THE BULLETIN

OF THE

University of Washington

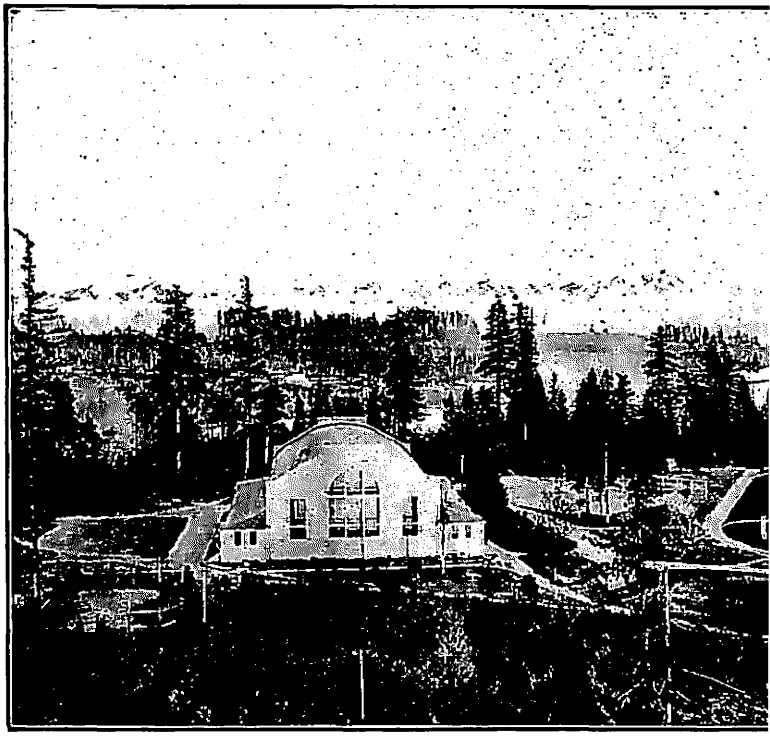
SERIES I APRIL, 1906 NUMBER 27

CATALOGUE

FOR

1905-6

OLYMPIA, WASH.
C. W. GORHAM, PUBLIC PRINTER.
1906



Gymnasium Tennis Courts

CATALOGUE for 1905-6 and

ANNOUCEMENTS for 1906-7

OF THE

UNIVERSITY OF WASHINGTON

SEATTLE.

OLYMPIA, WASH.
C. W. GORHAM, PUBLIC PRINTER.
1906.

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UNIVERSITY CALENDAR, 1906-7

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Registration Day.....Monday, June 24
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THE BOARD OF REGENTS.

Hon. JOHN H. POWELL, President.....Seattle
Term Expires, 1911.

Hon. A. P. SAWYER.....Seattle
Term Expires, 1908.

Hon. JAMES T. RONALD.....Seattle
Term Expires, 1908.

Hon. JOHN P. HARTMAN.....Seattle
Term Expires, 1909.

Hon. FRANK D. NASH.....Tacoma
Term Expires, 1910.

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Term Expires, 1910.

Hon. S. G. COSGROVE.....Pomeroy
Term Expires, 1911.

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FACULTY AND OTHER OFFICERS.

THOMAS FRANKLIN KANE, PH. D., *President.*

4525 Fifteenth Avenue, N. E.

A. B., De Pauw University, 1888; A. M., 1891; Ph. D., Johns Hopkins University, 1895. Tutor in Latin, De Pauw University, 1888-88; Professor of Latin, Lewis College, 1888-91; Scholar in Latin, Johns Hopkins University, 1893-94; Fellow in Latin, 1894-95; Professor of Latin, Olivet College, 1895-1900; Professor of Latin Language and Literature, University of Washington, 1900-2; Acting President, 1902-3; President, 1903—

HENRY LANDES, A. M., *Professor of Geology and Mineralogy.*

4503 Brooklyn Avenue.

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-.

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

4025 Tenth Avenue, N. E.

B. S., University of Washington, 1885; M. S., 1899; M. L., University of Wisconsin, 1901. Member of Washington Legislature, 1891 and 1893; Assistant to Executive Commissioner for Washington, World's Columbian Exposition, 1890-94; 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.*

4533 Fifteenth Avenue, N. E.

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-.

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

1012 East Fortieth Street.

C. E., Lafayette College, 1897; M. C. E., Cornell University, 1898; M. S., Lafayette College, 1900. Fellow in Civil Engineering, Cornell University, 1897-98; Professor of Civil Engineering, University of Washington, since 1898; absent on leave, with American Bridge Company, Philadelphia, 1900-1901; Dean of College of Engineering, 1899-.

ARTHUR RAGAN PRIEST, A. M., *Professor of Rhetoric and Oratory, and Dean of the College of Liberal Arts.*

4749 Fifteenth Avenue, N. E.

A. B., De Pauw University, 1891; A. M., 1894. Principal of High School, Seale, Ala., 1891-92; Associate Principal and Professor of English, McFerrin College, 1892-93; Instructor in Rhetoric and Oratory, De Pauw University, 1893-96; Professor, 1896-98; Instructor in Oratory, University of Wisconsin, 1898-99; Professor of Rhetoric and Oratory, University of Washington, 1899-.

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

120 Thirteenth Avenue, North.

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 BYERS, PH. D., *Professor of Chemistry.*

546 East Fifty-fifth Street.

A. B. and B. S., Westminster College, 1895; A. M., 1898; Ph. D., Johns Hopkins University, 1899. 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-.

CAROLINE HAVEN OBER, *Professor of Spanish.*

4229 Brooklyn Avenue.

Student, Wheaton Seminary, 1882-86; Massachusetts Normal School, Salem, 1888-89. Teacher, Public School, Palisade, 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; Professor of Spanish, 1903-.

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

4526 Brooklyn Avenue.

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; Assistant Professor of Biology, University of Washington, 1899-1901; Professor of Zoology, 1901-.

FREDERICK MORGAN PADELFORD, PH. D., *Professor of English Literature.* 4711 Fifteenth Avenue, N. E.

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; Professor of English Language and Literature, University of Washington, 1901-.

ALBERT HENRY YODER, A. B., *Professor of Pedagogy, and Director of the Department of Education.*

4535 Brooklyn Avenue.

Graduate, State Normal School, Madison, South Dakota, 1888; A. B., Indiana University, 1893; Superintendent of City Schools, Madison, South Dakota, 1888-91; Instructor in Pedagogy, Indiana University, 1892-93; Scholar in Pedagogy, Clark University, 1893-94; Scholar in Psychology, University of Chicago, and Student in Pediatrics, Northwestern University Medical School, 1895-96; Principal San Francisco Normal School, 1894-95; President of Vincennes University, 1896-1900; Professor of Pedagogy, University of Washington, 1901-.

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

4505 Fifteenth Avenue, N. E.

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

ARTHUR SEWALL HAGGETT, PH. D., *Professor of Greek.*

4549 Fifteenth Avenue, N. E.

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 and Latin, Worcester Academy, 1898-1901; Assistant Professor of Greek and Latin, University of Washington, 1901-02; Professor of Greek Language and Literature, 1902-.

FREDERICK ARTHUR OSBORN, PH. B., *Professor of Physics and Director of the Physics Laboratories.*

5215 Fifteenth Avenue, N. E.

Ph. B., University of Michigan, 1896; Graduate Student, University of Michigan, 1900-1902. 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-.

JOHN P. HOYT, LL. B., *Professor of Law.*

1617 Fourth Avenue West.

LL. B., Ohio State and Union Law College, 1867. Justice, Supreme Court of Washington, 1879-87 and 1889-95; Chief Justice, 1895-97. Professor of Law, University of Washington, 1902-.

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

5503 Fifteenth Avenue, N. E.

A. B., Brown University, 1896; Ph. D., Harvard University, 1899. Assistant in Ethics, Harvard University, 1896-97; James Walker Fellow (traveling), 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.*

4229 Brooklyn Avenue.

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; Professor of Latin, University of Washington, 1902-.

CHARLES WILLIS JOHNSON, PH. D., *Professor of Pharmacy and Physiological Chemistry, and Dean of the School of Pharmacy.* 5031 Fifteenth Avenue, N. E.

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, 1898-1901; Instructor in Chemistry, University of Iowa, 1901-02; Assistant Professor of Chemistry, University of Washington, 1903-04; Professor of Pharmacy and Physiological Chemistry, University of Washington, 1904-.

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

4317 Fifteenth Avenue, N. E.

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 (1899-1900) 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.*

4229 Brooklyn Avenue.

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-.

HERBERT DE WITT CARRINGTON, PH. D., *Professor of German.*
4229 Brooklyn Avenue.

Ph. B., Yale Scientific School, 1884; Ph. D., University of Heidelberg, 1897; Student in New Haven, 1884-85; Private study and public school work, 1885-89; Assistant in German, Yale Scientific School, 1889-92; Student in Germany, 1892-97; Instructor in German, Yale Scientific School, 1897-1900; Instructor in German, University of Michigan, 1900-03; Professor of German, University of Washington, 1903-.

ROBERT EDOUARD MORITZ, PH. D., *Professor of Mathematics and Astronomy.* 4222 Brooklyn Avenue.

B. S., Hastings College, 1892; Ph. M., University of Chicago, 1896; Ph. D., University of Nebraska, 1901; Ph. 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-.

BENJAMIN FRANKLIN ROLLER, A. B., M. D., *Professor of Physical Culture and Hygiene.*

JOHN FLEMING MAIN. A. B., *Professor of Law.*
4707 Brooklyn Avenue.

A. B., Princeton University, 1891. Superintendent of Schools, Illinois, 1891-95; Law Student, University of Michigan, 1895-97; Passed State Bar Examination, Illinois, 1897; Practiced Law, Aledo, Illinois, 1897-1900; Seattle, Washington, 1900-04; Professor of Law, University of Washington, 1904-.

CARL EDWARD MAGNUSSON, PH. D., E. E., *Professor of Electrical Engineering.* 4229 Brooklyn Avenue.

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 and Mathematics, University of New Mexico, 1901-1903; Professor of Physics and Electrical Engineering, New Mexico School of Mines, 1903-04; Associate Professor of Electrical Engineering, University of Washington, 1904-06; Professor of Electrical Engineering, 1906-.

HARVEY LANTZ, LL. B., *Professor of Law.*

4549 Fifteenth Avenue, N. E.

Ph. B., De Pauw University, 1888; A. M., 1891; LL. D., Kent Law School, 1893. Superintendent of Schools, Spencer, Ind., 1888-91; Law Clerk with Schuyler & Kremer, Chicago, 1892-5; Admitted to Bar, Supreme Court of Illinois, 1893; Practiced law, member firms of Chase & Lantz, Chase, Proudfit & Lantz and Proudfit & Lantz 1896-1905; Lecturer on Medical Law, Hering Medical College, Chicago, 1898-99; Admitted to Bar, United States Supreme Court, 1905; Professor of Law, University of Washington, 1905-.

EVERETT OWEN EASTWOOD, B. S., *Professor of Mechanical Engineering.* 4702 Twelfth Avenue, N. E.

C. E., University of Virginia, 1896; A. B., 1897; A. M., 1899; B. S., Massachusetts Institute of Technology, 1902; Fellow in Mathematics and Astronomy, University of Virginia, 1897-1900; Practical work Government Navy Yard, Washington, D. C., 1902-03; with the Fore River Ship Building Company, Quincy, Mass., 1903-04; Instructor in Mechanical Engineering, Lehigh University, 1904-05; Professor of Mechanical Engineering, University of Washington, 1905-.

GEORGE HENRY ALDEN, PH. D., *Associate Professor of History.*

4521 Fifteenth Avenue, N. E.

B. S., Carleton College, 1891; A. B., Harvard University, 1893; Ph. D., University of Wisconsin, 1896; Superintendent of Schools, Tracy, Minn., 1891-92; Fellow in History, University of Chicago, 1893-95; Fellow in History, University of Wisconsin, 1895-96; Acting Assistant Professor of History, University of Illinois, 1896-97; Professor of History and Government, Cornell College, 1897-98; Professor of History and Political Science, Carleton College, 1898-1903; Assistant Professor of History, University of Washington, 1903-1905; Associate Professor, 1905-.

JAMES EDWARD GOULD, PH. D., *Assistant Professor of Mathematics.*

5015 Fifteenth Avenue, N. E.

Ph. B., University of Washington, 1896. Student, Summer School, University of California, 1898; Student, Summer Quarters, University of Chicago, 1900-1906. Principal of High School, Port Townsend, 1897-99; Instructor in Physics and Chemistry, Seattle High School, 1899-1901; Assistant Professor of Mathematics, and Principal of the Preparatory School, University of Washington, 1901-3; Assistant Professor of Mathematics, 1903-.

OTTILIE GERTRUDE BOETZKES, A. M., *Assistant Professor of Modern Languages.* 717 Belmont Avenue, North.

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, 1903-.

THOMAS KAY SIDEY, PH. D., *Assistant Professor of Latin and Greek.*

A. B., Victoria University (now Toronto), 1891; Ph. D., University of Chicago, 1900. Graduate Specialist in Classics and English, Ontario College of Pedagogy, 1891; Classical Master, Iroquois High School, 1892; Teacher of English and Classics, Ottawa Collegiate Institute, 1892-94; Classical Master, Whitby Collegiate Institute, 1894-1896; Graduate Student, University of Chicago, 1896; Fellow in Latin, 1897-99; Associate Professor of Latin, Cornell College, 1899-02; Professor of Latin and German, Central Normal College, Danville, Indiana, 1902-03; Assistant Professor of Latin and Greek, University of Washington, 1903-.

HENRY KREITZER BENSON, A. M., *Assistant Professor of Chemistry* 4711 Fifteenth Avenue, N. E.

A. B., Franklin and Marshall College, 1899; A. M., 1902; Student, University of Washington, 1900-01; Student, University of Minnesota, summer 1902; Superintendent of Schools, Kent, Washington, 1900-03; Graduate Student, Johns Hopkins University, 1903-04; Assistant Professor of Chemistry, University of Washington, 1904-.

MAYNARD LEE DAGGY, PH. B., *Assistant Professor of Rhetoric and Oratory.* 4019 Tenth Avenue, N. E.

Ph. B., De Pauw University, 1896; Student Law School, 1898-99. Instructor of Elocution and English, State School for the Blind, Jacksonville, Illinois, 1896-97; Instructor in English, High School, Mt. Vernon, Illinois, 1897-98; Instructor in English, High School, Fond du Lac, Wisconsin, 1900-01; Instructor in Rhetoric and Oratory, University of Wisconsin, 1901-03; Director of Bay View School of Expression, Bay View, Michigan, Summers of 1902 and 1903; Assistant Professor of Rhetoric and Oratory, University of Washington, 1904-.

CHARLES CHURCH MORE, M. S., C. E., *Assistant Professor of Civil Engineering.* 4333 Tenth Avenue, N. E.

C. E., Lafayette, 1898; M. C. E., Cornell, 1899; M. S., Lafayette, 1901; July 1899-August 1900, and July 1901-October 1903, Structural Steel Work with Pencoyd Iron Works, and American Bridge Co., Pencoyd, Penn.; D. H. Burnham & Co., Architects, Chicago, and T. L. Condron, Consulting Engineer, Chicago; October 1903-August 1904, U. S. Engineer Office, Fort Worden, Washington; Acting Professor of Civil Engineering, University of Washington, 1900-1901; Assistant Professor of Civil Engineering, University of Washington, 1904-.

ALLEN ROGERS BENHAM, PH. D., *Assistant Professor of English Literature.*

4339 Brooklyn Avenue.

A. B., University of Minnesota, 1900; A. M., 1901; Ph. D., Yale, 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-.

FLETCHER HARPER SWIFT, PH. D., *Assistant Professor of Education.*

A. B., Dartmouth College, 1898; B. D., Union Theological Seminary, 1903; A. M., Teachers' College of Columbia University, 1904; Ph. D., 1905. Tutor, College Preparatory Course, Brooklyn, N. Y., 1898-99; Instructor, Greenwich Academy, Connecticut, 1899-1900; Assistant Department of Education, Teachers' College, Columbia University, 1904-05; Assistant Professor of Education, University of Washington, 1905-.

CHARLES WILLIAM PRENTISS, PH. D., *Assistant Professor of Biology.*

4245 Brooklyn Avenue.

A. B., Middlebury College, 1896; A. M., 1897; A. M., Harvard University, 1898; Ph. D., 1900. Fellow of Harvard University at Freiburg, Germany, 1901-02, and Naples Zoological Station, 1902; Fellow of Harvard, Strassburg, 1902-03; Assistant in Zoology, Radcliffe College, 1898-99; Instructor, Harvard University, 1900-01; Acting Head of Department of Biology, Western Reserve University, 1903-04; Instructor in Biology, Manual Training School, Washington University, 1904-05; Assistant Professor of Biology, University of Washington, 1905-.

