	Port Townsend
Nightingale, William Thomas; Fr.....	Portland, Ore.

Nolan, Walter Joseph; Fr.....	Seattle
Patty, Ernest N.; Fr.....	Seattle
Pigott, William; Fr.....	Seattle
Pilgrim, Earl Richard; Jr.....	Seattle
Polson, Franklin Arnold; So.....	Hoquiam
Porter, Fred S.; Jr.....	Seattle
Robeson, Ralph M.; Fr.....	Seattle
Saboe, Karl E.; Fr.....	Seattle
Sanders, David Scott; Fr.....	Spokane
Schafer, John; Fr.....	Seattle
Schofield, George; Jr.....	Seattle
Scovell, Harold; So.....	Seattle
Shotwell, Robert; Fr.....	Seattle
Simms, Arthur G.; Jr.....	Seattle
Slack, Albert E.; So.....	Seattle
Smith, Edward; Fr.....	Seattle
Sprague, Hollister; Jr.....	Seattle
Sweeney, Edward L.; Sr.....	Tacoma
Talbot, Henry H.; So.....	Jefferson, Ore.
Thompson, John H.; Fr.....	Seattle
Tuck, Clarence M.; Fr.....	Seattle
Tucker, Ernest Lee; Fr.....	Tacoma
Whitner, Walter B.; Fr.....	Seattle
Whittier, W. Harrison, Jr.....	Seattle
Wilcox, E. Roscoe; Sr.....	Seattle
Will, E. Clark; So.....	Seattle
Wilson, Alfred S.; Sr.....	Seattle
Zickrick, Lyall W.; Fr.....	Seattle

SPECIAL STUDENTS AND SHORT COURSE STUDENTS.

<i>Name of Student.</i>	<i>Home Address.</i>
Anderson, August; S. C.....	Jamestown, N. Y.
Anderson, Christian S.; S. C.....	Knik, Alaska
Bailey, R. W.; S. C.....	Ketchikan, Alaska
Callahan, Wm. Locke; S. C.....	Nome, Alaska
Craig, Charles E.; Sp.....	Iditarod, Alaska
Crooks, Edwin W.; S. C.....	Seattle
Crooks, Raymond O.; S. C.....	Seattle
Dawson, R. B.; S. C.....	Seattle
Dobie, Frank G.; S. C.....	Seattle
Dunn, Robert; S. C.....	Seattle
Eckstrom, Seth; S. C.....	Seattle
Emery, Horace Clayton; S. C.....	Seattle
Field, George E.; Sp.....	Ottawa, Ont.
Flagg, Paul M.; S. C.....	Seattle
Gideon, Herbert; S. C.....	Winslow
Hovland, John; S. C.....	Seattle
Isaacson, A. W.; S. C.....	Port Orchard
Kain, Frank; S. C.....	Seattle
Kannapell, Frank N.; S. C.....	Seattle

Lawson, Agnes C.; S. C.....	Fairbanks, Alaska
Lissner, Emanuel; S. C.....	Seattle
Lundahl, Knute Edwin; Sp.....	Seattle
Mapes, John A.; S. C.....	Seattle
Marlatt, Arthur; S. C.....	Seattle
Meers, L. E.; S. C.....	Seattle
Minser, Will D.; S. C.....	Seattle
Monckton, Philip M.; S. C.....	Duncan's Sta., B. C.
Muckleston, R. W.; S. C.....	Seattle
Olsen, John B.; S. C.....	Seattle
Pierce, Moraldus; S. C.....	Seattle
Prothero, Edward L.; Sp.....	Seattle
Schall, Roy C.; S. C.....	Seattle
Shepard, Marie; S. C.....	Seattle
Shepard, Thomas R.; S. C.....	Seattle
Sherrod, Heisler H.; Sp.....	Seattle
Sleep, Alfred F.; S. C.....	Seattle
Stonnord, Ole P.; S. C.....	Seattle
Switzer, Herman J.; S. C.....	Seattle
Tolman, Crit C.; S. C.....	Seattle
Wenzler, John, Jr.; S. C.....	Seattle
Wilcox, H. Glen; S. C.....	Seattle
Williams, P. I.; S. C.....	Seattle
Wright, Alfred T.; S. C.....	Seattle

COLLEGE OF PHARMACY

ABBREVIATIONS

Classes

Fr. Freshman
Jr. JuniorSo. Sophomore
Sr. Senior*Name of Student and Rank.**Home Address.*

Beaver, Charles W.; Fr.....	Sumner
Beck, J. Floyd; Fr.....	Kelso
Berens, Arthur H.; So.....	Tacoma
Biggs, Loddie; Fr.....	Seattle
Bond, Sidney G.; So.....	Seattle
Boyce, Arthur Y.; Fr.....	Toledo
Brewer, Walter Thomas; Fr.....	Tacoma
Carroll, Ruth Helena; Jr.....	Seattle
Coffman, Charles; Fr.....	Sumner
Donoghue, Fred W.; Fr.....	Seattle
Dyer, Glen Everett; Fr.....	Ellensburg
Ferry, Cecile W.; Fr.....	Kirkland
Fields, James D.; So.....	Woodland
Ganapole, Belle; Fr.....	Seattle
Gauss, Raymond P.; Fr.....	Shenandoah, Ia.
Geil, LaRoy H.; So.....	Walla Walla
Gilbertson, Alma; Fr.....	Snohomish
Goettge, John E.; Fr.....	Spokane
Hannon, Robert Roger; Jr.....	Seattle
Harris, Carl E.; So.....	Seattle
Harshman, Gertrude; Fr.....	Fall City
Heikkila, Adolph John; Fr.....	Armington, Mont.
Henry, Clara Marie; So.....	Roslyn
Henry, Margaret D.; Fr.....	Seattle
Hilton, Jeffrey; So.....	Marysville
Hilton, Omega; So.....	Marysville
Hope, Claude V.; So.....	Tacoma
Houser, March; Sr.....	Seattle
Hutchison, Earle C.; Fr.....	Port Townsend
Johnson, Elmer A.; Fr.....	Vancouver
Johnson, Eugene G.; Fr.....	Seattle
Kath, Henry L.; So.....	Seattle
Kenney, Marjorie Doris; Fr.....	Ellensburg
Kinne, Seward B.; Jr.....	Selah
Lamb, Earl F.; Jr.....	Toppenish
Larsen, John J.; Fr.....	Kalama
Leverich, Jesse F.; Fr.....	Seattle
McCanse, Cecil C.; Jr.....	Mt. Vernon, Mo.
McGogy, James Frank; So.....	Shenandoah, Ia.
Maske, William N.; Jr.....	Seattle
Nelson, George W.; Fr.....	South Bend