VANDERVEER CUSTIS, PH. D., *Assistant Professor of Economics.* 4529 Brooklyn Avenue.

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-.

HERMAN CAMPBELL STEVENS, PH. D., *Assistant Professor of Psychology.* 4529 Brooklyn Avenue.

A. B., University of Michigan, 1901; Ph. D., Cornell University, 1905. Graduate Scholar in Psychology, Cornell, 1901-03; Junior Assistant in Psychology, 1903-04; Senior Assistant, 1904-05; Assistant Professor of Psychology, University of Washington, 1905-.

FRANK MARION MORRISON, A. B., *Assistant Professor of Mathematics.* 4719 Fifteenth Avenue, N. E.

A. B., University of Michigan, 1892; Graduate Student University of Chicago, 1897-99; Instructor in Mathematics in the High Schools, Elkhart, Indiana, Sioux City, Iowa, Circleville, Ohio, 1892-7; 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-.

LOREN DOUGLAS MILLIMAN, A. B., *Assistant Professor of Rhetoric.* 5515 Fifteenth Avenue, N. E.

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, 1894-96; 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 Rhetoric, University of Washington, 1905-.

PETER LE FORT, A. M., *Assistant Professor of French.* 4719 Fifteenth Avenue, N. E.

Student, University of Lausanne, 1886-88; A. M., Leland Stanford University, 1901; Teacher of Modern Languages, Belmont School, California, 1891-93; St. Matthew's Military Academy, California, 1896-99; Assistant in French in Stanford, 1901; Teacher of French, High School, Oakland, Cal., 1901-05; Assistant Professor of French, University of Washington, 1905-.

IRVIN WALTER BRANDEL, M. S., *Assistant Professor of Pharmacy.*
5027 Fifteenth Avenue, N. E.

Ph. G., University of Wisconsin, 1899; B. S., 1901; M. S., 1902; Fellow in Pharmacy, 1901-02; Instructor in Pharmacy, 1902-05; Assistant Professor of Pharmacy, University of Washington, 1905-.

ALONZO KEYT ISHAM, B. S., *Assistant Professor of Mechanical Engineering.*

B. S., Massachusetts Institute of Technology, 1901; with "The Laidlaw-Dunn Gordon Co., Cincinnati, O., 1901-02; Secretary and Treasurer "The American Gas Engine Co.," Cincinnati, O., 1902-03; Engineer and Salesman, "The Port Huron Air Tool Co.," Port Huron, Mich., 1903; Designer, "The Carlisle & Finch Co.," Cincinnati, O., 1904; Mechanical Engineer, "The Bethlehem Steel Co.," South Bethlehem, Pa., 1905; Assistant Professor of Mechanical Engineering, University of Washington, 1905-.

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

B. S., University of Minnesota; United States Weather Bureau Official, since 1883; Director Washington Section United States Weather Bureau, since 1894; Lecturer in Meteorology, University of Washington, 1905-.

CHARLES EVAN FOWLER, M. AM. SOC. C. E., *Lecturer on Engineering Contracts and Specifications.*

Student in Civil Engineering Ohio State University. Bridge Engineer Hocking Valley Ry., 1887; Engineer of Construction Indiana Bridge Co., 1889; Chief Engineer Youngstown Bridge Co., 1891-98; Consulting Engineer, New York City, 1898-99; President and Chief Engineer International Contract Co., to present time. President Seattle Park Commission, 1904.

GEORGE JAMME, *Lecturer on Coal Mining.*

Formerly Chief Engineer Dayton Coal and Iron Co., Dayton, Tennessee; Chief of Staff for W. P. Rend, Coal Operator, Chicago; Chief Engineer Monongahela River Consolidated Coal and Coke Co.; Mining Engineer, Seattle, Wash.

ELBERT GROVER ALLEN, M. S., *Lecturer and Consulting Electrical Engineer on Electric Traction.*

Chief Electrical Engineer, Seattle Electric Co.

JAMES DELMAGE ROSS, *Lecturer and Consulting Electrical Engineer on Central Station Practice.*

Chief Electrical Engineer, Municipal Light and Power Plant, Seattle.

JOHN HARRISBERGER, *Lecturer and Consulting Electrical Engineer on Power Transmission.*

Chief Electrical Engineer, Seattle-Tacoma Power Co.

THEODORE KIRKLAND WILKINSON, B. S., *Lecturer on Copper Smelting and Refining.*

B. S., Cornell University, 1887; on Chemical and Metallurgical Staff of the Anaconda Copper Mining Co., Anaconda, Montana, 1890-1900; Superintendent Electrolytic Copper Refinery, Tacoma Smelting Company, 1904-.

WILLIAM BOUSE HAMPSON, M. E., *Director of Shop Work.*

IDA KATHERINE GREENLEE, A. B., *Instructor in English Literature.*

A. B., Ohio State College, 1888; Student, Wellesley College, 1895; Student, University of Chicago, Summer of 1900; Instructor in English Literature and Rhetoric, High School, Sioux City, Iowa, 1891-95; Instructor, High School, Kansas City, Mo., 1896-98; Instructor, High School, Springfield, Mass., 1898-1900; Instructor, High School, Seattle, Wash., 1900-1905; Instructor in English Literature, University of Washington, 1905-.

HENRY LOUIS BRAKEL, A. M., *Instructor in Physics.*

B. S., Olivet College, 1902; A. M., University of Washington, 1905. Instructor in Physics, University of Washington, 1905-.

FRANK EDWARD JOHNSON, E. E., *Instructor in Electrical Engineering.* 4717 Brooklyn Avenue.

E. E., University of Minnesota, 1900; Teacher in public schools, Minnesota, 1893-96; Practical work Fort Wayne Electrical Works Company, Appleton, Minnesota; River Falls, Wisconsin; Chadron, Nebraska, 1900-03; Superintendent for The Douglas Electric Light Co., Douglas, Wyo., 1903-05. Instructor in Electrical Engineering, University of Washington, $1905-.

HARRY MEAD, E. M., *Instructor in Mining and Geology.*

E. M., School of Mines, Columbia University, 1905; Summer School Mining Instructor, Columbia University, 1904; Practical work three years. Instructor in Mining and Geology, University of Washington, 1905-.

HENRY LEE BOWLBY, B. S., *Instructor in Civil Engineering.*

Student at Doane College, Nebraska, 1895-97; Student at University of Nebraska, 1897-98; Student at West Point, 1898-1901. A. B. & B. S. (Civil Engineering), University of Nebraska, 1905. Railroad Engineering work, Ecuador, S. A., 1901-04; Instructor in Military Science, University of Nebraska, 1904-05; Instructor in Civil Engineering, University of Washington, 1905-,

LAVINA RUDBERG, B. S., *Instructor in Physical Culture for Women.*

B. S., Northern Illinois Normal School, 1893; Graduate, Detroit School of English Literature and Physical Culture, 1901; Graduate, Flynn Normal School of Physical Education, 1902; Director of Physical Culture, Thomas Normal Training School of Music and Physical Culture, Detroit, 1900-01; Physical Director, Michigan Conservatory of Music, 1902-03; Director of Private Classes in Physical Culture, Seattle, Wash., 1903-05; Instructor in Physical Culture for Women, University of Washington, 1905-.

JAMES H. HANCE, A. B., *Instructor in Chemistry.*

A. B., Northwestern University, 1901; Instructor, Oklahoma University, 1901-02; Principal High School, Park City, Utah, 1902-04; Instructor in Mathematics and Chemistry, Hill Military Academy, Portland, Oregon, 1904-05; Instructor in Chemistry, University of Washingon, 1905-.

WILLIAM ROBERT CALVERT, A. B., *Instructor in Geology and Mining.*

A. B., University of Nebraska, 1904. Assistant Chemist, Republic Iron & Steel Co., Youngstown, Ohio, 1904; Assistant on U. S. Geol. Survey, Socorro, New Mexico, 1905; Instructor in Geology and Mining, University of Washington, 1906-.

GRACE GREENE, A. B., *Assistant in Spanish.*

A. B., University of Washington, 1902; Assistant in Spanish, University of Washington, 1903-.

HANNAH JOHNSTON, B. S., *Assistant in Chemistry.*

B. S., Iowa State College, 1897; Principal Corning, Iowa, High School, 1897-1900; Principal Fort Bragg, California, High School, 1900-1905; Assistant in Chemistry, University of Washington, 1905-.

JOHN WALDO MCCARTHY, B. S., *Assistant in Chemistry.*

B. S., Morningside College, 1905; Assistant in Chemistry, University of Washington, 1905-.

FRANK A. BEAM, A. B., *Assistant in Mathematics.*

A. B., Franklin and Marshall College, 1904; Assistant in Mathematics, University of Washington, 1905-.

UNDERGRADUATE ASSISTANTS.

ARTHUR S. POPE, *Assistant in Botany.*

CHARLES ALFRED NELSON, *Assistant in Zoology.*

WILHELMINA HAFER, *Assistant in German.*

JEANNETTE BLISS, *Assistant in History.*

SARAH E. KAHAN, *Assistant in Chemistry.*

CHARLES B. GIBBONS, *Assistant in Descriptive Geometry.*

WILLIAM R. LINDSAY, *Assistant in Surveying.*

ELMER SHERRILL, *Assistant in Chemistry.*

MUSICAL STAFF.

CHARLES OSCAR KIMBALL, *Musical Director.*

LILLIAN FISHER, *Teacher of Voice.*

MRS. KARL RIEDELSBERGER, *Teacher of Piano.*

JOHN LEONARD GIBBS, *Teacher of Violin.*

OTHER OFFICERS.

HARRY CANBY COFFMAN, A. B., *Librarian.*

CHARLES W. SMITH, A. B., B. L. S., *Assistant Librarian.*

EMMA PEARL MCDONNELL, A. B., *Head Cataloguer.*

ELIZABETH KAUFMAN, *Student Assistant in Library.*

ANNIE HOWARD, *Dean of Women.*

J. A. BERNHARD, *Steward University Dining Hall.*

HERBERT THOMAS CONDON. B. S., LL. B., *Registrar.*

WILLIAM MARKHAM, *Secretary of Board of Regents.*

LOREN D. GRINSTEAD, LL. B., *Secretary to the President.*

WILLIAM BOUSE HAMPSON, M. E., *University Engineer.*

GEORGE LEWIS MOTTER, *Superintendent of Grounds.*

DAVID MCDANIEL, *Janitor.*

J. S. KRAPE, *University Carpenter.*

ROLF THELEN, B. S., *Government Expert in Charge of Timber Testing Laboratory.*

COMMITTEES OF THE FACULTY.

Accredited Schools—Professors Yoder, Gould and Benson.

Admission—Professors Osborn, Byers, Fuller, Haggett and Gould.

Advisers—College of Liberal Arts; Freshmen, Professor Priest; Sophomores, Professor Padelford; Unclassified, Professor Gould; Juniors, Seniors and Graduates, the respective Major Professors. College of Engineering: Civil Engineers, Professor Fuller; Mechanical Engineers, Professor Eastwood; Electrical Engineers, Professor Magnusson; Chemical Engineers, Professor Byers. School of Mines, Professor Roberts. School of Pharmacy, Professor Johnson. School of Law, Professor Condon.

Alumni Appointments—Professors Yoder, Meany, Magnusson and the major professor.

Assembly and Public Exercises—Professors Daggy, Main and More.

Athletics—Professors Roberts, Haggett and Lantz.

Catalogue—Professors Landes, Alden and Milliman.

Discipline—Profesors Frein, Custis and Eastwood.

Dormitories—Professors Fuller and Boetzkes.

Graduation—Professors Byers, Main and Thomson.

Holidays—Professors Johnson, Carrington and Sidey.

Honors and Advanced Degrees—Professors Smith, Fuller, Frein, Moritz and Stevens.

Library—Professors Padelford, Frye and Moritz.

Museum—Professors Landes, Meany and Kincaid.

Petitions—Professors Smith, Ober and Benham.

Program—Professors Byers, Morrison, Eastwood and Swift.

Student Assistance—Professors Meany, Landes and Brandel.

Student Organizations—Professors Savery, Condon and Thomson.

GENERAL INFORMATION.

HISTORICAL SKETCH.

When the first legislature of Washington Territory assembled in 1854, Isaac Ingalls Stevens, the governor, spoke most forcibly in his message in favor of a public school system and closed his remarks on this point with the following words: "I will also recommend that Congress be memorialized for the grant of two townships of land, the amount previously given to Oregon for the same purpose." Within the short space of four months Congress complied with this request.

On January 29, 1855, just six months from the date of the University land grant, the legislature enacted that the Territorial University of Washington should comprise two equal institutions, one at Seattle and the other on Boisford Plains in Lewis county. The granted lands were to be divided equally between the two institutions. The county commissioners who were directed to select the granted lands, failed in their duty, and in 1858 the legislature united the two universities. Cowlitz Farm Prairie, in Lewis county, was chosen as the new site, and another enactment was passed for the selection of all the granted lands.

This shifting and fruitless policy in locating the Territorial University led the pioneers of the Puget Sound region to secure an enactment incorporating another institution to be called the "Puget Sound University." The possibility of thus duplicating educational institutions resulted in bringing matters to a definite conclusion, and in January, 1861, the legislature relocated the Territorial University at Seattle. A board of University Commissioners, consisting of Rev. Daniel Bagley, John Webster and Edmund Carr, all of Seattle, was immediately appointed to select the granted lands, to sell them for not less than $1.50 an acre, and to build the University within one year. This board met on Washington's birthday, 1861, and organized for work. The land was cleared, the

cornerstone of the main building was laid on May 21, 1861, and the building completed within the specified year. In the autumn of 1862 the other buildings were constructed, and during the winter the University of Washington was opened.

The legislature in relocating the University in Seattle had stipulated that a suitable site of at least ten acres be donated by the people of Seattle. The site was selected and the major portion of it donated by Hon. Arthur A. Denny from his farm. The other portion of the site was given by Charles C. Terry and Edward Lander. A few large maple trees were left on the grounds, but all the other trees were cleared off. The ground was plowed and harrowed, and the Rev. Daniel Bagley sowed the whole tract with grass seed he had brought from Oregon the year before.

For several years the work of the University did not rank much above that of an academy. The first class to be graduated was during the second administration of Dr. George F. Whitworth in 1876. This class consisted of one young lady, Miss Clara McCarty, now Mrs. Wilt of Tacoma, who was graduated with the degree of bachelor of science. The honor of having first organized the University on real college lines belongs to the seventh president, Dr. A. J. Anderson.

The total number of graduates up to date is seven hundred twenty-four. Records of the students in the earlier years were not preserved, but it is estimated that the number of those who have attended the University from its organization to the present time is over 6,000.

The building erected in 1861 was the finest educational structure at the time in the Pacific Northwest. It was the only building belonging to the institution except the president's cottage and two rather inferior dormitories. All were frame buildings. The money for their construction was obtained from the sale of the University lands. The territorial government paid out no money for the University's maintenance until 1879. Then the amount given was very small and was to apply on tuition fees of "free" scholars to be appointed by the governor, judges and members of the legislature. Throughout the territorial period, from 1862 to 1889, the total sum appropriated by the territory for the University was only $34,350.

During the later years of the territorial period and the first years of statehood, the old quarters of the University became very crowded. In 1893 the state legislature provided a new site and sufficient money to build structures of permanent character and adequate to the needs of a growing institution. On September 4, 1895, the institution moved into the new buildings and since then the progress of the University has kept pace with the rapid development of the commonwealth.

Since the growth of the territory for years was slow and at times scarcely perceptible, it is not strange that the institution did not always make uniform progress. At the present time, however, the University of Washington is growing rapidly and has taken its place as the continuation of the public school system, the cap-stone of the state's great educational edifice.

ENVIRONS.

The University is surrounded by many things of great educational value to the students and which are freely drawn upon in much of the instructional work. Seattle is a large and active city and affords to students the great advantages of a metropolis. Its excellent library may be used by every student, and its parks, public schools and churches all have a wholesome influence upon University life.

The State legislature in 1895 enacted a strict law prohibiting the sale of all intoxicating liquors within a radius of two miles of the new University grounds. This insures a College neighborhood entirely free from the evils of the saloon.

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 of the state by and with the advice and consent of the senate. Each regent is appointed for a term of six years. The Code of Public Instruction also provides that the immediate government of the institution shall be in the hands of the faculty, consisting of the president and professors, under such rules as the Board of Regents may provide.

ENDOWMENT AND SUPPORT.