Norman, Harry Emmanuel; So.....	Chico
Ostrander, Carl E.; Fr.....	Dillon, Mont.
Ostrander, Henry; Fr.....	Dillon, Mont.
Ottesen, May; Jr.....	Juneau, Alaska
Palmer, James Clarence; Jr.....	Everett
Patton, Gerald; Sr.....	Seattle
Peckenbaugh, Chas. Irving; So.....	Kennewick
Pedersen, Arnold; Fr.....	Wilbur
Peterson, Everett N.; So.....	Snohomish
Pingry, George; Fr.....	Seattle
Piro, Albert; Fr.....	Cle Elum
Race, Harry R.; Sr.....	Coupeville
Rawson, Merrill O.; Fr.....	Corning, Cal.
Richey, Charles Archer; Sr.....	Seattle
Rockwell, Winfield A.; So.....	Tacoma
Schreuder, Otis B.; Sr.....	Seattle
Sells, Anthony J.; Fr.....	Seattle
Sewell, Hugh F.; Jr.....	Seattle
Smith, Truman W.; So.....	Seattle
Snider, Harry; Fr.....	Weiser, Ida.
Tully, Glenn; Fr.....	Walla, Ore.
Van Cott, Albert B.; Fr.....	Seattle
Victor, Paul; Fr.....	Pe Ell
Walter, Frank A.; Fr.....	Seattle
Wickman, Bertha; Fr.....	Dawson, Y. T.
Yount, Glenn; Jr.....	Seattle

SPECIAL STUDENTS

<i>Name of Student</i>	<i>Home Address</i>
Bova, Vincent.....	Seattle
Buettner, Ernest.....	Tacoma
Grote, Fred.....	Tacoma
Harwood, Edward P.....	Cordova, Alaska
Hawn, E. Wesley.....	Charleston
Heyes, George, Jr.....	Seattle
Loan, Thomas Henry.....	Post Falls, Ida.
Lowe, William H.....	Norfolk, Va.
Marcus, Andrew.....	Downsville, Wis.
Moffat, Raymond John.....	Seattle
Moore, George K.....	Puyallup
Saunders, Wm. Schuyler.....	Chehalis
Schlack, W. H.....	Seattle
Schwartz, A. J.....	Seattle
Singh, Pooran.....	Jundiola, India
Thekens, Fred.....	Ferndale
Valentine, Bert.....	Puyallup

SUMMER SESSION STUDENTS 1914

Abright, Anne Pauline.....	Eugene, Ore.
Acheson, Pearl.....	Blaine
Acklin, Helen.....	Seattle
Adams, Jessie Millicent.....	Redmond
Adams, Rosemond.....	North Yakima
Aiken, Effie E.....	Seattle
Ainslee, Elsie A.....	Seattle
Albert, Adolph Henry.....	Otis Orchards
Albitz, Alice Blanche.....	Seattle
Alexander, Albert Fred.....	Everett
Alexander, Mrs. Lydia.....	Seattle
Alfsen, Mrs. Theodore Alice.....	Manitowoc, Wis.
Allen, Ina Pearl.....	Amity, Ore.
Allen, Lillian A.....	Tacoma
Ames, Olive.....	Toppenish
Anasawa, Seichi.....	Japan
Anderson, John F.....	Muskogee, Okla.
Anderson, Oscar B.....	Seattle
Arnold, E. Rosena.....	Seattle
Arnquist, Josephine.....	Wapato
Arscott, Pearl.....	Seattle
Ashton, Theresa.....	Seattle
Aspinwall, Mabel G.....	Seattle
Bacsrich, Tesse.....	Portland, Ore.
Bagley, Mrs. Caroline B.....	Seattle
Bagley, Walter Ethen.....	Seattle
Bailor, Edwin Maurice.....	Centralia
Bailor, Wallace Floyd.....	Centralia
Baker, Lois L.....	Kalispell, Mont.
Ballard, Mrs. Adele M.....	Seattle
Ballou, Harriett.....	Butte, Mont.
Barash, Leah.....	Seattle
Barber, David A.....	Rochester
Barrett, George G.....	Lewiston, Idaho
Bartlett, Silas A.....	Kittitas
Bateman, Rachel.....	Helena, Mont.
Bateman, Stella.....	Helena, Mont.
Bay, W. D.....	Renton
Beall, Bessie Keeler.....	Blaine
Bear, Ethel Lena.....	Delta, Colo.
Beaven, Paul Webley.....	Tacoma
Becker, Chas. E.....	Port Orchard
Beebe, Mrs. Marie.....	Seattle
Beightel, Orpha May.....	Ferndale
Belden, Mrs. Bernice.....	Spokane
Belden, Fannie Evelyn.....	Seattle
Belswick, Emily Louise.....	Seattle
Bemiss, Catherine Meriam.....	Spokane

Bennett, E. Allen.....	Seattle
Bennett, Libby.....	Walla Walla
Bennett, Mary Pearl.....	Riverside
Berg, Ida Blanche.....	Seattle
Bernier, Agnes G.....	Butte, Mont.
Bertolet, Esther M.....	Clallam Bay
Best, J. H.....	Gig Harbor
Best, Ruby Clark.....	Grants Pass, Ore.
Bickford, E. Albi.....	Battle Lake, Minn.
Bickford, Ernest Dearle.....	Seattle
Birks, Margaret Elizabeth.....	Tacoma
Bissell, Addison, G.....	Seattle
Bjorklund, Irene Eleanore.....	Seattle
Blair, Pearl C.....	Butte, Mont.
Blaisdell, Christopher Carroll.....	East Franklin, Me.
Bleeg, Hédwig.....	Hillsdale, Ore.
Bliss, Addie Jeannette.....	Seattle
Board, Claude F.....	Portland, Ore.
Bolitho, Mrs. Thomas J.....	Spokane
Bolitho, Thomas J.....	Spokane
Bolster, Helen.....	Seattle
Bond, Leland J.....	Seattle
Bonney, Caroline Emma.....	Pendleton, Ore.
Boten, Julia M.....	Helena, Mont.
Boulger, Martha L.....	Spokane
Bowers, Marion R.....	Spokane
Bowie, Frances.....	Roslyn
Bown, Chas. S.....	Kent
Bown, Robert Frederick.....	Kent
Bowyer, Helen Emily.....	Naches
Bragdon, Mabel.....	Seattle
Brayton, Fannie Elizabeth.....	Seattle
Breen, Agnes E.....	Mandan, N. Dak.
Breher, Blandina S.....	Seattle
Breslin, Sarah.....	Butte, Mont.
Breum, Anna.....	Stanwood
Brewer, Minnie Alice.....	Andrews, Ind.
Brinck, Raoul A.....	Anacortes
Brinck, Stephen M.....	Anacortes
Brinkerhoff, Moses.....	Winthrop
Brintnall, Bert W.....	Seattle
Brislawn, Louis I.....	Sprague
Brobeck, Diana H.....	Seattle
Bronson, Mattie L.....	Sedro Woolley
Brown, Bessie Evelyn.....	Tacoma
Brown, Burton Augustus.....	Seattle
Brown, Cora May.....	Clymer, N. Y.
Brown, Edna N.....	Grandview
Brown, George Earl.....	Wenatchee
Brown, Hazel Virginia.....	Seattle