The University derives its support entirely from the state. There is no income from tuition fees, as instruction in all the departments of the University, except the School of Law, is free, and as yet the lands granted the institution as an endowment yield no revenue. The income from these lands will some day greatly help to support the University. The two townships of land granted by Congress in 1854 were nearly all selected and sold in 1860 and 1861 to build and establish the Territorial University. There remains of this old grant some three thousand acres, part of which is not yet selected. Besides this land, the University owns three hundred twenty acres near the city of Tacoma, acquired by purchase about 1862, and the old site of nine acres in the central part of the city of Seattle. Both of these last named parcels of land are sure to become good revenue producing properties. The old site has been leased for a period of fifty years. In addition to the above mentioned property the University was further endowed by the state on March 14, 1893, by the segregation of certain granted lands. Section 9 of the law approved on that day provides—

"That 100,000 acres of the lands granted by section 17 of the enabling act, approved February 22, 1889, for state charitable, educational, penal and reformatory institutions are hereby assigned for the support of the University of Washington."

The legislature of 1903 instructed the state land commissioner to select these lands. They have been selected and the records have been duly filed.

BEQUESTS.

Prior to the session of the State legislature in 1897 it was practically impossible to expect any gratuities or bequests, as such gifts would immediately go into the treasury of the state, and become unavailable except upon appropriation by the legislature. But in the session of 1897 the Code of Public Instruction was enacted, and section 186, chapter 1, title IV., of that Code made 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 receipt and expenditure 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."

It is hoped that this provision will result before long in the erection of a number of memorial buildings and the establishment of memorial scholarships and professorships.

GROUNDS.

The new grounds are ample to meet every need of the University. There are three hundred fifty-five acres, all within the city limits of Seattle. The site lies between Lakes Union and Washington. It has a shore line of over one mile on Lake Washington and about a quarter of a mile on Lake Union. To the southern, or Lake Union side, the land slopes gently from the highest point in the northwestern corner, which is about two hundred twenty-five feet above tide level. Toward the eastern, or Lake Washington side, the land is level for more than half its width, when it breaks off in a series of benches, terraces and ravines.

The Board of Regents has adopted a plan that will not only give the best arrangement for new buildings, but will largely determine all future improvement of the grounds. This plan is a modification of the usual college quadrangle. In this case it will be an oval, whose major axis is twelve hundred feet long and whose minor axis is six hundred fifty feet long.

BUILDINGS.

The Administration Building is a commodious structure in the style of the French Renaissance. It is constructed of cream colored pressed brick and sandstone with trimmings of terra cotta. It is three stories in height with a finished basement. Besides laboratories and recitation rooms it contains the administration offices, the assembly hall, and the library.

Science Hall is made of red pressed brick with sandstone

trimmings. It is three stories in height, with additional space in basement and attic. The large wing in the rear of the main building contains the collections of the State Museum.

The Power House and Machine Shop is made of red pressed brick, and is two stories in height.

The Observatory is constructed wholly of sandstone. It occupies the highest point of ground northwest from the administration building.

The Gymnasium Building is constructed of wood and contains two main halls, one for men and one for women. The men's hall has a floor space one hundred and twenty feet in length and eighty feet in width; the women's hall has a floor space eighty feet long and fifty feet wide. Each hall is bordered by offices, dressing rooms and bath rooms.

The dormitories, one for men and one for women, are made of brick and are so placed that they overlook Lake Washington. Each dormitory accommodates sixty students.

Several temporary wooden buildings have been erected upon the grounds for use until permanent structures can be provided. In these buildings some of the work in mining engineering and chemistry is now done.

THE UNIVERSITY LIBRARY.

STAFF.

HARRY CANBY COFFMAN, A. B.....*Librarian*
CHARLES WESLEY SMITH, A. B., B. L. S.....*Asst. Librarian*
EMMA PEARL MCDONNELL, A. B.....*Head Cataloguer*
ELIZABETH KAUFMAN.....*Student Assistant*
CHARLOTTE WILLIAMS.....*Student Assistant*

The main library is located in the basement of the Administration building. It contains 21,612 bound volumes and about 10,000 pamphlets. Besides these there are about 500 volumes in the Frederick James Grant Memorial Library of American History and about 1,000 volumes in the library of the School of Law. The library contains the leading papers and periodicals, foreign and American, and practically all of the newspapers published in the Pacific Northwest. It is also a depository for the publications of the United States government, of which it has nearly a complete set. An effort has been made to complete, as far as possible, the public documents of the State of Washington and to secure the important documents of other states and foreign countries. The library is being catalogued as rapidly as possible and the Dewey decimal system of classification is used.

UNIVERSITY HISTORY COLLECTION.

An effort is being made to collect and preserve materials and documents that may in any way have a bearing on the history of the University and the development of education in the Northwest. This will include college publications, photographs, clippings, educational journals, university and public school programs, announcements, and, in fact, anything that may in time be of historic value. The co-operation of students, alumni and teachers throughout the state is earnestly solicited.

RICHARD D. BAKER LOAN COLLECTION.

Mr. Richard D. Baker, of Seattle, has loaned to the University a collection of volumes relating to mineralogy, geology, and chemistry. This set supplements his donations and loans to the geological museum.

WASHINGTON STATE FEDERATION OF WOMEN'S CLUB'S HISTORICAL COLLECTION.

The University library is the depository for the history collection of the Federated Women's Clubs of the state. This collection contains a large number of manuscripts relating to the history of the Northwest. Constant additions are being made along lines which supplement the work of the Washington University State Historical Society.

USE OF LIBRARY.

The library is open during the college year Mondays to Fridays from 8:30 a. m. to 5:00 p. m. and from 7:00 to 10:00 p. m. On Saturdays the hours are from 8:30 a. m. to 12 m. and from 1:00 to 5:00 p. m. All persons connected with the University have free access to the library. Reference books and those reserved by professors for required reading in the various courses are retained at the library. Other books are loaned for home use for a period of two weeks subject to renewal or recall in case of special demand. The aim of the library staff is to render the largest service to the greatest number. Persons not connected with the University are accordingly given all possible library privileges.

University students have the privileges of the large and growing collection of the Seattle Public Library. The library is used as a working laboratory for the training course in library science which is conducted as a department of the Summer Session.

THE UNIVERSITY LABORATORIES.

Well appinted laboratories are as essential to the modern college and university as books and lectures. The University of Washington has the following laboratories fully equipped for work in the various departments:

CHEMISTRY AND PHARMACY.

The laboratories devoted to the departments of chemistry and pharmacy are capable of accommodating two hundred and twenty students working at one time. They consist of four laboratories, a stock room, a weighing room and two private laboratories, situated in the Administration building; two laboratories, two balance rooms, two private laboratories and a stock room situated in a temporary building near the Administration building. The laboratories are adequately equipped with water, gas, electric lights, electrical current for experimental purposes, as well as with excellent desks and permanent apparatus.

The stock rooms contain supplies for four hundred students. Everything essential to the work of the department, covering about five years' work in chemistry, is included. The stock rooms are in charge of assistants and at certain hours students are permitted to borrow all needed apparatus which may be returned without charge if in good condition.

A temporary laboratory, a one-story frame structure, one hundred fifteen by sixty-five feet, designed to meet the immediate needs of the department of chemistry, was erected during the summer of 1905. It contains accommodations for about one hundred forty students (working at one time) and is well equipped to meet its present purpose.

PHYSICS AND ELECTRICAL ENGINEERING.

The laboratories set apart for the use of the department consist of: (1) a general laboratory, thirty by seventy feet; (2) an electrical testing room with four piers; (3) a photo-

metry room; (4) a dynamo laboratory and a battery room; (5) a shop.

The laboratories are supplied with apparatus from the best American and European makers. Among the more important pieces of apparatus may be mentioned: (1) standard balances, cathetometer, a mercury air pump and a Geneva Society straight-line dividing engine with microscopes, so that it may be used as a comparator; (2) Helmholtz resonators and double siren, chronograph with fork; (3) Boy's radio-micrometer, Dulon and Petit's absolute expansion of liquid apparatus, Bertholet's heat of vaporization apparatus and a Waterman calorimeter; (4) a spectro-goniometer, two spectroscopes, polarimeter, a refractometer, a Fresnel's optical bench complete, a Rowland concave grating, a Zeiss spectrometer, and an Abbe-Pulfrich interferometer; (5) Kelvin composite balance, Kelvin electrostatic voltmeter, Sixteen Weston voltmeters and ammeters, two Weston indicating Wattmeters, five recording Wattmeters, Reichsanstalt resistances, Kohlrausch bridge, Hartman & Braun's electrolytic resistance apparatus, standard condensers, Thompson galvanometers, etc.; (6) a storage battery of seventy cells, six transformers, two direct current 110-volt generators, 5-k. w. rotary converter, Fort Wayne 3-phase alternator, Fort Wayne 5-h. p. synchronous motor, La Roche alternator; 3-h. p. three-phase induction motor and a 5-h. p. single-phase induction motor from General Electric Co., a Wagner 5-h. p. three-phase induction motor, a Bullock 5-h. p. single-phase induction motor, a 6-h. p. D. C. motor, a 25-h. p. D. C. motor, etc.; (7) Lummer-Brodhun photometer with three meter track, a Bunsen screen, a Mathews integrating photometer, Standard lamps from the New York Testing Laboratory and the National Bureau of Standards.

The Commercial Electrical Laboratory (Power House) has the following equipment:

(a.) D. C. 500 volts, 75 K. W. Westinghouse dynamo.
(b.) A. C. single phase, 1100 volts 60 K. W. dynamo.
(c.) A. C. single phase 35 K. W. Westinghouse dynamo.
(d.) D. C. 110 volts 22½ K. W. National dynamo.

The general laboratory is supplied with a number of standard reference works. A number of the more prominent periodi-

cals in physics are constantly on file, such as Philosophical Magazine, Physical Review, Astrophysical Journal, Wiedemann's Annalen and Beiblaetter, Journal de Physique, Nature, Science, London Electrician and Electrical World and Engineer, American Journal of Science, Street Railway Review, etc.

BOTANY.

The botanical laboratories are on the third floor of Science Hall. The general laboratory is a room forty-one feet by forty-two feet, with a semicircular end. It has eleven large windows and a skylight, which provide excellent light for microscopic work for forty-four students at one time. It is equipped with desk tables and revolving chairs; with two lead-lined aquaria and water fixtures; with abundant cases for books and preserved material, and with student lockers. There is also a case of drugs for pharmaceutical work.

The histological and physical laboratory is twenty by twenty-four feet, with accommodations for twelve students at one time. Here is a large paraffin bath, tables for reagents, and cases for glassware and chemicals. A dark room nine by twelve feet opens from it. This is fitted with shelves for storing material and serves as a storeroom for material preserved in formaldehyde. It is designed for photography and used also for experiments in physiology requiring a dark room.

A private laboratory for the professor in charge is supplied with tables and reagents, and permits undistrubed work.

On the fourth floor is fitted up a culture room sixteen by sixteen feet. It contains two lead-lined aquaria, tables, shelves, and a hot-air bath, together with the minor apparatus, making it an excellent place for growing and experimenting with plants. Adjoining this room are the herbarium cases and tables for work in taxonomy.

The departments of botany and zoology have a common lecture room on the second floor, with a seating capacity of one hundred, and fitted with cases and tables. Here is also a stereopticon and screen fitted for electric light, for illustrating lectures with lantern slides.

The department is equipped with twenty-eight compound microscopes, twelve dissecting microscopes, one of the best Minot microtomes, six camera lucidas, and the smaller fixtures necessary for work in preparation and study of slides for the microscope.

Six journals come regularly to the department and the current text and reference books are on its shelves, an edition of Engler and Prantl's "Die Naturliche Pflanzenfamilien" among the number. There are appliances for photography and the making of lantern slides, as well as several hundren lantern slides on hand.

The herbarium consists of about five thousand specimens, representing the bryophytes, pteridophytes and phanerogams. These include the Chicago World's Fair exhibit of Washington, with others added from time to time by exchange and collection. Recently Mr. Burglehaus has presented a collection of fifteen hundren mounted plants from the Eastern states and Puerto Rico. The department will be glad to receive specimens from teachers and others.

ZOOLOGY.

The department of zoology, which occupies the northern half of the second floor in Science Hall, includes three laboratories.

The general zoological laboratory, which is semicircular in form, is especially designed to provide an abundance of light for microscopic work. Eleven tables are so arranged as to accommodate forty-four students at a sitting. The center of the room is occupied by a large lead-lined aquarium arranged to contain the living animals required for study. The laboratory is at present provided with twenty dissecting microscopes, and twenty-eight compound microscopes. For advanced work more powerful lenses are provided, together with the necessary eye-pieces, substages, condensers and cameras. For the study of histology and embryology the equipment includes an incubator, paraffin bath, a Minot microtome, and all necessary reagents, stains and apparatus. A convenient dark room is provided for micro-photography and other lines of photographic work.

The zoological laboratory is amply supplied with material

both for dissection and demonstration. A great variety of marine specimens has been procured through the collection and preservation of the animal life found in Puget Sound and the waters of Alaska and other parts of the Pacific Coast. The extensive lakes adjoining the campus furnish an unlimited supply of fresh water organisms.

The physiological laboratory adjoins the general zoological laboratory. This accommodates twenty students and provides facilities for the experimental investigation of this phase of biology.

The entomological laboratory is a small room designed to contain the extensive collection of insects, which now comprises many thousands of specimens, derived mostly from the Pacific Coast. Special facilities are offered for the study of the classification and biology of the insect fauna of the state.

An important feature of the work in zoology has been the preparation of collections of typical specimens for the use of high schools throughout the state. Assistance in the determination of specimens is also offered to teachers and others interested in the natural history of the region.

GEOLOGY.

The geological laboratories are four in number, three of them occupying rooms on the first floor of Science Hall, at the right of the main hallway, with the fourth laboratory in the basement. The largest room, thirty-eight by forty-five feet in size, has been especially designed for mineralogy, but it is used as a laboratory for general geology as well. It is supplied with eight tables, made with tile tops and provided with gas fixtures, which accommodate sixty-four students at one time. For laboratory work in general geology there are working collections of minerals, rocks and fossils, as well as sets of geologic and topographic maps. For work in mineralogy there are several cabinets filled with collections of mineral for descriptive and determinative work, collections of natural crystals, wood models, blowpipe sets, etc.

The petrographical laboratory, twenty by twenty-two feet in size, adjoins the one just described. For work in petrography there is provided a lathe fitted with a diamond saw and grind-

ing plates, run by an electric motor, and several petrographical microscopes with all accessories. The room is supplied with tile-topped tables similar in pattern to those of the mineralogical laboratory. The working collections include a large variety of rock specimens, and sets of thin sections of minerals and rocks for use with the microscope. Leading from this laboratory is a large dark room, well arranged for photographic work.

The laboratory for physiography, twenty-two by twenty-three feet in size, lies across the hall from the one last described. It is well provided with maps, models, meteorological apparatus and like equipment. At the present time this room also contains the library of the State Geological Survey.

A room in the basement, immediately beneath the physiographic laboratory, is used as a workshop for the construction of relief maps or models. It is a large and well-lighted room, has a concrete floor, and is in every way well adapted for work with clay and plaster.

PSYCHOLOGY.

The Psychological laboratory is installed in three rooms on the fourth floor of Science Hall. The largest room which is used for the general laboratory, is eighteen by thirty-six feet, and the other two rooms which are used for optics and acoustics, are eighteen by eighteen feet. A small dark room has been made in one corner of the optics room. The equipment of the laboratory will be indicated by the following pieces of apparatus: Five Koenig tuning forks; an Edelmann's Galton whistle; sonometer; two organ pipes; a large bellows for actuating pipes; an Ellis harmonical; a set of Quincke's tubes and other minor instruments for auditory work; a large supply of colored papers; stereoscopes; a prism pseudoscope; a six-inch double convex lens; a mounted prism; a Hering color-blindness tester; a Hering color mixer and campimetre; six electrical motors; opthmalmascope; opthalmotrope; a clock-work kymograph; a Zimmerman ergograph; a Francois Franck plethysmograph; a Marey tambour; olfactometer; solutions for taste and smell; brass cylinders for cutaneous experiments.

CIVIL ENGINEERING.

The surveying equipment is complete for all plane and topographic work. It consists of one Keuffel and Esser theodolite with horizontal circle reading to ten seconds, one Buff and Buff complete engineer's transit, one Heller and Brightly complete engineer's transit, one Gurley light mountain transit with solar attachment and Jones' patent latitude arc, one Keuffel and Esser mining transit with solar attachment, three Keuffel and Esser plain transits, three Lietz and Company transits, one Gurley railroad compass, two 20-inch Gurley wye levels, one Buff and Buff 16-inch wye level, one Lietz and Company 18-inch wye level, one Buff and Berger inverting dumpy level, one Gurley and one Keuffel and Esser plane table both complete with alidades; sextant, hand levels, chains, tapes, level and stadia roods and other necessary minor articles.