Brown, Laura E.....	Los Angeles, Cal.
Brown, Other Dwight.....	Mead
Bryan, Goldie Alice.....	Seattle
Bryant, Boo W.....	Seattle
Bryant, Clara L.....	Hermiston, Ore.
Bryant, Grace A.....	Twin Falls, Ida.
Burgess, Edith Luella.....	Seattle
Burnett, Hettie Rose.....	Orillia
Burns, Omar Allen.....	Seattle
Burns, Fern	Thorp
Burrell, Jean	Portland, Ore.
Bushy, Charlotte	Friday Harbor
Busey, Alma	Memphis, Mo.
Busey, Callie	Montrose, Colo.
Bush, Elva A.....	Fall City
Butler, Anna DeVere.....	Butte, Mont.
Butz, Laura	Warner, Ida.
Byerly, Marian	Seattle
Byram, Gertrude E.....	Seattle
Calkins, Frances M.....	Seattle
Call, Elmer E.....	Spokane
Campbell, Elizabeth	Stanwood
Campbell, Pansy	Seattle
Carbono, Ruth	Everett
Carlisle, Isabelle	Everett
Carlson, E. Ernest P.....	Stanwood
Carr, Margaret C.....	Spokane
Carroll, Joseph D.....	Deming
Carson, William H.....	Seattle
Carstensen, Mrs. H. Lulu.....	Seattle
Cary, Miles Elwood.....	Edmonds
Casey, Wm. Patrick.....	Oshkosh, Wis.
Cavanagh, James Alfred.....	Seattle
Chaffee, Josephine	Tacoma
Chamberlain, James Edwin.....	Seattle
Chase, Mrs. May M.....	Seattle
Cheatham, Lutie	Seattle
Chittenden, Eleanor M.....	Seattle
Clark, Anna M.....	Redmond
Clark, B. M.....	Seattle
Clark, Earle	Seattle
Clark, Mrs. Virginia M.....	Seattle
Clarke, Florence Roberta.....	Olympia
Clifton, Richard L.....	Foster
Coates, Frank C.....	Coupeville
Cobb, Francis W.....	Seattle
Cobb, Tina Marie.....	Seattle
Coe, Elsie Gertrude.....	Spokane
Coe, Mabel C.....	Spokane
Coffman, Edith Margaret.....	Chehalis
Colbert, Mildred	Ilwaco

Colbert, Ruby	Ilwaco
Coleman, G. B.	Woodburn, Ore.
Coleman, Ruth Thomas	Rochester
Collins, Claude C.	Monroe
Collins, Opal H.	Seattle
Combes, Clara Gertrude	Elma
Connmey, Anna Louise	Seattle
Connmey, Kathryn	Seattle
Connmey, Marie Winston	Seattle
Conner, Irene Russell	Seattle
Connors, Edna Eliza	Seattle
Cook, Julia Geraldine	Seattle
Cook, Wm. Bell	Seattle
Cooper, Mary Blanche	Seattle
Cooper, William W.	Tacoma
Cope, H. F.	Bowmanstown, Pa.
Corbin, Evelyn	Sumner
Cornelius, Philip Alvin	Mount Vernon
Cornell, Gladys	Tacoma
Corskie, James M.	Seattle
Cotter, Ethel M.	Puyallup
Coultas, Thomas Leroy	Lewiston, Idaho
Coulter, Arleta M.	Olympia
Cox, Andora	Tacoma
Cox, Lida	Vandalia, Mo.
Cox, Manning W.	Bremerton
Coyne, Marie	Spokane
Crain, Leota	Tacoma
Crawford, Katherine D.	Portland, Ore.
Cree, Reva V.	Payette, Idaho
Crook, Ernest E.	Tacoma
Crozier, John Louis	Othello
Cruden, Helen	Brooklyn, N. Y.
Culver, Ida	Seattle
Cunningham, Terrence	Dover
Currie, Keo	Broken Bow, Nebr.
Curtis, A. W.	North Yakima
Daggett, Adilene Marie	Lewiston, Ida.
Dalgity, Jennie V.	Seattle
Dallas, James A.	Seattle
Dalton, Zetta	Malden, Mo.
Darrin, Dorothy de Lepine	Bellingham
Daude, Antoinette	Pasadena, Cal.
Davenport, Bernard M.	Bellingham
Davis, Charlotte Grace	Bellingham
Day, Edna M.	Seattle
De Foe, James Albert	Rosalia
Delwert, Stella	Everett
Delahunty, Addie Bridget	Spokane
Deringer, Alice M.	Seattle
Deringer, Laura T.	Seattle

Desmond, Ethel J.....	Seattle
Devin, Isabel Marie.....	Richland
Diamond, Maude	Whitesboro, Texas
Dimmitt, L. M.....	Seattle
Doane, Mona	Mitchell, So. Dak.
Doncaster, Lloyd R.....	Seattle
Doolittle, Henry Burton.....	Mount Vernon
Dopp, Eugene H.....	Trinidad, Colo.
Doremus, Mary C.....	Kingston, N. Y.
Douglas, Clinton Robert.....	Seattle
Dove, Eva M.....	Bickleton
Dowd, Agnes	Portland, Ore.
Dowd, Frances	Portland, Ore.
Driftmier, Rosa M.....	Clarinda, Iowa
Driscoll, Joana	Butte, Mont.
DuBois, John Harold.....	Spokane
Duncan, Caroline E.....	Altone, Ill.
Dunmore, Blanche	Seattle
Dutcher, Lila Mary	Appleton, Wis.
Dunne, Ruth	Portland, Ore.
Earhart, Anna Margaret.....	Dayton
Eastman, Jessie May.....	Deer Park
Eccles, Mina	Seattle
Eckelson, Genevieve E.....	Portland, Ore.
Edmunds, Karl R.....	Odessa
Egtvet, Myrtle	Seattle
Elliott, Dora Balsden.....	Burlington
Elliott, Hiram Woodward.....	Charleston
Elliott, M. Olive	Seattle
Elliott, Nina	Seattle
Ellis, Jennie Ruth.....	Seattle
Emmett, Helene	Kirkland
Enegren, Helen Margery.....	Seattle
Engle, Mabel	Beaver, Pa.
English, Elsie	Seattle
Erickson, Elsie	Seattle
Erskine, Albert S.....	East Seattle
Escher, Wiley Emert.....	Seattle
Eskesen, Lillian M.....	Coeur d'Alene, Ida.
Evans, Earl H.....	Mt. Vernon
Evans, Enid Porter.....	Bremerton
Evans, Frank O.....	Bremerton
Everett, Lillian	Seattle
Farrar, Grace	Seattle
Farrar, Mayme	Seattle
Fawcett, Christ William.....	Tacoma
Finley, Madge	Seattle
Finnigan, Genevieve	Snohomish
Fisher, Howard John.....	Kapowsin
Fleming, Florence Elizabeth.....	Seattle
Fleming, Mary	Butte, Mont.

Fletcher, Gladys M.	Seattle
Foley, Josephine	Marysville
Forbes, Bertha D.	Kellogg, Ida.
Ford, Clara L.	Detroit, Mich.
Ford, Lyle Elizabeth	Tacoma
Foster, Ada Mildred	St. Louis, Mo.
Fowler, Grace Auld	Seattle
Frank, Samuel C.	Lima, Ohio
Franklin, Era A.	Bellingham
Franklin, Veta	Lawton, Okla.
Frazer, Mabel	Port Blakely
Fraser, Alice Sinclair	Seattle
Fraze, Holland	Seattle
Fraze, Mary Carrington	Cumberland
Frederickson, Ellen Josephine	Seattle
French, Frank R.	Everett
Frericks, William Reinhard	McMinnville, Ore.
Frew, Rosemond	Seattle
Frey, Vere Ethelyn	Tacoma
Gabbert, Gertrude Marguerite	Seattle
Galley, W. R.	Seattle
Gaines, Izma D.	Tono
Gale, Fulton	Seattle
Gannon, Josephine Emily	Seattle
Garland, Martha May	Seattle
Garnock, M. A.	Montesano
Garvey, Catherine Mabel	Coeur d'Alene, Ida.
Gay, Ruth Edney	Seattle
Geary, Mona L.	Tower, Minn.
Geenap, Mabel E.	Butte, Mont.
Giberaon, Albert Lee	Cheney
Gibson, C. E.	Seattle
Giffen, Camille M'Iss.	Los Angeles, Cal.
Gifford, Lola L.	Bellingham
Gilbreath, James Alvin	Seattle
Gillespie, Mrs. Grace V.	Seattle
Gilmer, Lucy W.	Seattle
Glenn, M. Ethel	Tacoma
Glockler, George	Seattle
Glover, O. K.	Bickleton
Goddard, Florence M.	Seattle
Golisch, Edward Herman	Seattle
Goodell, R. H.	Bellingham
Goodfellow, James B.	Seattle
Goodwin, Edna	Everett
Gorham, Edna A.	Butte, Mont.
Goss, Charlotte A.	Hutchinson, Minn.
Graham, Joseph W.	Clarkston
Graves, Alta M.	Helena, Mont.
Gray, Mrs. Anna Hansen	Walla Walla
Gray, Geoffrey A.	Roslyn

Gray, Harold E.	Seattle
Gray, H. L.	Walla Walla
Gregory, Mrs. Clara M.	Wallace, Ida.
Griffith, Della	Odessa
Griffith, Grace	Seattle
Grignon, Jessie Irene	Seattle
Grimes, L. Florence	Farmington
Grimstead, George	Kristiania, Norway
Grosse, Ida Jane	Indiana, Pa.
Groves, Leslie Richard, Jr.	Seattle
Guitteau, Judson A.	Seattle
Gulstine, Etta Marie	North Yakima
Guthrie, Alice Betty	Mt. Sterling, Ky.
Gwynn, Clarence B.	Olympia
Gwynne, Edyth Gravelle	Butte, Mont.
Gwynne, Lillian Holford	Butte, Mont.
Haas, Frances E.	Leavenworth
Hadeen, Anna Petronilla	Seattle
Hall, Bertha M.	Snohomish
Hall, Suma	Toledo, Ill.
Hall, Verne	North Yakima
Hall, W. L.	Pe Ell
Halvorson, Alfred	Ridgeway, Iowa
Hanselman, Everett E.	Ellensburg
Hanson, Ethel A.	Seattle
Harding, Constance	Seattle
Hargraves, Frank	Seattle
Harkness, Edwin K.	Centralia
Harkness, Hazel A.	Seattle
Harmeling, Emma	Vashon
Harris, Ethel, Mrs.	Bellingham
Harris, Olive Mildred	Seattle
Harrison, Frank	Sunnyside
Hart, Emma C.	Seattle
Hartman, Mary Mae	Seattle
Hartnett, Edmond E.	Centralia
Harty, Melvin E.	Pe Ell
Hass, Karl F.	Seattle
Hatch, C. W.	Tacoma
Hatch, Ethel Sumner	Tacoma
Hatch, Harriet	Tacoma
Hawkins, Alma Helen L.	Bellingham
Hawn, E. W.	Charleston
Hayden, May	Lewiston, Ida.
Hays, William Henry	Seattle
Hegman, Bertha	Elysian, Minn.
Henderson, Annie R.	Ocean Park
Henneken, Madeline C.	Seattle
Henson, Alice Pace	Seattle
Herford, Marjorie	Seattle
Herren, Dora S.	Seattle