The two general draughting rooms are large and well lighted. They contain first class draughting desks, lock drawers, stools, cabinets, models and a large collection of drawings and blue prints, illustrating current engineering practice. Drawing boards are furnished by the University. Thatcher's calculating instruments are available for the use of advanced students. The blue-print room provides for sun printing from any size tracing up to twenty-eight inches by forty inches.

The hydraulic laboratory is equipped for testing small impulse wheels, meters and nozzles under heads up to sixty-five feet and is provided with a Price Acoustic current meter for determining the flow of water in open channels.

The structural materials testing laboratory contains a 30,000 lb. Olsen, a 100,000 lb. Riehle and a 200,000 lb .Olsen general testing machine with complete appurtenances for tensile, compression and transverse tests of timber, iron, steel, stone, brick and concrete. Transverse tests of full size beams of timber or reinforced concrete are made for lengths up to sixteen feet. Power saws and a planer are available for preparing timber specimens.

The equipment for testing hydraulic cement is complete for all the ordinary tests as specified by the American Society of Civil Engineers and the American Society for Testing Ma-

terials. It contains a Riehle automatic shot testing machine of one thousand pounds capacity; a tempering oven; an oven accelerated tests; a Vicat needle apparatus and a set of Gillmore's needles for determining initial and final set; galvanized iron pans, provided with a continuous supply of fresh water for storing briquettes; and sieves, moulds, mixing tables and other necessary accessories.

The library contains complete files of the transactions of the American Society of Civil Engineers, the transactions of the American Society of Mechanical Engineers, the Engineering News, the Engineering Record, the Electrical World, reports of the United States Geodetic Survey, reports of the United States Geological Survey, besides a collection of general engineering books and the current engineering periodicals.

ASSAYING.

The assay laboratory is located immediately north of the Administration building. One room contains four sationary wind furnaces, seventeen inches square; one large double muffle, heated by coal and coke; desks for sixteen students; four ore balances and tables for preparing charges, sampling ore and like equipment. An adjoining room contains a Hoskins gasoline pressure tank, three burners to heat muffles and fusion furnaces, a Brown cupel machine, two wind furnaces, a motor 2-h. p. to run a gyratory muller and a jaw crusher, a sampling floor, bucking boards, mortars, pans, lockers and various articles.

The balance room is supplied with a fine Keller button balance, sensitive to one two-hundredth of a milligram, Oertling and Becker fine button balances, and two Becker analytical balances.

Wet assaying and general analysis is carried on in a room fitted with gas and water for twelve desks. Two thermo-batteries supply direct current for electrolytic work. Tanks for cyanide tests, a large hood, two pairs of cornet rolls and well supplied stock room complete the equipment.

STAMP MILL AND CONCENTRATING PLANT.

East of the University power house stands the "mill" of the School of Mines, a frame building forty by one hundred ten

feet in area. At the front end is a drafting room with two offices adjoining. The two-ton cupola and down draft forges with blowers, fans and motor, occupy the middle portion of the building.

The rear end is built on three benches after the usual arrangement of concentrating plants in the West. This admits of handling the material mostly by gravity. The machinery is arranged in two parallel groups, one side for gold-silver ores and the other to treat copper, lead, zinc, etc. A sample on being received is stored in bins on the ground floor at the upper end of the mill. It is elevated to a small deck above the third floor, dumped on a grizzley with ¾-inch openings and the over-size broken in a six by six-inch Dodge breaker. The broken rock is then directed to a suspended Challenge feeder if intended for the stamps, otherwise to a roll feeder. The three stamps of the battery weigh three hundred pounds each and fall at the rate of ninety drafts per minute. The pulp passes over silvered copper plates, through a mercury trap of Black Hills pattern and into a Browne hydrometric sizer. The classified product may be directed by launders to one or more of following: Four-foot Frue vanner, twelve feet long; seven-foot Overstrom diagonal table; twelve-foot Wilfley slimer; revolving slime table, twelve feet in diameter; canvas plates; Pinder concentrator.

Concentrating ores are fed by a Taylor roll feeder to a pair of nine-inch sampling rolls. The product is sampled automatically or may be diverted to a sampling floor of smooth boiler plates where it is quartered down by hand, the final sample being crushed in a Gates sample grinder at the assay shop. The main streak of ore passes through a trommer and is jigged in a three-compartment single Hartz jig with screws seven by fifteen inches. The jig tailings may be treated on any of the tables mentioned.

Power for the battery shaft, breaker, feeders and rolls is derived from a shaft driven by a thirty-horse power motor in the forge room. Smaller motors furnish power to the concentrating tables. The mill is well equipped with necessary tools for sampling and handling the ore and products. In addition, there is a set of tools for framing mine timbers by hand, an

Ingersoll-Sergeant A-35 air drill, and a Jeffrey coal mining drill, besides several sets of hand tools. The students have driven a small timbered tunnel on the campus, where experiments are made with different varieties of blasting powders.

MECHANICAL ENGINEERING.

The mechanical engineering laboratory is conveniently located on the first floor of the Power House, adjoining the machine shop and engine room. There are available for indicating and testing one one hundred-horse power Ball engine and one one hundred fifteen-horse power McEwen engine. For experimental purposes there is a thirty-horse power engine which can be run condensing or non-condensing, arranged to give practice in valve setting and speed regulation. The laboratory is further equipped with a three-inch centrifugal pump; a surface condenser, with air and circulating pumps; indicators; gages; garometers; thermometers; a pyrometer; injector; calorimeters; speed indicators; and brakes. Suitable devices are provided for testing and calibrating the apparatus used. Scales and tanks are arranged for the weighing and measurement of water used. An eight-horse power gas engine to burn gas, gasoline, or oil, is fitted especially for experiment. In connection with the above are used the three horizontal tubular boilers of the Power House. It is proposed to install immediately a Westinghouse air-brake apparatus of the latest design.

THE UNIVERSITY MUSEUMS.

In 1899 the Legislature of Washington enacted a law that the State Museum should be located at the University, and provided that state, county and other officers, while in the discharge of their duties, should save all matters of a scientific or historical value and deposit them in this museum. The museum has undergone a rapid growth and is now arranged in four parts, viz.: historical, geological, zoological, and botanical. Gifts are constantly received, exchanges are often arranged, and purchases are frequently made. Very extensive collections were received from the Washington State Commissions at the close of both the Louisiana Purchase and Lewis and Clark Expositions. In this way particularly valuable exhibits of the mineral products, the fisheries, fruits, grains, forest products, etc., of the state have been installed. Gifts of desirable museum specimens are welcomed at all times.

HISTORICAL MUSEUM.

The Historical Museum is located upon the third floor of the Administration building. It contains extensive collections pertaining to the history and ethnology of the Northwest, including Alaska, and of the Philippine Islands. Constant additions are being made to the collections in the way of gifts and purchases. Within the past year an extensive Philippine collection that was on exhibition at the Lewis and Clark Exposition was purchased by the University. It is of great educational value in that it gives one a good idea of the resources and industries of the Philippine Islands and the history and development of their peoples. At the close of the Lewis and Clark Exposition the Stewart Indian collection was purchased and is now installed in the Museum. This collection embraces many thousands of specimens, consisting of Indian weapons, implements, baskets and other things pertaining to their life. One of the merits of the Stewart Exhibit lies in the fact that it is en-

tirely local, having been collected along the lower Columbia river.

GEOLOGICAL MUSEUM.

The Geological Museum is located in Science Hall, on the first floor, where it occupies a room fifty by sixty feet in size. The collections are arranged along several lines, principally as follows: (1) An exhibit of minerals, chief among which is the Baker collection, embracing about a thousand specimens, most of which are crystallized and many of which are rare; (2) An extensive exhibit of ores from the mining districts of the Northwest, chiefly from Washington; (3) A general paleontological collection, both of animals and plants, from the fossiliferous formations of the state; (4) A comprehensive economical exhibit of clays and clay products, building and ornamental stones, coal and coke, and other useful minerals and rocks with their products; (5) Collections of photographs and relief maps illustrating the geology and geography of Washington.

ZOOLOGICAL MUSEUM.

The Zoological Museum is located on the second floor of the west wing of Science Hall. The specimens it contains will, when all are classified and arranged, afford an excellent opportunity for the study of the fauna of the state. The nucleus of many of the collections has been formed by gifts from various sources. From Mr. Edwin C. Starks were received over one hundred mounted fishes, and through his efforts there was secured from the Field Columbian Mueseum a beautiful series of corals.

Conchology is well represented by the extensive series of molluscs donated by Prof. O. B. Johnson, and the collection of over ten thousand shells belonging to Mr. P. B. Randolph. Mr. Randolph's collection contains specimens from all over the world, and includes a nearly complete series of the mollusca indigenous to the Puget Sound region. There have also been received the valuable and varied collections of the Young Naturalists Society of Seattle. This contains beside fine series of shells, invertebrates and fishes, the large ornithological collection of Prof. O. B. Johnson. The birds of the collection have been identified and arranged by Miss Adelaide G. Pollock. The series has been

greatly extended through the generosity of Dr. Clinton C. Cook, who has loaned his fine collection of passerine forms to the museum.

There has recently been received from the State Commission a large number of molluscs and fishes which were exhibited at the Lewis and Clark Exposition. The number of classified specimens is constantly being enlarged. During the past year extensive collections have been made in the Bermuda Islands and along the Atlantic coast. From these sources many new and valuable additions have been made to the invertebrate collections.

BOTANICAL MUSEUM.

The Botanical Museum is situated on the third floor of Science Hall, in close conjunction with the botanical laboratories. The exhibits consist of the following: (1) An herbarium of dried flowering plants representing 10,000 species, properly labelled and kept in suitable cases. These include almost all the plant species of the state, and many from without the state. Additional specimens are constantly being received by gift and exchange. (2) A collection of mosses, the largest in the northwest. (3) An exhibit of the fruits and nuts of the state, in large glass jars, properly labelled and neatly arranged. (4) Four cabinets of grains and grasses on the straw, from the agricultural districts of the state. (5) An exhibit of the forest products of Washington displaying the kinds of commercial woods, cross-sections of trees, large planks, varieties of finish, and manufactured articles.

THE UNIVERSITY OBSERVATORY.

The Observatory is housed in a substantial sandstone structure occupying the highest point upon the University campus. It consists of a dome for the equatorial instrument, a transit room, a library and computing room, a wash room and dark closet.

The instruments include an equatorially mounted telescope of six inches clear aperture and ninety inches focal length, made by Warner and Swazey, with optical parts by . Brashear. The telescope is fitted with declination and hour circles with electrically illuminated verniers, a driving clock, solar eye piece, a filar position micrometer, and a set of six eye pieces of magnifying power varying from fifty to five hundred diameters. Besides the equatorial, there is a Bond siderial chronometer (No. 1024), a sextant and artificial horizon, a siderial globe, and a set of photographic slides.

At present the observatory is used only for illustrative purposes. It is open to the public on the third Tuesday evening of every month while the University is in session.

ADMISSION TO THE UNIVERSITY.

ADMISSION TO THE FRESHMAN CLASS.

Requirements for the Years 1903-4 to 1906-7 Inclusive.

The following fixed requirements have been made for the years 1903-4 to 1906-7 inclusive:

To be admitted to the freshman class students must either (a) pass an examination based on a course amounting in the aggregate to fifteen units, or (b) complete a course of the same length in an accredited school. Of these fifteen units nine are specified and required of all students; the remaining six are elective from the list of optional subjects:

Specified Subjects.	*Optional Subjects.*
English, 4 units.	Latin, 2 or 4 units.
Mathematics, 2½ units.	Greek, 2 or 3 units.
General History, or	German, 1 or 2 units.
Greek and Roman History, 1 unit.	French, 1 or 2 units.
Physics, 1 unit.	Solid Geometry, ½ unit.
Civics, ½ unit.	Trigonometry, ½ unit.
Total, 9 units.	American History, ½ unit.
	English History, 1 unit.
	Physical Geography, ½ unit.
	Economics, ½ unit.
	Physiology, ½ unit.
	Zoology, ½ or 1 unit.
	Botany, ½ or 1 unit.
	Chemistry, 1 unit.
	Geology, 1 unit.
	Mechanical Drawing, 1 unit.

Note 1. To count as a "unit" a subject must be taught at least four times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.

Note 2. Full details of the ground each subject covers are found under the head of Suggestions for Preparations in the catalogue or in the circulars of suggestions to Secondary Schools.

Note 3. Among the six elective units must be included certain ones determined by each particular course as follows:

For the Classical course, four units of foreign language, not less than two being Latin.

For the Literary course, four units of foreign language.

For the Scientific course, two units of a foreign language.

For the Engineering course, two units of a foreign language (two units of French or two units of German preferred), one unit of Chemistry, one-half unit of Solid Geometry.

Note 4. In English, for the present, the requirement of four units may be satisfied by three years work of five recitations a week for thirty-six weeks.

Requirements for the Years 1907-08 to 1910-11 Inclusive.

Specific Subjects.	*Optional Subjects.*
English, 4 units.	Greek, 1, 2 or 3 units.
Algebra, 1½ units.	Latin, 2, 3 or 4 units.
Plane Geometry, 1 unit.	German, 1, 2, 3 or 4 units.
Physics, 1 unit.	French, 1 or 2 units.
History, 1 unit.	Spanish, 1 or 2 units.
Civics, ½ unit.	Solid Geometry, ½ unit.
Total, 9 units.	Trigonometry, ½ unit.
	History, 1, 2 or 3 units.
	*Physical Geography, ½ or 1 unit.
	*Physiology, ½ or 1 unit.
	*Geology, ½ or 1 unit.
	Botany, ½ or 1 unit.
	Zoology, ½ or 1 unit.
	Chemistry, 1 unit.
	Astronomy, ½ unit.
	Drawing, ½ or 1 unit.
	Economics, ½ unit.
	*1 unit accepted only after approval of a definite laboratory course.

Among the six elective units must be included certain ones determined by each particular group as follows:

For the Classical group (Greek and Latin) four units of foreign language, not less than two being Latin.

For the Literary group four units of foreign language.

For the Scientific group (physics, chemistry, botany, zoology, and geology) two units of a foreign language and one unit of chemistry or biology.

For the College of Engineering and School of Mines one-

half unit of Solid Geometry, one unit of Chemistry and two units of a modern foreign language.

Note: For the present, graduates from schools unable to offer *chemistry* and *modern* foreign language, may present a unit of biology and two units of a foreign language.

For the School of Pharmacy the requirements for entrance to any of the above groups.

For the School of Law the requirements for entrance to any of the above groups and the completion of one year's work in the College of Liberal Arts.

SUGGESTIVE OUTLINE OF COURSES FOR ENTRANCE.

Classical Group.	Literary Group.	Scientific Group.	Engineering Group.
English 1.	English 1.	English 1.	English 1.
Algebra 1.	Algebra 1.	Algebra 1.	Algebra 1.
Greek & Roman History 1.	Science 1.	Science 1.	Science 1.
Latin 1.	Latin 1.	Option 1.	Option 1.
English 1.	English 1.	English 1.	English 1.
Plane Geom. 1.	Plane Geom. 1.	Plane Geom. 1.	Plane Geom. 1.
Latin 1.	History 1.	History 1.	History 1.
Greek 1.	Latin 1.	Option 1.	Option 1.
English 1.	English 1.	English 1.	English 1.
Civics ½.	Civics ½.	Civics ½.	Solid Geom. ½
Algebra ½.	Algebra ½.	Algebra 1.	Civics ½.
Latin 1.	Latin 1.	Physics or	Modern Lang. 1.
Greek 1.	Modern Lang. or	Chemistry 1.	Physics 1.
	Option 1.	Modern Lang. 1.	
English 1.	English 1.	English 1.	English 1.
Latin 1.	Physics 1.	Chemistry or	Algebra ½.
Greek 1.	Latin 1.	Physics 1.	Modern Lang. 1.
Physics 1.	Modern Lang. or	Modern Lang. 1.	Chemistry 1.
	Option 1.	Option ½.	Option ½.

SUGGESTIONS FOR PREPARATION.

The following suggestions for preparation will enable students intending to enter to understand what is expected under the head of each subject. Attention is called to the discussion of the methods of teaching the various high school subjects given in The University Bulletins.

Text-books mentioned in these suggestions are recommended as good and acceptable, but are not required to the exclusion of other good texts.

GREEK.

1. *Elementary Greek.*—To satisfy the requirements in Elementary Greek students must be able (a) to translate at sight easy passages of Attic prose; (b) to pass a thorough examination on the fundamental forms, constructions, and idioms of the language. This examination will be based on Xenophon's Anabasis, Book 2.

These requirements presuppose a preparation of at least two years in a systematic course of at least four hours a week.

2. *Advanced Greek.*—To satisfy the requirements in Advanced Greek students must be able (a) to translate at sight easy passages from Homer, with questions on Homeric forms and constructions, and on prosody; (b) to translate into Greek an easy passage of connected English narrative.

These requirements presuppose the completion of the third year of the study of Greek in a systematic course of at least four hours a week.

The following division of the work is suggested:

First Year.—Elements of Greek grammar, as represented in amount by Gleason's Greek Primer or White's First Greek Book:

Second Year.—Xenophon's Anabasis, Books I.-IV.; Goodwin and White's, or Smith's edition is recommended. Greek composition, as represented in amount by Bonner's or Pearson's Greek Composition.

Third Year.—Homer's Iliad, or Odyssey, at least three books; Seymour's revised edition of the Iliad, and Perrin and Seymour's edition of the Odyssey are recommended. Review of grammar and of Xenophon's Anabasis, with special emphasis on book 2.

LATIN.

Freshman Latin is the fifth year's work in the subject. The four years' work done in the high school must be the equivalent of the Latin course outlined by the State Board of Education and cover substantially the following courses and subjects:

First Year.—Collar and Daniell's First Year Latin, or equivalent. Subjects that must be mastered are pronunciation (with accent and quantity of vowels), regular declensions and conjugations, the vocabularies (with etymologies and English derivatives), simple rules of syntax, simple translation and Latin writing.

Second Year.—Second Year Latin, Greenough, D'Ooge and Daniell; and Latin Composition, D'Ooge. Part II of Second Year Latin should be covered, with selections from Part I, and work should be done in Latin Prose Composition, the equivalent to one day's work a week throughout the year. If Cæsar is used instead of Second Year Latin, four books should be read and prose work done one day in the week with D'Ooge's Latin Prose Composition Part I (Cæsar), Jones' Latin Prose, Daniell's New Latin Composition, Part I, or Riggs-Scott's In Latinum (Cæsar). The student should be familiar with the life and times of Cæsar, the Roman army and methods of war.

Third Year.—Six of Cicero's Orations, with prose work one day in the week throughout the year. The prose work may be done with the Cicero section of the prose books recommended for Cæsar. The student should be familiar with the life and times of Cicero, the subject of Roman oratory, Roman institutions, particularly the courts and Roman public officials. Through reading independently, the student should be able to translate an average passage of Cæsar or Cicero at sight, when these authors are completed.

Fourth Year.—Vergil, six books of the Aeneid. Special attention should be paid to prosody, the syntax of Vergil, mythology, and the history and purpose involved in the poem.

GERMAN.

Students entering with two years of High School German should know the elements of the grammar and be able to trans-

late simple sentences from English into German. The reading course should have covered at least 300 pages.

Students who offer more than two years of the language should have read some German classics. Teachers will find valuable suggestions concerning method and the selection of texts in the Report of the Committee of Twelve, published by D. C. Heath & Co.

FRENCH.

A good knowledge of grammar, such as may be acquired from the first part of Fraser and Squair's French Grammar, or an equivalent, is necessary.

The student must have the ability to use readily any of the elements essential to the continuation of his studies in this department. Constant drill in the composition of easy French sentences should be a large part of the student's training. Dictation should be given frequently enough to familiarize the ear with the spoken language. Emphasis should be laid upon the accuracy of pronunciation.

The reading of not less than three hundred pages of easy French prose, from at least three authors, should give the ability to translate any passage of moderate difficulty. Practical exercises in easy syntax should be given in connection with the texts read.

ENGLISH.

English A: Reading and Practice.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject matter, and to answer simple questions on the lives of authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books.

In preparation for this part of the examination, it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set for this part of the examination in the years 1906-1908 are:

Addison's De Coverley Papers; Coleridge's Ancient Mariner; George Eliot's Silas Marner; Irving's Life of Goldsmith; Lowell's Vision of Sir Launfal; Scott's Lady of the Lake, and Ivanhoe; Shakespeare's Merchant of Venice, and Macbeth; Tennyson's Idyls of the King.

English B: Study and Practice.—This part of the examination presupposes more careful study of each of the works named below. The examination will be upon subject-matter, form, and structure, and will also test the candidate's ability to express his knowledge with clearness and accuracy. In addition the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination in the years 1906-1908 are:

Burke's Conciliation with America; Maculay's Essay on Milton, and Life of Johnson; Milton's Minor Poems; Shakespeare's Julius Cæsar.

NOTE—Judicious substitutions in these lists will be allowed. Schools wishing to make substitutions should do well to refer them to the University for acceptance.

HISTORY AND GOVERNMENT.

1. *American History.*—A study of the history of the United States and the general facts of physical, political and descriptive geography. McLaughlin's History of the American Nation; Montgomery's Student's American History; Larned's History of the United States, and Channing's Student's History of the United States are recommended as good works for preparation.

2. *Civics.*—A careful study of John Fisk's Civil Government should be made. The candidate will be examined on the topics of the text and be required to write an essay on one of them assigned at the time of the examination.

3. *General History.*—Myers' General History and Colby's Outlines of General History are suggested as texts. Good library

work should accompany either. The subject will require one full year of high school or academic training for university entrance.

4. *English History.*—Larned's History of England, Andrews' History of England and Montgomery's Leading Facts of English History are recommended as text-books. There should be collateral reading in more extensive works, such as the Epoch monographs, Gardiner's larger history, Macaulay, and Green. At least one year should be spent in preparation.

5. *Greek and Roman History.*—Myers' Revised Ancient History is a good text, though his History of Greece and his Rome: Its Rise and Fall, used together, are better. West's Ancient History and Wolfson's Essentials in Ancient History are excellent texts and well up to date. This subject will make a full year's work in preparation.

CHEMISTRY.

The equivalent of one year's work in the high school. The text recommended is Hessler and Smith. Laboratory work is required and the student must offer satisfactory evidence of a reasonable amount of work done and approved by his instructor in the preparatory school.

PHYSICS.

An amount represented by Carhart & Chute's Physics or equivalent should be given in the junior or preferably the senior year and be preceded by algebra and plane geometry.

At least fifty hours of quantitative laboratory work must accompany the study of the text. The following list of exercises taken from Chute's Laboratory Manual (revised edition) indicates the problems desired: 39, 40, 43, 44, 53, 55, 56, 58, 60, 63, 66, 67, 69, 70, 73, 76, 79, 85, 86, 87, 97, 101, 106, 107, 110, 122, 123, 126.

BOTANY.

As stated in the requirements for admission, botany may be offered as one unit or as one-half unit. In the former case it should consist of at least two recitations and four laboratory hours a week for nine months; in the latter similar work for half that period.

The student should be familiar with the gross anatomy of the flowering plants, and should have some knowledge of plant physiology and ecology. He should have at least enough experience with the compound microscope to enable him to use it properly in the laboratory, and above all he should have a good set of drawings and laboratory notes as evidences of his year's work.

The work and methods outlined in any of the following texts will serve to indicate what is desired: Stevens' Introduction to Botany; Atkinson's Elementary Botany; Coulter's Plant Studies; Barnes' Plant Life; Bergen's Foundations of Botany.

ZOOLOGY.

The student applying for a full unit of entrance credit in this subject must give evidence of nine months' work under a competent teacher, in the form of notes and drawings illustrating the course pursued. He should be familiar with the general structure of the more common forms of animal life and is expected to have some knowledge of the manipulation of the compound microscope. As a basis for preparation the use of Packard's Zoology or Jordan's Animal Life, accompanied by practical laboratory work, is suggested.

PHYSICAL GEOGRAPHY.

The preparation in this subject should include at least one full year's work with regular laboratory exercises and excursions in the field. Davis' or Tarr's Physical Geography are examples of good texts.

PHYSIOLOGY.

Study of the elements of the mechanics, the physics and the chemistry of the living body, as outlined in Walker's or Hutchinson's Physiology. The text-book should be accompanied by experiments, dissection of animals and organs, and a certain amount of study of the tissues with the compound microscope.

MATHEMATICS.

ALGEBRA.

The required work in algebra (1½ units) should cover one and a half years of five recitations per week and includes the

following subjects: Factors, fractions, ratio and proportion, negative quantities and interpretation of negative results, a thorough knowledge of radicals and the solution of equations involving radicals, fractional and negative exponents, the binomial theorem for positive exponents, extraction of roots, the solution of equations with one unknown, whether of the first or second degree, and with literal as well as numerical coefficients; the ordinary methods of elimination applied to equations of two or more unknowns; variation, ratio and proportion.

It is recommended that the student familiarize himself with the solution of simultaneous equations of two or three unknowns by the determinant method, that he be able to solve quadratics at sight either by factorization or by formula, and that he learn to draw the graphs of linear and quadratic equations of two unknowns. No credit can be given for algebra studied in grades below the high school.

PLANE GEOMETRY.

The required work in plane geometry (1 unit) should extend throughout one year of five recitations per week. What ever text-book or method is used, the theorems of the book should not occupy over one-third of the time allotted to geometry. Another third should be given to original demonstrations of exercises and this should be insisted upon as a part of the required work in the course. The remaining third of the time should be given to experimental work, construction of models, measuring of lines and areas, numerical verification of results and accurate work in geometrical constructions. For this purpose every student should be provided with a graduated ruler, a pair of compasses, a protractor and a geometrical drawing tablet.

SOLID GEOMETRY.

One-half year of five recitations per week. The work must cover the fundamental theorems on lines and planes in space, on polyhedrons, including a study of the regular bodies, on cylinders, on cones, and a thorough study of the sphere. Here as in plane geometry the originals should constitute an integral part of the required work. Emphasis should be put also on the accurate construction of all figures. Whenever possible,

the student should be required to construct models either of wood, plaster, or cardboard, of the bodies which he is studying.

PLANE TRIGONOMETRY.

No credit can be given for less than one-half year's work of five recitations per week. The work should include a thorough study of the trigonometric functions, both direct and inverse; radian measure; the construction of the graphs of the trigonometric functions; the solution of simple trigonometric equations; the solution of right and oblique triangles, both by natural functions and by the aid of logarithms; a study of logarithms and facility in the use of logarithmic and trigonometric tables. Considerable time should be given to the application of trigonometry to problems in surveying, navigation and other practical problems, and it is recommended that where possible the student be required to gather the data for a few problems for himself by actually measuring certain distances and angles. Such terms as latitude, longitude, bearing, angle of elevation or depression, should be familiar.

DRAWING.

The equivalent of one year's work in mechanical or free-hand drawing.

ADMISSION FROM AN ACCREDITED SCHOOL.

Upon request of the principal of any high school or academy whose course of study embraces in kind and extent the subjects required for admission to the College of Liberal Arts, a committee of the faculty will visit said school and report upon the quality of the instruction and equipment. If the report is favorable, any graduate of that school will be admitted without examination from courses accredited:

Students, from the accredited schools, in order to be admitted without examination, must bring with them a full statement of their high school or academy studies, signed by the proper authorities.

As a rule, the accredited school list of other state universities will be accepted by the University of Washington. Graduates of accredited schools, in other states, will present certified record of work as in the case of local students.

LIST OF ACCREDITED SCHOOLS.

The following high schools and academies were on the accredited list April 1, 1906. Graduates of the class of 1906 in courses named will be admitted to the freshman class of the College of Liberal Arts without examination. Students from other courses in these schools will be given credit individually as the subjects in the courses taken meet the entrance requirements of the University.

Group A.

BALLARD—Classical; Scientific.
BELLINGHAM, NORTH—Classical; Scientific.
EVERETT—Latin; Scientific.
SEATTLE—Classical; Latin; Modern Language; History; Science; Manual Training (Boys).
SPOKANE—Classical; Literary; Scientific; Engineering.
TACOMA—Elective System. Students accredited as their courses meet requirements.
WALLA WALLA—Classical; Literary; Scientific.

Group B.

ABERDEEN—Classical.
BELLINGHAM, SOUTH—Classical; Scientific.
CHEHALIS—Latin.
COLFAX—Elective System.
DAVENPORT—Classical.
DAYTON—Classical.
CENTRALIA—Latin; Literary.
KENT—Classical; Scientific.
LA CONNER—Latin; Scientific.
NORTH YAKIMA—Classical; Latin; Scientific.
OLYMPIA—Latin; Literary.
PORT TOWNSEND—Classical; Literary.
PUYALLUP—Classical; Scientific.
SNOHOMISH—Elective System.
VANCOUVER—All courses.
WATERVILLE—Classical; Scientific.

Group C.*

MT. VERNON—Classical.
SEDRO-WOOLEY—Classical.
AUBURN—Classical.
SUMNER—Classical.
ELLENSBURG—Classical; Scientific.
PROSSER—Classical.
SUNNYSIDE—Classical.
WENATCHEE—Classical.

*Group C, schools recently accredited.

The above schools have been visited at least once during the year by a member of the committee on accredited schools. The rules governing the accrediting of schools will be sent upon application to the committee, Professor Albert H. Yoder, chairman.

ADMISSION TO ADVANCED UNDERGRADUATE STANDING.

Students from classes above the freshman 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 a semester.

Upon entrance to the University graduates of the two years' advanced course of the Normal Schools of the State are given forty-eight scholastic credits and eight physical culture credits. Of the remaining seventy-two hours of work the following subjects are required, viz.: Foreign language, sixteen credits; science, eight credits; political economy or history, eight credits; philosophy, eight credits; and twenty-four credits in the major study.

ADMISSION TO GRADUATE STANDING.

Graduates of this institution and of others of similar rank are admitted to graduate standing. A graduate student elects the department in which he wishes to do his major work, and is subject to the same general rules and regulations as apply to undergraduates. The work of a graduate student who is a candidate for a degree must be outlined by his major professor and approved by the Committee on Advanced Degrees.

ADMISSION AS SPECIAL STUDENTS.

Persons who are at least nineteen years of age will be allowed to enroll for special courses of study, on giving satisfactory evidence of their preparation to pursue the particular courses which they desire to elect.

(The minimum age for admission as a special student in the year 1907-08 will be twenty years.)

Note 1. Students will not be admitted from an accredited school as special students unless they have graduated, or have not been in attendance for the previous year.

Note 2. Students, before being allowed to enroll as special students, must file a complete statement of credits for work done elsewhere and these credits will be used to determine in a large degree whether or not the applicant is prepared to do university work.

Note 3. For exceptional reasons a student only eighteen years of age may be admitted as a special student, on the recommendation of the adviser for special students. Six special students under nineteen years of age were admitted in the school year 1905-06.

UNIVERSITY LECTURES.

ADDRESSES AT ASSEMBLY.

Addresses by members of the faculty and by distinguished scholars and men of affairs are given every Monday at 10:20 a. m., before the student body in Denny Hall. By this means the work of the class-room is supplemented, and the students obtain a broader outlook upon life through the light of practical experience. The following addresses were given during 1905-1906:

Sept. 20, 1905.	Address of Welcome.....President Kane
Sept. 25, 1905.	Music by the University Orchestra. Addresses by Student Leaders.
Oct. 2, 1905.	Music, Soprano Solo....Mrs. W. W. Fischer Address, "Roycroft Ideals".Mr. Elbert Hubbard
Oct. 9, 1905.	Musical Program—Violin Solo..Mr. John Gibbs Vocal Solo.....Mrs. W. W. Fischer Piano Solo.....Mrs. Karl Riedelsberger
Oct. 16, 1905.	Piano Solo.....Mr. John Blackmore "The College Man in the World"..... .....Rev. Fletcher L. Wharton
Oct. 23. 1905.	Music, Violincello.....Mr. Erwin Gastel "The Yellow Peril vs. the Yellow Opportunity".....Hon. Joseph Shippen
Oct. 30, 1905.	Music, Soprano Solo.....Miss Clara Lewys "Some Customs at the University of Virginia".....Prof. E. O. Eastwood
Nov. 6, 1905.	Music by the University Orchestra. "Photographing the Indians"..... .....Mr. Edward S. Curtis
Nov. 13, 1905.	Music, Soprano Solo....Mrs. Nina D. Hatcher "Wendell Phillips at Harvard"..... .....Rev. W. D. Simonds

Nov. 20, 1905. Music by the Girls' Glee Club.
"Winning the East".....Mr. J. Merle Davis
International Secretary Y. M. C. A.

Nov. 27, 1905. Music, Baritone Solo.....Mr. Emil Gastel
"Impressions of the Filipinos".....
.....Prof. L. D. Milliman

Dec. 4. 1905. Music, Violin Solo.....Mr. Karl Riedelsberger
Notes from My Eastern Trip.....
.....President Kane

Dec. 11, 1905. Music by the University Orchestra.
"Possibilities".....Mrs. Callie H. Howe
National Organizer W. C. T. U.