Herring, John P.	Seattle
Herthum, Florence Emery	Seattle
Heyes, Lucy Jackson	Seattle
Hickey, Estella	Portland, Ore.
Hill, Mrs. Ethel W.	Seattle
Himes, Mrs. Minnie Rinstead	Opportunity
Hirata, Mitsuo	Seattle
Hitchings, Ruth	Seattle
Hobbs, Grace E.	Eugene, Ore.
Hogan, Philip	Vader
Holloway, Edith Hilda	Helena, Mont.
Holmquist, Hjalmar Edwin	Aberdeen
Holt, I. Edward	Newberg, Ore.
Hornibrook, Cynthia J.	Goldendale
Howard, Ida Elizabeth	Goldendale
Howell, Helen C.	Pomeroy
Howes, Alice	Spokane
Hubler, Flora	Everett
Hughes, May	Seattle
Huntington, Imo	Kirkland
Huntington, Roma	Seattle
Hutchinson, Orrel Eldora	Seattle
Ide, Mrs. Gladys Geneva	Seattle
Ingalls, Lillian	Portland, Ore.
Irvine, Marguerite I.	Seattle
Iversen, Anna Iverine	Seattle
Jack, Myrna	Seattle
Jackling, Frances	Seattle
Jackson, George Brown	Seattle
Jamieson, Anna C.	Seattle
Jennings, Alva Marion	Oakesdale
Jensen, Arne S.	Silvana
Jerde, Inger Carolina	Kiesling
Johnson, Adelaide	Tacoma
Johnson, Alice M.	Portland, Ore.
Johnson, Mrs. Evalyn S.	Milan
Johnson, Hilda	Nome, Alaska
Johnson, John Earl	Castle Rock
Johnson, Sophia Munroe	Superior, Wis.
Johnston, Alice H.	Rushville, Ill.
Johnston, Dorothy Cameron	Winslow
Johnston, Jesse	Seattle
Johnstone, Margery Robinson	Seattle
Jones, Earnest E.	Ridgefield
Jones, Evelyn	Seattle
Jones, Frank Milton	Ritzville
Jones, Gomer	Port Angeles
Jones, Laura M.	Prosser
Jones, Louise	Dayton, Ore.
Jones, Nancy Emerson	Seattle
Jones, Robert D.	Wenatchee

Joslin, Effie Richards.....	Port Orchard
Juneau, Martin	Wenatchee
Karr, Surendra Nath	Calcutta, India
Kauffman, Elizabeth	Seattle
Kaufman, Katharine G.....	Bellingham
Kell, Caroline P.....	Sherburn, Minn.
Kellett, Gladys Mary.....	Seattle
Kelley, Euna Pearl.....	Lyman
Kelley, Isabel M.....	Butte, Mont.
Kelley, Laura T.....	Butte, Mont.
Kellogg, Alvah Crawford.....	Wapato
Kellogg, Ruth	Wenatchee
Kellogg, Winnifred	Seattle
Kells, Marion P.....	Seattle
Kennedy, Helen	Seattle
Kent, Charles A.....	Kapowsin
Kent, Mary Etta.....	Kapowsin
Kenyon, Mary I.....	St. Louis, Mo.
Keppel, Mrs. Susan M.....	Seattle
King, Elizabeth	Everett
King, Hammond A.....	Port Townsend
Kjösness, Weidel	Lewiston, Ida.
Klein, Elizabeth	Everett
Knapp, Ellen M.....	Seattle
Knight, Leila M.....	Wieser, Ida.
Knowles, Annabel	South Bend
Knowlton, Lovinia	Seattle
Knowlton, Viola	Salt Lake City, Utah
Knox, William A.....	Gate
Koch, Flora M.....	Jacksonville, Ill.
Kraus, Ada	Seattle
Kraus, Ethel M.....	Seattle
Kraus, Minnie L.....	Seattle
Krieger, Blanche Isabelle.....	Seattle
Kruchek, Minnie Frances.....	Palouse
Kunath, Clara Irene.....	Skykomish
Kyes, Carolyn M.....	Seattle
Kyle, Anna Mary.....	Seattle
LaChappelle, Florestine	Mineral
Lacoch, Helena Gertrude.....	Columbus, Kansas
Lambert, Mrs. Rebecca.....	Des Moines, Iowa
Lamont, Maude Hahn.....	Seattle
Lane, Julia H.....	Seattle
Langer, Frank E.....	Casseltown, N. Dak.
Langford, Alice Lucile.....	Hanford
Langtry, Florence N.....	Seattle
Lapp, Dale	Nelson, Nebr.
Larimer, Lena Marguerite.....	Riverton, Iowa
Larrabee, Leona L.....	Portland, Ore.
Larrison, Winnifred Fargo.....	Seattle
Larsen, Arthur L.....	North Yakima

Larsin, Josephine C.	Seattle
Larson, Constance	Seattle
Laughlin, Chalmers F.	Seattle
Lawrence, Edna Belle	Seattle
Laymaster, Zella	Weiser, Ida.
Leach, Mildred Orine	Tacoma
LeFevre, Katherine B.	Seattle
Leith, Rob't E.	Monico, Wis.
Leshner, Anna F.	Northumberland, Pa.
Lewis, Mrs. Gwendolyn T.	Seattle
Leymel, Zygmunt S.	Seattle
Liddell, Grace I.	Tacoma
Lieser, Ralph L.	Vancouver
Lieberg, Vivian Helm	Seattle
Lind, Tennie Algodt	Seattle
Lind, Ralph Richard	Seattle
Lindaas, Anna	Tacoma
Lindborg, Arthur E.	Seattle
Lindsey, Theodore C.	Arlington
Lipscomb, Roy S.	Seattle
Liska, Martha	Seattle
Lively, John W.	Seattle
Logan, Ettie	Portland, Ore.
Logan, Joshua K.	Napavine
Long, Agnes	Seattle
Lortie, Rebecca Rose	Seattle
Love, Elizabeth Avery	Sweetwater, Tenn.
Love, Grover Allan	Elbe
Lowman, J. Guy	Seattle
Lowrey, Madge	Portland, Ore.
Lustie, Williams August	Seattle
Lyden, Katherine Agnes	Butte, Mont.
Lynch, Mamie	Butte, Mont.
Mc Abee, Ralph Booth	Seattle
McCann, Richard J.	Seattle
McClelland, Delphine Zell	Seattle
McClelland, George Zell	Seattle
McCollins, Clara	Seattle
McConnell, Andrew P.	Woodinville
McConnel, Mary E.	Seattle
McCorkill, Minnie	Northumberland, Pa.
McCormick, E. O.	Wilbur
McCullough, John Newton	Bothell
McCullough, Linden	Roslyn
MacDonald, Mrs. Annette D.	Oak Harbor
McDowell, Sadie B.	Bellevue
McElvain, Jason N.	Seattle
McFate, Jennie	Everett
McGee, Eva A.	Seattle
McGinness, Eugenia	Caledonia, Minn.