Dec. 18, 1905. Music, Soprano Solo.....Miss Grace Barrows
"The Practical Wisdom of the Hebrews"..
.....Dr. J. M. Wilson

Jan. 15, 1906. "Calamete".....Hon. C. A. Reynolds

Jan. 22, 1906. Music, Soprano Solo.....Mrs. W. W. Fischer
"Over the Andes to the Inca Land".....
.....Hon. F. A. Hazeltine

Feb. 5, 1906. Music, Soprano Solo.....
.....Mrs. Helen Howarth-Lemmel
"Francis of Assisi, the Orpheus of the
Middle Ages".....Prof. A. R. Benham

Feb. 12, 1906. Music, Clarinet Solo.....
.....Mr. Nicholas Oeconomacos
"Wagner's Operas with illustration on
Piano.....Mr. Elliot Schenck
Musical Director Savage's English
Grand Opera Company.

Feb. 19, 1906. Music, contralto solo.....Miss Ada Bonnett
Address, Benjamin Franklin and American
Education.....Dean Josiah H. Penniman
of the University of Pennsylvania.

Feb. 26, 1906. Musical Program, John L. Gibbs, Karl Smith
and Eversteiss Rose.

Mar. 5, 1906. Music, soprano solo.....Mrs. Carl Hoblitzell
Address, The Meaning of a Liberal Edu-
cation.....Dr. Fletcher H. Swift

Mar. 12, 1906. Music, soprano solo.....Mrs. Lilian Fisher
Address, Educational Values.....
.....Dr. Samuel Eliot of Boston
Mar. 19, 1906. Music.....University Orchestra
Address, Harvard University.....
.....Dr. Vanderveer Custis
Mar. 26, 1906. Students assembly.
Apr. 16, 1906. Music, piano solo.....Miss Florence Wagner
Address, The Pirates of Penzance.....
.....Mr. C. O. Kimball

UNIVERSITY LECTURE COURSE.

There is given every year, under the auspices of the faculty, a series of lectures and entertainments. The course, consisting of the leading lyceum attractions of the country, is offered at a rate so low that every student is able to attend the series. The course for 1905-6 comprised the following:

October 2. Mr. Elbert Hubbard, "The Gospel of Work."
November 3. Mr. Lorado Taft, "A Glimpse Into a Sculptor's Studio."
January 26. The Leonora Jackson-Sybil Sammis Concert Company.
February 20. Mr. Edmund Vance Cook, the Poet, in Readings from his Poems.
May Senator Robert M. La Follette, "Representative Government."

INSTITUTES AND LECTURES.

The various members of the University faculty hold themselves ready to respond to calls for lectures before institutes, University extension centers, clubs, and assemblies, whenever such service does not interfere with the regular work in the institution. Several of the instructors who have had experience in the lecture field and in institute work, are ready to give regular instruction in the institutes of the state and in educational organizations. Calls for work should be addressed to the individual professors, or to the secretary of the faculty, Mr. Herbert T. Condon.

UNIVERSITY ASSOCIATIONS.

THE ASSOCIATED STUDENTS.

The Associated Students of the University of Washington 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. This board decides all questions relating to the student body as a whole, and controls all matters of general interest to the student community. 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 general manager has charge of all moneys received as association fees or admissions to games and contests, and is the custodian of all property belonging to the association. He is required to give a bond for three thousand dollars. Besides the general manager there is appointed a separate manager for a student book store. The book store is located on the first floor of the Administration building, and handles all the text-books, stationery and supplies at a reduction from the usual prices.

DEBATING CLUBS.

There are four debating clubs in the University, viz: Stevens, Badger, Athena and Sahale. 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. Meetings are held weekly and anouncements of subjects for debates and of other matters of interest are made on the bulletin boards of the clubs. One or more inter-society debates are held each year, and from the contestants are largely chosen the University representatives for the intercollegiate debates.

ORATORICAL ASSOCIATION.

The Interstate Oratorical Association is represented by a branch association in the University.

CHRISTIAN ASSOCIATIONS.

The Young Men's and the Young Women's Christian Associations each have a branch organization among the students. They give a reception at the beginning of each semester, and are active in making the new students feel at home and in assisting them in many ways.

A bureau of information and an employment bureau are maintained jointly by the two associations.

MUSICAL ORGANIZATIONS.

The musical organizations consist of a Festival Chorus, Men's Glee Club, Women's Glee Club, Orchestra and Band. The Festival Chorus was organized for the purpose of promoting general musical culture, and to give the students an opportunity to become acquainted with good chorus music selected from standard oratorios and operas. Membership in the chorus is open to all students who show a reasonable amount of musical ability.

The Glee Clubs are open to all students who are successful in the try-outs, which are held in the early part of the first semester. After the try-outs regular practice is followed and each club makes a tour, giving concerts in the principal cities of the state.

The Orchestra was organized in 1898, and furnishes music for the usual events of the college year. The Band furnishes music at the football games, track meets, and upon other occasions. Both Orchestra and Band are open to all students who show enough proficiency to be of value in the work. One credit each semester is given for regular attendance and faithful work in any of the musical organizations, all of which are under the direct supervision of the Musical Director. Although at present there is no regular department of music in the University, private instruction may be had at special rates on piano, violin, cornet, and in harmony and singing, from teachers of reputation and ability.

SOCIETY OF ENGINEERS.

The Society of Engineers is an association composed of the students of the College of Engineering and School of Mines.

Meetings are held once a month, at which original papers are presented by the members or lectures are delivered by prominent engineers.

CHEMICAL JOURNAL CLUB.

The Chemical Journal Club was organized by the instructors and students in the department of chemistry. The members read and discuss the English and German periodicals devoted to the development of chemistry.

GERMAN CLUB.

It is the purpose of the German Club to supplement the work of the class-room by making its members better acquainted with the life of modern Germany and by giving them an opportunity for German conversation. The two sections of the club meet together occasionally for a social evening or to listen to an address in German.

FRENCH CLUB.

Membership in this club is open to all students who have studied French for one year. One of the purposes of the club is to give an opportunity to practice the idioms learned in the class-room. The informality of the fortnightly meetings is such that the students soon gain confidence in their ability to make themselves understood in the French vernacular. Colloquial French is also made more familiar by distributing to the members, in turn, the roles of well known comedies. Poems and stories are read, and French songs are sung in concert.

THE ACADEMIA.

This is an organization of students and faculty in the departments of Political Science, History and Philosophy. At the regular semi-monthly meetings papers of interest in the three departments are read and discussed and the general good fellowship of those interested in the above related fields is promoted.

PHILOLOGICAL ASSOCIATION.

This 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. The regular time of meeting is the last Wednesday of September, November, January, March, and May.

SCIENCE CLUB.

This club is composed of members of the faculty and graduate students who are interested in pure and applied science, and it is the purpose of the club to encourage research work along these lines. Regular meetings are held monthly during the college year.

ALUMNI ASSOCIATION.

The officers of the Alumni Association for 1905-6 are as follows:

President.....Marion Edwards, A. B. 1898
Secretary.....Lydia E. Lovering, A. B. 1896
Treasurer.....James E. Gould, Ph. B. 1896

WASHINGTON UNIVERSITY STATE HISTORICAL SOCIETY.

The Washington University State Historical Society was organized in 1903 and incorporated under the laws of the state. The purpose of this organization is to preserve the historical documents and records of the Northwest and of the State of Washington; to purchase, maintain and mark the places of historical interest; to engage in and to promote research relating to the Indians and the Indian tribes; to promote by every legitimate means antiquarian, archeological, and scientific research and to preserve or publish the results of all such investigations. This society aims to co-operate with the State University in the promotion of research work in the fields in which the Northwest is especially rich.

The officers and trustees of the society are as follows: Clarence B. Bagley, president; John P. Hoyt, vice president; Rogers S. Green, treasurer; Edmond S. Meany, secretary; Cornelius H. Hanford, Thomas Burke, Samuel Hill.

STUDENT EXPENSES.

TUITION.

Tuition is free to all students of the State of Washington in all colleges and schools of the University, except in the School of Law and the Summer School. For non-residents of Washington the tuition is ten dollars a semester. In the school of Law the tuition is twenty dollars a semester, for all students. In the Summer School the tuition is ten dollars.

BOARD AND ROOM.

In the two dormitories, one for men and one for women, board and rooms are furnished at cost. For the past four years the price of board has been thirteen dollars and fifty cents per calendar month.

Rooms, with heat and light, cost twelve dollars a semester. The rooms are furnished with a spring bed, table, dresser, wardrobe and chairs, but the student is expected to supply his own bed linen, bedding, mattress, towels, floor rug and any articles of luxury that may be desired.

A deposit of fifteen dollars, which is returned at the end of the year, must be made with the registrar in advance by all students desiring to board at the dormitory. The charge to each student is simply large enough to maintain the dormitories in a manner that will insure comfortable rooms, wholesome food and generally healthful surroundings. The University does not desire to make any profit from the dormitories.

There is always a large number of students who prefer to obtain homes with private families. There are many opportunities for this, and the registrar is always ready to give information and assistance to students seeking such places. In the past the expense of board and lodging with private families has ranged from fifteen dollars to twenty-five dollars per month.

LABORATORY FEES.

The University does not desire to make any profit from the fees paid by the students for work in the laboratories. In many cases no fees are charged, except for damage to apparatus, when payment for the cost of the damage is required. The other fees charged are based upon the average cost of materials used by the individual student in the laboratories. Laboratory fees are payable to the registrar in advance. These fees in the several laboratories are as follows:

CHEMISTRY.—At the beginning of each semester all students in chemistry will be required to make a deposit of ten dollars with the registrar before being assigned to their desks except in chemistry O, where the deposit will be five dollars. Of these deposits one-half will be deducted to pay cost of chemicals, gas, water, etc., and the remainder, less breakage, will be returned.

PHARMACY.—All students in Pharmacy will be required to make a deposit of ten dollars each semester during their Junior year and fifteen dollars during their Senior year. Of this amount one-half will be deducted to cover cost of drugs, and the remainder, less breakage, will be returned. These deposits are in addition to those required in other departments.

PHYSICS AND ELECTRICAL ENGINEERING.—Students are required to make a deposit of five dollars with the registrar. From this deposit one dollar for each hour of credit is deducted to pay for materials and repair of apparatus, and the remainder, less breakage, is returned.

BOTANY.—Materials for dissection, stains, alcohol, and other reagents, and typewritten laboratory outlines are furnished each student, for which a fee is collected as follows: One dollar, for each hour's credit carried through the year, except in research work, where the fees are determined by the nature of the work done.

ZOOLOGY.—For the courses in Zoology, involving laboratory work, a fee is required to cover the estimated cost of the laboratory outlines, materials, and reagents used by the student. For the regular courses, the amount is one dollar for

each hour's credit carried through the year. In research work the amount of the fee is subject to special arrangement, according to the nature of the investigation.

PSYCHOLOGY.—A fee of one dollar is charged for each of the laboratory courses offered in experimental psychology. These courses are Philosophy 1-2 and Philosophy 7-8. The fee is intended to cover the cost of materials, breakage, and laboratory directions. Any excess over this cost will be refunded at the end of the course.

GEOLOGY AND MINERALOGY.—In courses 1, 1a and 2, a fee of fifty cents is charged; in courses 3 and 4 a fee of two dollars is charged.

ASSAYING.—In assaying there is a laboratory fee of five dollars for each course. A deposit of ten dollars is also required to cover cost of materials furnished to students. At the end of the semester, if the student has not drawn out materials to the amount of ten dollars, the balance is refunded. If he has exceeded that amount, he is expected to pay the difference.

STRUCTURAL MATERIALS.—A deposit of three dollars will be required for the course Structural Materials 10. This is to cover the cost of materials used. The unexpended balance will be returned.

SHOP WORK.—A deposit of three dollars is required of all students in wood work. A deposit of two dollars is required of all students in iron work.

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 normal 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 in the city. There is

a limited amount of work which the Board of Regents is disposed to give to students. This includes assistance in the library, the laboratories, the engine rooms and janitor work. The dining hall affords work for a number of students throughout the college year. Students needing work to help pay their way through the University are given every possible aid by the Faculty Committee on Student Assistance. There is an employment bureau also conducted by students to secure work for students who have to make their own expenses. There is no reason why an ambitious and capable young man or woman desiring an education should not obtain it at the University of Washington.

SCHOLARSHIPS AND PRIZES.

ORATORY.

Since 1896 the King County Bar Association has offered each year a cash prize of one hundred dollars, to be competed for by the students of the Universities of Washington, Oregon and Idaho. The work of maintaining this incentive to improvement in oratory has been done by a voluntary committee of the King County Bar Association, consisting of E. F. Blaine and W. S. Fulton.

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. Hon. Watson Allen offers a similar prize to the Washington debaters who meet the team from the University of Idaho.

DECLAMATION

Hon. Alden J. Blethen offers annually the sum of fifty dollars for prizes in declamation. The contests are held at the University in May of each year and are open to pupils in attendance at any one of the accredited high schools or academies of the state. The prizes are twenty-five dollars for first place, fifteen dollars for second place, and ten dollars for third place.

PHILO SHERMAN BENNETT PRIZE.

The Philo Sherman Bennett Prize is "for the best essay discussing the principles of free government." This prize, the annual income on four hundred dollars, is awarded at commencement time. This foundation was established by the will of the late Philo Sherman Bennett, of New Haven, Conn., through William J. Bryan acting as trustee. The trustee was directed under the will to select twenty-five colleges in which to establish these prizes, and this institution is among those chosen.

CHEMISTRY.

A friend of the University has provided a scholarship of two hundred dollars to be awarded annually to a student of the department of chemistry who is carrying regular college work. The person securing the scholarship will be selected by the instructors of the department on the basis of scholarship in the courses taken in the department, of scholarship in other departments, and of personality. This scholarship was awarded for the first time in the year 1905-6 to David P. Johns, Fremont.

A second scholarship of one hundred and fifty dollars has also been provided by another person which is open to students of the freshman class in chemistry. This scholarship is open to any member of the class who is enrolled as a regular student and who is carrying at least eight hours of work in other departments. The person securing the award will be expected to continue his work in the subject during the following year. The award is made by the instructors in the department on the same basis as in the case of the preceding scholarship.

PHARMACY.

Thos. W. Lough of the class of 1900 has provided a gold medal to be given to the student maintaining the highest rank in the Freshman Class of the School of Pharmacy. This prize is awarded by the professors in the departments of Pharmacy, Chemistry, Botany and Physiology. This medal was awarded for the first time at the close of the year 1904-5 to Mae McLachlan, Seattle.

PHYSICS.

Mr. James A. Moore offers a scholarship of one hundred dollars, to be awarded at commencement, to that student in the College of Liberal Arts who has done the best work during the year in physics and mathematics. To be eligible a student must have had at the time of the award at least eight hours each in the above subjects, and it is expected that he continue the work in physics the following year.

ELECTRICAL ENGINEERING.

Mr. Jacob Furth 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.

UNIVERSITY REGULATIONS.

REGISTRATION.

Registration days are the first and second days of each semester. After a student has presented himself at the office of the Registrar, he appears before the Committee on Admission and is then assigned to the proper class officer, who assists him in arranging his schedule of studies.

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 in addition to the two hours of work in Physical Culture required of Freshmen and Sophomores.

No student is allowed to carry more than eighteen hours or fewer than twelve hours per week, exclusive of gymnasium work, without official consent granted by the faculty committee on petitions.

A student who has once been registered for a study may not withdraw from said study without the written consent of his class officer endorsed by the instructor.

At the beginning of his junior year every student in the College of Liberal Arts is required to select a major study. He then has the head of the department in which he has selected his subject as his adviser, and must consult him with regard to every step in his course. The student must then do work in his major study, which, with the addition of the work already done in this study, will amount to at least twenty-four hours. In the College of Engineering, School of Mines, School of Pharmacy, and School of Law, the courses are virtually all prescribed.

Two hours of gymnasium work per week are required of all students throughout the Freshman and Sophomore years. Eight credits of gymnasium work are required of all candi-

dates for a degree. This does not apply to any student entering as a junior or as a senior. Students unable to do gymnasium work may, on the recommendation of the physical director, substitute scholastic credits for gymnasium credits.

All responsibility of following the requirements for graduation from the several courses, as published in the Catalogue of the University, rests with the student concerned.

Beginning September 1, 1906, no student shall be advanced beyond his college classification at that time, until he shall have made up all entrance requirements.

EXAMINATIONS.

The regular semester examinations are held twice each year. Examinations for the first semester are held the last week in January, while those for the second semester are held in June during the week prior to Commencement week. Examinations for removing conditions are held during the week following the fall registration, the week preceding the Christmas vacation, and the first week of March.

COLLATERAL CREDITS.

It is the general policy of the University to encourage scholarly work in student enterprises of a semi-scholastic nature. To this end certain credits are granted by the faculty for satisfactory work done by students in intercollegiate debates and oratory, and for work of a literary nature on the various student publications. Students whose regular academic work is satisfactory are also given credit for the work done in the University musical organizations, under the supervision of the official Director of Music.

DEGREES.

The courses leading to baccalaureate degrees in the College of Liberal Arts, the College of Engineering, and the School of Mines, are arranged to cover a period of four years. The course in the School of Pharmacy covers two years, and an advanced course takes two years longer. To complete the course in the School of Law two years are required. The courses leading to masters' degrees are not less than one year.

In the College of Liberal Arts are given the degrees of Bachelor of Arts (A. B.) and Master of Arts (A. M.); in the College of Engineering, Bachelor of Science (B. S.), Civil Engineer (C. E.), Mechanical Engineer (M. E.), and Electrical Engineer (E. E.); in the School of Mines, Bachelor of Science (B. S.); in the School of Pharmacy, Graduate in Pharmacy (Ph. G.), and Bachelor of Science (B. S.); and in the School of Law, Bachelor of Laws (LL. B.).

DEGREE WITH HONORS.

A degree with honors in his major subject will be conferred upon a student who has attained a grade of A in his major department, an average grade of B+ in other departments and has never been conditioned in any subject.

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

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

SYSTEM OF GRADES.

The following is the system of grades:

A		94-100
B+		86- 93
B		78- 85
B—		70- 77
C	(Conditioned)	60- 69
D	(Failed	Below 60

R. Condition removed without a definite grade

ORGANIZATION OF THE UNIVERSITY.

THE UNIVERSITY OF WASHINGTON EMBRACES:

THE COLLEGE OF LIBERAL ARTS.

THE COLLEGE OF ENGINEERING.

THE SCHOOL OF MINES.

THE SCHOOL OF PHARMACY.

THE SCHOOL OF LAW.

THE SUMMER SCHOOL.

COLLEGE OF LIBERAL ARTS.

THE FACULTY.

THOMAS FRANKLIN KANE, Ph. D., *President.*

ARTHUR RAGAN PRIEST, A. M., Professor of Rhetoric and Oratory, *Dean.*

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

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

J. ALLEN SMITH, Ph. D., Professor of Political and Social Science.

HORACE BYERS, Ph. D., Professor of Chemistry.

CAROLINE HAVEN OBER, Professor of Spanish.

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

FREDERICK MORGAN PADELFORD, Ph. D., Professor of English Literature.

ALBERT HENRY YODER, A. B., Professor of Pedagogy.

ARTHUR SEWELL HAGGETT, Ph. D., Professor of Greek.

FREDERICK ARTHUR OSBORN, Ph. B., Professor of Physics.

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

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

CHARLES WILLIS JOHNSON, Ph. D., Professor of Pharmacy and Physiological Chemistry.

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

THEODORE CHRISTIAN FRYE, Ph. D., Professor of Botany.

HERBERT DEWITT CARRINGTON, Ph. D., Professor of German.

RORERT EDOUARD MORITZ, Ph. D., Professor of Mathematics and Astronomy.

BENJAMIN FRANKLIN ROLLER, A. B., M. D., Professor of Physical Culture and Hygiene.

GEORGE HENRY ALDEN, Ph. D., Associate Professor of History.

JAMES EDWARD GOULD, Ph. B., Assistant Professor of Mathematics.

OTTILIE GERTRUDE BOETZKES, A. M., Assistant Professor of Modern Languages.

THOMAS KAY SIDEY, Ph. D., Assistant Professor of Latin and Greek.

HENRY KREITZER BENSON, A. M., Assistant Professor of Chemistry.

MAYNARD LEE DAGGY, Ph. B., Assistant Professor of Rhetoric and Oratory.

ALLEN ROGERS BENHAM, Ph. D., Assistant Professor of English Literature.

FLETCHER HARPER SWIFT, Ph. D., Assistant Professor of Education.

CHARLES WILLIAM PRENTISS, Ph. D., Assistant Professor of Biology.

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

HERMAN CAMPBELL STEVENS, Ph. D., Assistant Professor of Psychology.

FRANK MARION MORRISON, A. B., Assistant Professor of Mathematics.

LOREN DOUGLAS MILLIMAN, A. B., Assistant Professor of Rhetoric.

IRVIN WALTER BRANDEL, M. S., Assistant Professor of Pharmacy.

PETER LE FORT, A. M., Assistant Professor of French.

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

IDA KATHERINE GREENLEE, A. B., Instructor in English Literature.

HENRY LOUIS BRAKEL, A. M., Instructor in Physics.

HARRY MEAD, E. M., Instructor in Mining and Geology.

LAVINA RUDBERG, Instructor in Physical Culture for Women.

JAMES H. HANCE, A. B., Instructor in Chemistry.

GRACE GREENE, A. B., Assistant in Spanish.

HANNAH JOHNSTON, B. S., Assistant in Chemistry.

JOHN WALDO MCCARTHY, B. S., Assistant in Chemistry.

FRANK A. BEAM, A. B., Assistant in Mathematics.

UNDERGRADUATE ASSISTANTS.

ARTHUR S. POPE, Assistant in Botany.

CHARLES ALFRED NELSON, Assistant in Zoology.

WILHELMINA HAFER, Assistant in Zoology.

JEANETTE BLISS, Assistant in History.

SARAH E. KAHAN, Assistant in Chemistry.

HELEN R. HARRIS, Assistant in Spanish.

PURPOSE.

The College of Liberal Arts is intended to furnish a general training in language, literature, science and philosophy, of the same standard as that set by the oldest colleges of this country.

Throughout the course the student has large liberty in choosing his subjects, but through the advice of some member of the faculty he is guided in everything after the general direction of his work has been once determined.

COURSE OF THE COLLEGE OF LIBERAL ARTS.

The requirement for graduation from the College of Liberal Arts is the satisfactory completion of subjects aggregating one hundred and twenty-eight hours. Of this number eight credits in physical culture are required of every student. Students physically unable to gain the eight credits in physical culture are allowed, on the recommendation of the Director, to substitute eight scholastic credits.

The unit hour is used to represent one recitation a week for a period of one semester. A subject requiring four hours a week for one semester represents four hours; if it requires four hours a week for one year, it represents eight hours.

Plan of the Course.

The general plan below shows how the one hundred and twenty hours are to be divided. The numerals indicate various subjects in each department, which are described in full under the departmental statements, page .. and following.

Classical.	Hours.	Literary.	Hours.	Scientific.	Hours.
Ancient Languages	24	*Anc. or Mod. Lan.	24	*Modern Language	16
English	12	English	12	English	12
Mathematics	4	Mathematics	4	Mathematics	4
Pol. Econ. or Hist.	8	Pol. Econ. or Hist.	8	Pol. Econ. or Hist.	8
Philosophy	8	Philosophy	8	Philosophy	8
Science	8	Science	8	Science	16
	64		64		64

Major 24 hours. Elective to make total of 128 hours, including 8 hours of physical culture.

*At least 16 hours in one foreign language.

Requirements by Years.

Classical—		Literary—		Scientific—	
Freshman.		**Freshman.**		**Freshman.**	
Latin	8	Lat. or Mod. Lan.	8	Modern Language	8
Greek	8	Science	8	Science	8
English	4	English	4	English	4
Mathematics	4	Mathematics	4	Mathematics	4
Science	8	Elective	8	Elective	8
Sophomore.		**Sophomore.**		**Sophomore.**	
Latin or Greek**	8	Lat. or Mod. Lan.	8	Modern Langugae	8
English	8	English	8	English	8
Pol. Econ. or Hist.	8	Pol. Econ. or Hist.	8	Pol. Econ. or Hist.	8
Elective	8	Elective	8	Elective	8
Junior.		**Junior.**		**Junior.**	
Philosophy	8	Philosophy	8	Philosophy	8
Major		Major		Major	
Elective		Elective		Elective	
Senior.		**Senior.**		**Senior.**	
Major		Major		Major	
Elective		Elective		Elective	

Note: Other subjects will be allowed for the A. B. degree only on special application to the class officer.

SUMMARY OF THE COURSE.

It will be seen that while every line of study is represented in the foregoing course, the student is given considerable freedom in choosing specific subjects, and that wide opportunities for developing individuality and preparing for a specialty or for professional study are likewise afforded.

**For graduation from the classical course students must have finished Greek courses 1 to 6.

DEPARTMENTS OF INSTRUCTION.

GREEK.

ARTHUR SEWALL HAGGETT, *Professor.*
THOMAS KAY SIDEY, *Assistant Professor.*

The general plan of the courses is as follows: Courses 1 to 4 are intended for students who do not present Greek for entrance and are preparatory to the others. In these courses special attention will be paid to the mastery of the fundamental forms and constructions of the language, to the acquisition of a vocabulary sufficient for fairly easy and rapid translation, and to a general knowledge of the language sufficient for the translation of simple English into idiomatic Greek. All students who wish to enter the classical department are strongly urged to present the substance of courses 1 to 4 for entrance. In the remaining courses more attention will be given to the reading of Greek as literature and to the life and thought of the Greeks.

1. ELEMENTARY GREEK. First Semester. 8:30. For beginners. No credit allowed if presented for entrance.
Assistant Professor Sidey.

2. ELEMENTARY GREEK. Second Semester. 8:30. Continuation of course 1; Xenophon's Anabasis, Book I.; Greek composition. No credit allowed if presented for entrance.
Professor Haggett.

3. ELEMENTARY GREEK. First Semester. 10:20. Continuation of course 2; Xenophon's Anabasis, Books II-IV.; Greek composition. No credit allowed if presented for entrance.
Professor Haggett.

4. INTRODUCTORY COURSE ON EPIC POETRY. Second Semester. 10:20. Homer's Iliad, Books I-III., with special reference to Homeric grammar and prosody. No credit allowed if presented for entrance.
Professor Haggett.

5. INTERMEDIATE COURSE ON EPIC POETRY. First Semester. 9:25. Selections from Homer's Odyssey; study of the prehistoric age of Greece and the history of epic poetry. Prerequisite, 4.

Professor Haggett.

6. (a) INTRODUCTORY COURSE ON HISTORICAL PROSE. Second Semester. 9:25. Selections from Herodotus; the history of Greece in outline from the prehistoric period to the close of the Persian War.

(b) HELLENISTIC GREEK. Reading and interpretation of the gospel according to St. Mark; collateral reading and the writing of essays. Prerequisite, 5.

Professor Haggett.

7. INTRODUCTORY COURSE ON LYRIC AND TRAGIC POETRY. First Semester. Float.

(a) Selections from the elegiac, iambic, and melic poets; history of lyric poetry; lectures and collateral reading.

(b) Euripides' Iphigenia in Tauris, or Sophocles' Antigone, with the reading of other tragedies in the metrical translations; study of the history of the Greek drama and the Greek theatre; lectures and collateral reading. Prerequisite, 6.

Professor Haggett.

8. INTRODUCTORY COURSE ON PHILOSOPHY AND ORATORY. Second Semester. Float.

(a) Plato's Apology and Crito, with sight reading in Xenophon's Memorabilia; study of the life and time of Socrates; outline of the history of Greek philosophy to the time of Plato; lectures and collateral reading.

(b) Selected orations of Lysias; study of the life and time of Lysias and of the history of Greek oratory; lectures and collateral reading. Prerequisite, 7.

Professor Haggett.

9. ADVANCED COURSE ON EPIC POETRY. First Semester. 11:15. Rapid reading of selections from Homer and Hesiod; study of Greek mythology and religion; lectures and collateral reading. Elective for Juniors and Seniors who have finished course 8.

Professor Haggett.

10. ADVANCED COURSE ON HISTORICAL PROSE. Second Semester. 11:15. Selections from Thucydides and Xenophon; history of the fifth century before Christ, with special emphasis on the Peloponnesian War; lectures on the development of Greek historiography; study of the themes, characteristics, and style of Herodotus, Thucydides, and Xenophon; collateral reading on important characters in Greek history. Elective for Juniors and Seniors who have finished course 8.

Professor Haggett.

11. ADVANCED COURSE ON THE DRAMA. First Semester. 11:15.

(a) Tragedy: Aeschylus' Prometheus Bound, or Persians, with the reading of other tragedies in the metrical translations; historical and literary study of the three great Greek tragedians.

(b) Comedy: Aristophanes' Clouds, or Frogs, with the reading of other plays in the metrical translations; study of the history of Greek comedy and of the public and private life of the Greeks as illustrated by Aristophanes' plays. Elective for Juniors and Seniors who have finished course 8.

Professor Haggett.

12. ADVANCED COURSE ON ORATORY. Second Semester. 11:15. Selections from the Attic Orators; study of their themes, characteristics and style, and of the legal procedure and political institutions of the Athenians; lectures and collateral reading. Elective for Juniors and Seniors who have finished course 8.

Professor Haggett.

NOTE.—Courses 9-10 and 11-12 will be given in alternate years.

13. ADVANCED COURSE ON LYRIC POETRY. Two hours. First Semester. Tu., Th., 8:30. Selections from Pindar and Bacchylides; study of their themes, characteristics, and style. For graduate students.

Professor Haggett.

14. ADVANCED COURSE ON PHILOSOPHY. Two hours. Second semester. Tu., Th., 8:30.

(a) Selections from Plato's Republic; lectures and collateral reading on Platonism.

(b) Selections from Aristotles' Ethics; lectures and collateral reading on Aristotles' philosophy. For graduate students.

Professor Haggett.

15. LITERATURE OF THE ALEXANDRIAN PERIOD. Two hours. First Semester. W., F., 8:30. Selections from Theocritus and Apollonius Rhodius; lectures and collateral reading on the history and literature of the Alexandrian period. For graduate students.

Professor Haggett.

16. LITERATURE OF THE GRAECO-ROMAN PERIOD. Two hours. Second Semester. W., F., 8:30. Selections from Plutarch and Lucian; lectures and collateral reading on the history and literature of the Græco-Roman period. For graduate students.

Professor Haggett.

17. ADVANCED READING COURSE. First Semester. Time to be arranged. Rapid reading of the entire work (or a considerable portion) of some one author, or extensive work in some one department of Greek literature. This course is designed to give a comprehensive knowledge of a particular author or period of Greek literature, and is supplemented by topical reading and thesis work on the author or period selected. For graduate students.

Professor Haggett.

18. ADVANCED READING COURSE. Second Semester. Time to be arranged. Continuation of course 17. For graduate students.

Professor Haggett.

19. *GREEK ANTIQUITIES. Two hours. First Semester. M., W., Float. (1) Public and private life; (2) mythology and religion; (3) art and archæeology. Open to all students.

Assistant Professor Sidey.

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*In connection with this course, students are advised to take History 3b.

LATIN.

DAVID THOMSON, *Professor.*
THOMAS KAY SIDEY, *Assistant Professor.*

The college courses outlined below are planned for students who have already had four years of training in Latin. For those who, on entering the University, substitute modern language credits in part for the necessary amount of Latin, preliminary courses are offered, corresponding to the third and fourth year courses in the High Schools. It is assumed that those who have had the four years of training have gained a mastery of Latin forms and inflections, a general knowledge of syntax, the ability to read Latin correctly, and a vocabulary sufficient to enable them to translate simple passages at sight with considerable ease. Hence, in these courses, less prominence is given to this technical training and attention is directed rather to Latin as literature and to the study of Roman life and customs. In the freshman year, however, a systematic survey is taken of syntax and construction, and practice is given in the writing of Latin. This serves as a review and allows a closer observation of the principles underlying syntax than is practicable in the earlier work. Other special topics taken up are briefly indicated in the statement of the courses.

COLLEGE SUBJECTS.

1. CICERO. First Semester. Section B, Float; section A, 9:25. The De Senectute and the De Amicitia will be studied with reference to both the subject-matter and the language and, in addition, there will be work in syntax, Latin prose composition and sight translation.

Professor Thomson and Assistant Professor Sidey.

2. LIVY. Second Semester. Section B, Float; section A, 9:25. Book XXI. will be read and some attention paid to the causes, the course and the results of the Punic Wars as also to the career of Hannibal. In other respects, this course is a continuation of Course 1.

Professor Thomson and Assistant Professor Sidey.

3. OVID AND HORACE. First Semester. 11:15. Selections from Ovid's Tristia, Heroides, Amores, Fasti and Epistulæ and the continuous reading of several books of his Metamorphoses with practice in the reading of hexameter and pentameter verse. Life and times of Ovid. Selections from the Odes and Epodes of Horace with practice in the reading of his principal meters and a study of his life and times. Prerequisites, 1 and 2.

Professor Thomson.

4. PLAUTUS AND TERENCE. Second Semester. 11:15. The Captivi and the Menæchmi of Plautus and the Phormio and the Adelphi of Terence will be studied and considerable time will be given to an examination of the archaic forms and constructions found in these authors. Lectures will be given and topics assigned on the Roman Drama. Prerequisites, 1 and 2.

Professor Thomson.