MacInnis, Sara	Spokane
McKee, George Meade	Shepherd, Mich.
McKee, Madge	Kewanee, Ill.
McKenny, Margaret	Olympia
McKibben, Irene Miriam	Seattle
McKillop, J. R.	Lovelock, Nev.
McKinney, Eva	Meadow Creek
McKinster, Cora	Great Falls, Mont.
McKinster, Florence M.	Great Falls, Mont.
McMahon, Mary	Seattle
MacMaster, Sara	Seattle
McMillen, Mabel A.	Seattle
MacMillan, Marie	Seattle
McNamara, Agnes	Butte, Mont.
McPhee, Aletha Sophia	Seattle
McPherson, Mary	Goldendale
McRae, James Everett	Seattle
Macdonald, Elizabeth	Portland, Ore.
Macdonald, Margaret	Portland, Ore.
Mack, Friend D.	Menlo
Magee, Grace Garber	Tacoma
Maguire, Grace	Butte, Mont.
Mann, Charlotte Minnie	Seattle
Markhan, Nellie Marjorie	Centralia
Marsh, Irene Caroline	Butte, Mont.
Marsh, Olivemay	Seattle
Martin, Earl B.	Grant City, Mo.
Martin, Edith L.	Seattle
Maske, Wm. N.	Seattle
Matheson, Anna May	Seattle
Mathews, Achsah	Lake City, Minn.
Mathews, Gertrude Anna	Seattle
Mathieu, Irene	Seattle
Matson, Hilda	Ferndale
Maxwell, Ellworth H.	Bluecreek
Mayfield, Benj. H.	Chehalis
Meade, Zoe Faddis	Seattle
Meenach, Gladys Marie	Seattle
Meisnest, Darwin Mason	Seattle
Meredith, Evan K.	Montesano
Meyer, John D.	Lind
Middleton, Tressa Agnes	Seattle
Miller, Belle	Spokane
Miller, George Burdette	Aberdeen
Miller, Grace M.	Butte, Mont.
Miller, Loretta K.	Denver, Colo.
Miller, M. H.	Spokane
Miller, Wm. M.	Portland, Ore.
Minckler, Laura E.	Seattle
Miner, Grace Edith	Colville
Minnick, Nellie	Seattle

Minnig, Etta	Seattle
Mitchell, Anna Florence	Mitchell, Ind.
Moe, Alma	Florence
Montgomery, Elsie Estella	Boulder, Colo.
Moore, Rolla Wilbur	Seattle
Moreland, Thomas W.	Seattle
Morgan, Jessie M.	Helena, Mont.
Morse, Florence M.	Twin Falls, Ida.
Mosher, Gladys Elizabeth	Oberlin, Ohio
Mottelson, Ethel	Butte, Mont.
Mower, Lulu Ione	Blaine
Mudge, Clarence T.	Engene, Ore.
Mullane, Winifred	Seattle
Murphy, Katherine	Seattle
Mustard, Jessie M.	Manchester, Kans.
Myers, W. Edward	Seattle
Myers, Harriet C.	Butte, Mont.
Myers, Lenore	Seattle
Myers, Mary M.	Seattle
Nagle, Louise R.	Camas
Nedry, Earl B.	Medford, Wis.
Negberg, Grace Claire	Seattle
Nelson, Bessie M.	Blaine
Nelson, Clara E.	Indianapolis, Ind.
Nelson, Ellen Eustina	Seattle
Nelson, Louise Anna	Seattle
Nelson, Nora Annette	Norman
Neterer, Inez May	Seattle
Newell, Mamie E.	Ferndale
Newlon, Mrs. Edna	Heyburn, Ida.
Newton, Earl B.	Seattle
Noble, Claude Stratton	Seattle
Noble, Meda	Leavenworth
Noderer, Ruth Lucile	Seattle
Noeth, Marguerite M.	Missoula, Mont.
Nordberg, Eric I.	Seattle
Norfolk, Clara	Wenatchee
Norquist, Irene M.	Spokane
Nunn, Frances Alexia	Seattle
Oakley, June	Seattle
Oakley, Mary	Seattle
O'Brien, Anna	Butte, Mont.
O'Connell, Agnes Elizabeth	Tacoma
O'Donnell, George Hugh Roe, Jr.	Moscow, Ida.
Ofstie, Esther C.	Eau Claire, Wis.
Ogilvie, Lottie M.	Seattle
Oleson, Alfred C.	Seattle
Oleson, Carrie E.	Seattle
Olive, Caroline	Seattle
Olsan, Wm. David	Elma
Olsen, Leah I.	Portland, Ore.

Olson, Olga Victoria.....	East Helena, Mont.
Olson, Olga Marie.....	Port Blakely
O'Neill, Mary F.....	Seattle
O'Neill, Katharine K.....	Butte, Mont.
Orr, Paul J.....	Randle
Osborne, Maud.....	Los Angeles, Cal.
Ostlund, Chas. William.....	Seattle
Paff, Lillian.....	McKinney, N. Dak.
Palmer, Esther R.....	Seattle
Palmer, Inez Irene.....	The Dalles, Ore.
Pariseau, Eugenie B.....	Seattle
Parish, William Francis.....	Seattle
Parker, Alice M.....	Fort Worden
Parks, George Sutton.....	Seattle
Parks, Grace Amella.....	Seattle
Parsons, Elva Tillman.....	Harrison, Ida.
Pascoe, Myra Aurelia.....	Seattle
Patrick, Gertrude C.....	Seattle
Paulsen, Mark G.....	Seattle
Paulsen, Carl W.....	Seattle
Payne, Callista R.....	Pe Ell
Peak, Albert J.....	Seattle
Pearce, Stella E.....	Seattle
Peery, Mrs. Lydia.....	Pacific City
Pelton, Jessie M.....	Seattle
Percival, Winifred.....	Granger
Perin, Melva.....	Tacoma
Perry, Mary Agnes.....	Van Buren
Perry, M. Blanche.....	Farmington
Peterson, Mrs. Ella W.....	Seattle
Peterson, Geneva V.....	Seattle
Peterson, Sophia.....	Seattle
Peterson, Tillman.....	Tacoma
Pfeifer, Herman.....	Duvall
Pheney, Agnes.....	Everett
Phillbrook, Madge Hiller.....	Seattle
Phillips, Alan A.....	Prosser
Pickering, Florence Ethel.....	Chesaw
Pierce, Willis F., Jr.....	Seattle
Pitzer, Robert B.....	Thomas
Platner, Evelyn I.....	Seattle
Plumb, Alma.....	Fairview, Kans.
Poage, William Courtney.....	Tacoma
Poole, Daisy A.....	Seattle
Poole, Ethel Inez.....	Seattle
Poole, Jessie Lee.....	Seattle
Porter, Ruby Willvie.....	Prescott
Post, Maurice Eaton.....	Walla Walla
Post, Nellie I.....	Seattle
Potter, Mrs. Agnes Marie.....	Snohomish
Potter, Charles.....	Snohomish

Pottner, Otilie M.	Minneapolis, Minn.
Powers, James M.	Seattle
Prickman, Bessie V.	Olympia
Prins, Johan Willem	Seattle
Prior, Pothena Rose	Seattle
Puffer, Floyd Arthur	Belding, Mich.
Pulford, Alfred Ely	Tacoma
Quigley, Anna B.	St. John
Quinan, Alice	Seattle
Ramsey, S. Gertrude	Seattle
Randell, Laura	Seattle
Rankin, Estelle	Lakeside
Rape, Edna M.	Chicago, Ill.
Ratcliffe, Louise	Cheney
Ratcliffe, Ruth Eloise	Cheney
Read, Ellen Ruth	Kent
Read, Phoebe	Seattle
Reavis, Nan Preston	Seattle
Rehmke, Annette D.	Port Orchard
Rehmke, Antoinette Maria	Port Orchard
Reilly, Esther	Seattle
Reither, S. J.	Bigen
Remsberg, Mabel F.	Seattle
Renshaw, Myra	Seattle
Rensing, Herman	Castle Rock
Reuter, Alex Magdeline	Seattle
Revenaugh, Carl M.	Renton
Rhodenbaugh, Edward Franklin	Boise, Ida.
Richardson, Mary Hazen	Oberlin, Ohio
Richardson, S. Margaret	Spokane
Richeson, Mary Carter	Seattle
Rinehart, Elma	Neppel
Ritari, Emma	Seattle
Rittenhouse, S. N.	Seattle
Roberts, Eck Crippen	Everett
Robertson, Bertina A.	Portland, Ore.
Rockwell, Gertrude	Portland, Ore.
Rodgers, Mary Anita	Seattle
Rogers, Lily G.	Portland, Ore.
Roos, Alfred R.	Lorma Linda, Cal.
Rounds, Ruth E.	Portland, Ore.
Rowley, Mabel A.	Everett
Rudd, Grace O.	Portland, Ore.
Rueter, Emma	Portland, Ore.
Russell, Beulah	Seattle
Russell, Pearl Elizabeth	Seattle
Ryan, Frances Isabella	Anaconda, Mont.
Saboe, Grace M.	Seattle
Salisbury, Winnie M.	Hamburg, N. Y.
Sammons, Mabel A.	Spokane
Sato, Hiroshi	Japan

Sawhill, Jos. T.	Spokane
Schlack, Leila	Post Falls, Ida.
Schneider, Katherine	Seattle
Schram, Olive	Seattle
Schumacher, Herman J.	Humphrey, Nebr.
Schumaker, Doris	Seattle
Schwartz, George L.	Seattle
Scott, Burton Foote	Oakley, Kans.
Scott, Gertrude	Bellingham
Scott, Winfield	Seattle
Sebern, Edyth L.	Meridan, Ida.
Selin, Olive	Dutton, Mont.
Shane, Elizabeth	Tacoma
Shannon, Clarence Wm.	Seattle
Sharkey, Margaret G.	Seattle
Sharp, Caroline	Athena, Ore.
Shave, Ethel	Seattle
Shaw, Avis J.	Seattle
Shaw, Enid T.	Seattle
Shea, Julia	Butte, Mont.
Sheeks, Malkah H.	Seattle
Shellman, Amy	Asotin
Snepard, Edith Ethel	Spokane
Sheridan, Anne	Wellesley Hills, Mass.
Sheridan, Katharine Elizabeth	Wellesley Hills, Mass.
Sherin, Maude	Boise, Ida.
Sherrick, Johnson	Edmonds
Shipley, Alice	Bristol, Va.
Shirky, Emily F.	Norborne, Mo.
Shotwell, Martha Rose	Seattle
Showalter, Lillian	Everett
Seemans, Margaret	Seattle
Sills, Lucille Navarre	Everett
Simmons, Edna	Milton
Simmons, Elma	Seattle
Simmons, Minnie Hadlock	Seattle
Simonson, Emma A.	McMinnville, Ore.
Singer, Mrs. Pearl	Mt. Vernon
Skillman, Fanny A.	Auburn
Skillman, E. May	Parkland
Slater, Bert T.	Oak Harbor
Sloan, Clare	Nooksack
Sloanaker, S. Elizabeth	Walla Walla
Small, Vinnie	Seattle
Smiley, Clara	Seattle
Smith, Adelina Naomi	Spokane
Smith, C. E.	Wilson Creek
Smith, Mrs. Ermina B.	Seattle
Smith, Frances K.	Pendleton, Ore.
Smith, LaVere E.	Wenatchee
Smith, Mrs. Lilly D.	Wilson Creek

Smith, Mrs. Lottie R.....	Wenatchee
Smith, Mabel A.....	Helena, Mont.
Smith, Mamie H.....	Milton, Ore.
Smith, Margaret B.....	Seattle
Smith, Theo. E.....	Helena, Mont.
Smith, Truman W.....	Seattle
Smith, Zula Lelia.....	Seattle
Solid, Minda R.....	Coupeville
Somers, Sarah	Seattle
Sorensen, Anna Kirstine.....	Denmark
Sorensen, Beatrice M.....	Everett
Spannagel, Genevieve Edna.....	Seattle
Sperber, Katherine Elizabeth.....	Spokane
Spry, Mabel P.....	Seattle
Squire, Walter	Seattle
Stanley, Wm. Homer.....	Waterville
Stanton, Edgar A.....	Seattle
Statler, Gladys G.....	Toppenish
Staup, Mrs. Minnie G.....	Seattle
Stearns, Grace V.....	Vancouver
Stebbins, Mae Belle.....	Lewiston, Ida.
Steinke, Geo. H.....	Schuyler, Neb.
Stenberg, Betsy Pauline.....	Bellingham
Stephens, Zettie E.....	Heppner, Ore.
Stevens, Belle Alice.....	Maltby
Stevens, Mabelle Erma.....	Blaine
Stewart, Frances	Chehalis
Stillinger, Beatrice M.....	Iron Mountain, Mont.
St. John, Ivalon Edith.....	Richmond Beach
Stone, Elizabeth	Thornton
Stoner, Lillian U.....	Osceola, Nebr.
Stoner, Nellie Day.....	Seattle
Storer, Ella	Elma
Strange, Nona	Seattle
Streater, Gertrude Inez.....	Seattle
Stricker, Francis A.....	Milan
Strite, Edith M.....	Ellensburg
Studebaker, Ellis M.....	McPherson, Kans.
Studebaker, Herbert E.....	Castlerock
Stuen, Ole	Parkland
Sullivan, Kathleen	Butte, Mont.
Sullivan, Nina	Carson, Nev.
Swan, Eleanor Josephine.....	Seattle
Swartz, Florence	Seattle
Sweetser, Pansey	Prescott
Swope, Helen	Seattle
Swope, Margaret L.....	Buckley
Sylvester, Frances C.....	Olympia
Taylor, Elizabeth M.....	Seattle
Taylor, Marguerite G.....	Seattle
Taylor, Wilbur L.....	Seattle
Teague, Mary	Helena, Mont.

Terpening, Mrs. Alta A.	Kirkland
Thomas, Elouise	Walla Walla
Thomas, John Q.	Harrington
Thomas, Letty K.	Seattle
Thomas, Mary Virginia	North Yakima
Thomas, Melissa	Walla Walla
Thomas, Merta	Eau Claire, Wis.
Thomas, Walter E.	Washougal
Thompson, Mrs. Bertha M.	Charleston
Thompson, Kate	Seattle
Thompson, Luciole May	Seattle
Thompson, Muriel E.	Cimarron, Kans.
Thomson, Bernice L.	Grandview
Thue, Harriet	Sedro Woolley
Tibbles, Roscoe C.	Bremerton
Tift, Lillian Bryce	Seattle
Tomlinson, Margaret	Seattle
Toon, Edith G.	Portland, Ore.
Tower, Adella Pearl	Seattle
Townsend, Sophia E.	Tacoma
Treasher, Mabel	Sunnyside
Trimble, W. Jesse	Redmond
Troth, Mrs. Dennis	Centralia
Trubshaw, Olive B.	Snohomish
Tucker, Josephine	Seattle
Tucker, William C.	Bellingham
Turesson, Göte Wilhelm	Sweden
Turnbull, George Stanley	Seattle
Turner, Caroline	Cambridge, Mass.
Turner, Edward J.	Seattle
Turpin, Harold L.	Seattle
Tvete, Raymond Walter	Seattle
Tyer, F. Lorine	Seattle
Ulen, Mary	Portland, Ore.
Umphrey, Mrs. G. W.	Seattle
Van de Mark, L. Seone	Kent
Verner, Alice L.	Spokane
Waite, Nettie L.	Seattle
Wakefield, Cleo	Seattle
Wakefield, Georgia E.	Seattle
Walker, Mrs. Anna Sloan	Seattle
Walker, Hazelbell	Spokane
Walker, Jannetta M.	Aberdeen
Wallace, Mary Alicia	Seattle
Wallin, James R.	Seattle
Walls, Callie King	Cincinnati, O.
Walsh, Kathleen J.	Seattle
Waltemeyer, Marie Claridge	Seattle
Walter, Hazel Belle	Manchester
Walton, Pauline	Eugene, Ore.
Wand, Thomas H.	Seattle
Ware, Madge Sergent	Seattle

Warren, Jessie A.....	Chelan
Watermans, Edith Mason.....	Sunnyside
Wentworth, Mrs. Lois.....	Seattle
West, Effie V.....	Winlock
West, Irene.....	Seattle
West, Margaret L.....	Portland, Ore.
Westerburg, Iwar Sigurd.....	Seattle
Westgate, Clifford Earl.....	Tacoma
Wheeler, Chetta M.....	Smithfield, O.
Wheeler, Gladys F.....	Seattle
White, Addie.....	Seattle
White, Clyde W.....	New Concord, O.
White, Ida.....	Caldwell, Ida.
White, John E.....	Woodinville
White, Robert James.....	Port Angeles
Whittendale, Bessie.....	Ellensburg
Whittle, Marguerite B.....	Seabeck
Whitworth, Sidney E.....	Porter
Wilkinson, Velma M.....	Athena, Ore.
Willard, Winnie Opal.....	Snohomish
Williams, Charlotte.....	Seattle
Williams, Franklin L.....	Leland, Ida.
Williams, Muzetta.....	Butte, Mont.
Williges, Elsie Doris.....	Sioux City, Iowa
Wills, Alma J.....	Seattle
Willson, Wm. A.....	Tacoma
Wilson, Miss E. J.....	Seattle
Wilson, Florence Margaret.....	Seattle
Wilson, Frances.....	Spokane
Wilson, Isabel.....	Seattle
Wilson, Ray Holland.....	Vancouver, B. C.
Winkleman, Rose.....	Tacoma
Wintler, Ella.....	Vancouver
Witbeck, Louise Angelene.....	Seattle
Wood, Margaret Mary.....	Randolph, Vt.
Wood, Mary L.....	Aberdeen
Wood, Wilma Barklay.....	Seattle
Woods, Isabel.....	Seattle
Woodward, Frances Marie.....	Seattle
Wray, Harriette.....	Bothell
Wright, Bertha.....	Everett
Wright, Cassie.....	Blackfoot, Ida.
Wright, Ellen M.....	Blanchard
Wright, Jasper C.....	Stanwood
Wright, Jennie D.....	Blanchard
Wright, Quintin B.....	Mineral
Wrigley, Gladys Luella.....	Lakeside
Wychoff, Hulett J.....	Seattle
Wyeth, Henriette M.....	Wallaston, Mass.
Yates, Alice M.....	Seattle
Yerger, Bessie Pearl.....	Seattle
Young, Pearl E.....	Hoquiam
Younger, Jesse Arthur.....	Kirkland

SUMMARY OF ENROLLMENT**RESIDENCE STUDENTS****BY COLLEGES AND SCHOOLS**

Graduate School	191
College of Liberal Arts.....	1451
College of Science.....	479
College of Education.....	42
College of Engineering.....	532
Chemical Engineering	65
Civil Engineering	149
Electrical Engineering	227
Mechanical Engineering	91
College of Fine Arts.....	123
College of Forestry.....	102
Four-Year Course	82
Short Course (three months).....	20
School of Law.....	190
College of Mines.....	113
Four-Year Course	75
Short Course (three months).....	38
College of Pharmacy.....	84
Total.....	3307

BY CLASSES

Graduate Students	191
Seniors	281
Juniors	371
Sophomores	583
Freshmen	1263
Unclassified	110
Third Year Law.....	35
Second Year Law.....	31
First Year Law.....	41
Special Students	343
Liberal Arts	116
Science	23
Education	18
Engineering	55
Fine Arts	16
Forestry	10
Law	83
Mines	5
Pharmacy	17
Short Course Students (Forestry and Mines).....	58

3307

REGISTER OF STUDENTS

511

Total Students in Residence, September to June..... 3307**SUMMER SESSION****Enrollment 1914 917**

College and University Instructors..... 7

Superintendents, Principals, and Supervisors.... 132

Public School Teachers..... 486

University of Washington Students..... 176

Others 116

4224

Deduct Summer Students now attending the University.... 174

Grand Total Residence Students..... 4050**EXTENSION STUDENTS**

Correspondence Study 170

Extension Classes 504

Total Extension Students..... 674

The Extension Division enrolls students at any time during the twelve months, so that its registration is constantly changing. The above figures represent the number who were actually studying by correspondence, or in approximately 33 extension classes during the year from March 1, 1914, to March 1, 1915.

Of correspondence students 75 per cent are working for credit toward a degree; and of those in classes 25 per cent.

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