5. EPISTOLARY LITERATURE. First Semester. 10:20. The Letters of Cicero (Abbott's Selections) and Horace will be read and a study made of the Familiar Style and its characteristics. Lectures will be given and topics assigned on Letter Writing and Private Antiquities and on the most important matters dealt with by Cicero in his correspondence. The relation of Horace's Epistles to his Satires will be discussed and some account taken of his modern imitators. Prerequisites, 3 and 4. Not given in 1906-7.

Professor Thomson.

6. EPISTOLARY LITERATURE. Second Semester. 10:20. The Letters of Pliny the Younger (Westcott's Selections) and Seneca will be read and a study made of the life and times of these men. Papers will be presented by the members of the class on subjects which are naturally suggested by the reading of the Letters. Prerequisites, 3 and 4. Not given in 1906-7.

Professor Thomson.

5a. ROMAN SATIRE. First Semester. 10:20. The Satires and Epistles of Horace with lectures on the development of Roman Satire. Open to Juniors and Seniors. Prerequisites, 3 and 4.

Professor Thomson.

6a. ROMAN SATIRE. Second Semester. 10:20. The Satires of Juvenal and Persius. This course is a continuation of the preceding.

Professor Thomson.

7. TEACHERS' COURSE. Two hours. First Semester. M., W., 11:15. Courses 7-9 are complementary and are provided especially for those who are preparing to teach Latin in the High Schools. The object of the Teachers' Course is a two-fold one: First, to equip the intending teacher with a wider knowledge of Cæsar, Cicero, and Vergil, and second, to train him in the best method of teaching these authors and preparatory Latin generally. Courses 7, 8 are designated to attain the first of these ends and Courses 9, 10 the second. Course 7 will consist of the reading of selected portions of Cæsar's Bellum Civile, Suetonius' Life of Julius Cæsar and the Viri Romæ with the discussion of such points as naturally suggest themselves. Prerequisites, 5 and 6, or they may be taken along with these.

Assistant Professor Sidey.

8. TEACHERS' COURSE. Two hours. Second Semester. M., W., 11:15. This is a continuation of the preceding course and will consist of the reading of Sallust's Catiline, selected Letters of Cicero and portions of the Viri Romæ; selected portions of Vergil's Bucolics and Georgics and the ancient Lives of Vergil. Prerequisite, 7.

Assistant Professor Sidey.

9. TEACHERS' COURSE. Two hours. First Semester, Tu., F., 11:15. Lectures on the teaching of preparatory Latin and discussion of matters connected therewith. Practice in the writing of Latin. Portions of Cæsar, Cicero and Vergil will be read in class and the members will take turns in teaching under the supervision of the instructor. Prerequisite, 5 and 6, or 9 may be taken along with these.

Assistant Professor Sidey.

10. TEACHERS' COURSE. Two hours. Second Semester. Tu., F., 11:15. This is a continuation of the preceding course. Visits

will, from time to time, be made to schools where Latin is taught and reports upon the teaching observed will be presented by the members of the class. Prerequisite, 9.

Assistant Professor Sidey.

11. *ROMAN ANTIQUITIES. Two hours. Second Semester. M., W., Float. Lectures on such topics as the Roman name, the family, education, trades, professions, amusements, etc., amphitheatres, aqueducts and public roads, illustrated by slides, photographs and cuts, whenever possible. Open to all students of Latin.

Assistant Professor Sidey.

Provision will be made for any students who wish to do advanced work in this department.

PRELIMINARY COURSES.

A. CICERO'S ORATIONS. First Semester. 10:20. Three of Cicero's Orations with exercises in Latin Syntax and Prose Composition.

Assistant Professor Sidey.

B. VERGIL. First Semester. 9:25. Three books of the Aeneid, with exercises in syntax and practice in the reading of Latin Hexameters.

Professor Thomson.

C. CICERO'S ORATIONS. Second Semester. 10:20. Three of Cicero's Orations. A continuation of Course A.

Assistant Professor Sidey.

D. VERGIL. Second Semester. 9:25. Three books of the Aeneid. A continuation of Course B.

Professor Thomson.

The preliminary courses do not count toward the major of twenty-four hours.

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*In connection with this course, students are advised to take History 3b. (Roman History.)

GERMAN.

HERBERT DE WITT CARRINGTON, *Professor.*

OTTILIE GERTRUDE BOETZKES, *Assistant Professor.*

The object of courses 1-4 is to give the student a fair reading knowledge of German and make him acquainted with at least one classic. The advanced courses are devoted for the most part to the study of literature.

SUBJECTS.

1 and 2. ELEMENTARY. Section A, 8:30; Section C, Float; Section B, 10:20. Grammar and easy reading, with practice in speaking and writing.

Assistant Professor Boetzkes and Mr. .....

1a. ELEMENTARY. Second Semester. Same as Course 1. One section. *Assistant Professor Boetzkes.*

3. MODERN PROSE. First Semester. Section B, Float; Section A, 10:20. Selections from prose writers of the nineteenth century. Grammar review and work in composition.

Professor Carrington.

3. DRAMAS OF LESSING, GOETHE OR SCHILLER. Second Semester. Section C, Float; Sections A and B, 10:20. One drama (generally Egmont) is read and studied carefully and the class is required to read a life of the author. Another drama is read rapidly. Last year Lessing's Minna von Barnhelm was selected for this purpose. The composition work is based on the text studied.

Professor Carrington and Assistant Professor Boetzkes.

5. CLASSICS. Two hours. First Semester. Tu., Th., 9:25. Selected works of Goethe or Schiller. In 1906-07, Die Braut von Messina and the first part of Wallenstein.

Assistant Professor Boetzkes.

5a. LESSING'S NATHAN DER WEISE. Two hours. First Semester. M., W., 11:15. *Professor Carrington.*

6. CLASSICS. Two hours. Second Semester. Tu., Th., 9:25. Continuation of 5. In 1906-7, Wallenstein Completed.

Assistant Professor Boetzkes.

6a. LESSING'S LAOKOON. Two hours. Second Semester. M., W., 11:15. Continuation of 5a.

Professor Carrington.

7. COMPOSITION AND CONVERSATION. Two hours. First Semester. M., Th., 9:25.

Professor Carrington.

7a. NOVEL COURSE. Two hours. First Semester. W., F., 9:25. Students who take this course must have taken at least the equivalent of Courses 1-4.

Assistant Professor Boetzkes.

8. COMPOSITION AND CONVERSATION. Two hours. Second Semester. M., Th., 9:25.

Professor Carrington.

8a. NOVEL COURSE. Two hours. Second Semester. W., F., 9:25. Continuation of Course 7a.

Assistant Professor Boetzkes.

9. GOETHE'S FAUST. Part I. Two hours. First Semester. Tu., Th., 8:30.

Professor Carrington.

10. GOETHE'S FAUST. Part II. Two hours. Second Semester. Tu., Th., 8:30.

Professor Carrington.

11. TEACHERS' COURSE. Two hours. First Semester. Review of grammar, discussion of methods and practice in teaching. Omitted in 1906-7.

Professor Carrington.

12. ROMANTIC SCHOOL. Two hours. Second Semester. Lectures and assigned readings. Omitted in 1906-7.

Professor Carrington.

13. MIDDLE HIGH GERMAN. Two hours. First Semester. W., F., 8:30. Bachmann's Mittelhochdeutsches Lesebuch.

Professor Carrington.

14. MIDDLE HIGH GERMAN. Two hours. Second Semester. W., F., 8:30. Continuation of 13 and study of Walther von der Vogelweide.

Professor Carrington.

FRENCH.

PIERRE JOSEPH FREIN, *Professor.*
PETER LE FORT, *Assistant Professor.*

The first year of work in this department is devoted to a thorough study of grammatical forms. The French texts read are made the basis for a practical application of the rules of grammar and are also used for drill in pronunciation.

The work of the second year is divided into two parts: One-half of the time is devoted to modern syntax, and the other half to the translation into English of some of the best literary works of the nineteenth century. Towards the middle of the second semester, the recitations are conducted as far as practicable in French.

The advanced courses are so planned that those who have studied French during two years in the High Schools may continue their work so as to become familiar with the entire field of modern French literature, and also to get a reading knowledge of Old French.

SUBJECTS.

1, 2. ELEMENTARY. Section A, 8:30; section B, 9:25; section C, Float. Fraser and Squair's French Grammar, Part I.; Super's French Reader; Erckmann-Chatrian, Le Conscrit de 1813; Daudet, Le Petit Chose. Emphasis is laid upon the acquirement of a correct pronunciation, and a systematic drill in composition is given. No credit if offered for entrance.

Professor Frein and Assistant Professor Le Fort.

1a. Second Semester. Repetition of Course 1. One section, 11:15.

Assistant Professor Le Fort.

3, 4. NINETEENTH CENTURY READING AND SYNTAX. Section B, 11:15; Section A, 9:25. In one section of the class (Section B) two hours per week will be devoted to the syntax of the latter part of the century, and two hours per week will be spent in translating masterpieces of the literature of the entire century. The other section (Section A) is intended for such as care most for facility in translation; In this section three hours per week are devoted to translation, and only one hour per week to syn-

tax. Those who need more than sixteen credits in French are expected to go into Section B. The work in syntax is based upon Fraser and Squair's French Grammar, Part II. Texts read in 1905-06: Vigny, La Canne de Jonc; Hugo, Hernani; Daudet, Tartarin de Tarascon; Rostand, Cyrano de Bergerac; Balzac, Cinq Scenes de la Comedie Humaine. No credit if offered for entrance. Prerequisite, 2.

Professor Frein and Assistant Professor Le Fort.

5, 6. CLASSICAL FRENCH. Three hours. M., Tu., Th., 10:20. The student is given a general knowledge of the literature of the entire classical period, but the reading is selected from the the works of only a few of the most noted writers. The texts to be read are: Corneille, Le Cid, Horace, Polyeucte; Moliere, Le Bourgeios Gentilhomme, Les Precieuses Ridicules, Le Tartuffe; Racine, Andromaque, Athalie; Boileau, L'Art Poetique; La Fontaine, Fables. Prerequisite, 4 or an equivalent.

Professor Frein.

7, 8. ADVANCED PROSE COMPOSITION. One hour. F., 10:20. Systematic review of French syntax, and the translation into idiomatic French of moderately difficult English prose. Francois' Advanced Prose Composition. Prerequisite, 4.

Professor Frein.

9, 10. LYRIC POETRY. Two hours. M., W., Float. An introduction to French versification; structure of the verse, hiatus, rhyme; variations in the stanzas, and in the forms of the lyric peoms. Short history of French lyric poetry.

Special attention is given to the lyrics of the Romantic period. Canfield's French Lyrics is used to give the student a knowledge of the important writers of the French lyric, but the poems of Lamartine ,De Musset and Hugo are studied from more complete editions of their works. Prerequisite, 4.

Professor Frein.

[Given in alternate years with Courses 11, 12; it will not be given in 1906-07.]

11, 12. THE FRENCH DRAMA. Two hours. M. W., Float. The aim of this course is twofold: To acquaint the student with the best French dramatic literature since the Pleiade, and to

furnish an admirable medium for French conversation in the class room. This course may be taken in the same year with Course 5, 6, but it may not precede it.

Professor Frein.

[Given in alternate years with Course 9, 10; it will be given in 1906-07.]

13, 14. HISTORY OF THE FRENCH LITERATURE OF THE NINETEENTH CENTURY. Two hours. T., Th., Float. Lectures in French; assigned reading of some of the works of each important author, with copious notes to be submitted for inspection; special topics assigned to each student for careful study, and report to the class. Prerequisite, 6.

Professor Frein.

[Given in alternate years with Course 15, 16; it will be given in 1906-07.]

15, 16. HISTORY OF FRENCH LITERATURE FROM THE RENAISSANCE TO THE ROMANTIC MOVEMENT. Two hours. T., Th., Float. Lectures in French, and assigned reading from the important authors. Prerequisite, 6.

Professor Frein.

[Given in alternate years with Course 13, 14; it will not be given in 1906-07.]

17, 18. OLD FRENCH READING. Two hours. T., Th., 2:10-3:05. Elements of Old French grammar, and translation of Old French texts from Bartsch, Chrestomathie de l' Ancien Francais. Open only to advanced students.

Professor Frein.

ITALIAN.

1, 2. ELEMENTARY. 10:20. The first year in Italian corresponds to the same courses in French and Spanish. Sauer's Italian Grammar, Grandgent's Italian Composition, Bowen's First Italian Readings and one or two easy texts from modern Italian authors will be the books used. The course will be open only to those who have completed French 1, 2, or Spanish 1, 2, or who have entrance credits in French or Spanish. No student will be allowed to begin Italian and French (or Spanish) the same year. *Professor Le Fort.*

3, 4. ADVANCED. Selections from Dante's La Divina Commedia. Open only to those who have completed Italian 1, 2. *Professor Frein.*

[Omitted in 1906-07; it will be given in 1907-08.]

SPANISH.

CAROLINE HAVEN OBER, *Professor.*

GRACE GREENE, AND HELEN R. HARRIS, *Assistants.*

In this department considerable time is given to colloquial Spanish. The close relations of the United States with Central and South America, and the varous lands where Spanish alone is spoken have increased the value of a speaking knowledge of this language.

While due attention is given to the rich, but little known literature of the Golden Age, and the varied writings of the present century, full opportunities are also offered to acquire a knowledge of practical and commercial Spanish.

SUBJECTS.

1, 2. ELEMENTARY. Section A, 8:30; Section B, 9:25; Section C, 11:15. Lessons in Spanish on everyday topics, training of the ear and tongue. Essentials of the Spanish grammar; readings from modern Spanish authors.

Professor Ober, Miss Greene and Miss Harris.

1a. ELEMENTARY. Second Semester. 10:20. The same work as in Course 1, offered for the benefit of students entering the University at this time. *Miss Greene.*

2a ELEMENTARY. First Semester. 10:20. Continuation of Course 1a.

Miss Greene.

3, 4. PRACTICAL. 10:20. Business correspondence, commercial terms and conversation, readings selected chiefly from Spanish newspapers and magazine articles of the day. Prerequisite, 2.

Professor Ober.

5, 6. LITERARY. Float. Knapp's Spanish Readings. Spanish poetry. Ford's Spanish Anthology. Essays written on literary subjects. Prerequisite, 2.

Miss Greene.

7, 8. ADVANCED. 11:15. Literature of the sixteenth and seventeenth centuries. Lope de Vega; Calderon; the Auto Sacramental; early Spanish poems of the Cid; Spanish literature of the fifteenth century. Prerequisite, 4 or 6.

Professor Ober.

9, 10. SPANISH NOVEL. Two hours. Tu., Th., 8:30. Study of the Spanish novel, beginning with the "Novela Picaresca," having its origin in Spain, and including the "Novela de Costumbres," the historical novel, and the religious novel. Works read partly in class and partly outside. Gil Blas, Dona Perfecta, Pepita Jimenez and selections from Perez Galdos and Perez Escrich. Prerequisite, 4 or 6.

Professor Ober.

11, 12. HISTORY OF SPANISH LITERATURE. Two hours. Tu., Th., Float. Given in alternate years with Spanish 13, 14. Prerequisite, 4 or 6. Not given in 1906-7.

Professor Ober.

13, 14. DON QUIJOTE. Two hours. W., F., 8:30. Open ony to advanced students. Given in alternate years with Spanish 11, 12; it will be given in 1906-7.

Professor Ober.

15, 16. ADVANCED PROSE COMPOSITION. One hour. M., 8:30. Prerequisite, 4 or 6.

Professor Ober.

RHETORIC AND ORATORY.

ARTHUR RAGAN PRIEST, *Professor.*

MAYNARD LEE DAGGY AND LOREN DOUGLAS MILLIMAN, *Assistant Professors.*

IDA KATHERINE GREENLEE, *Instructor.*

The objects sought for in the courses here outlined are: (1) to secure a skillful use of English in writing, and an appreciation of it in literature; and (2) to develop skill, power and readiness in oratory and debate. To these ends there will be much writing, and frequent practice in prepared and in extemporaneous speaking.

SUBJECTS.

1. ENGLISH COMPOSITION. First Semester. Section D, 8:30; Section C, 9:25; Section A, 10:20; Section B, Float. Daily and fortnightly themes together with the study of the principles of Rhetoric. Text: Genung, "The Working Principles of Rhetoric." Each student will meet the instructor for private consultation on his work at least once every two weeks. Required of Freshmen in all courses.

Assistant Professor Milliman and Miss Greenlee.

2. ENGLISH COMPOSITION. Second Semester. Same Sections and hours as Course 1. Repetition of Course I.

Assistant Professor Milliman and Miss Greenlee.

3, 4. THE SHORT STORY. Two hours. Tu., Th., Float. A study of representative short stories, to be followed by practice in gathering materials, constructing and developing plots, and sketching characters.

Professor Priest.

5, 6. THE ESSAY. Two hours. W., F., 9:25. A study of the essay as a type of advanced composition. Fortnightly themes with conferences.

Assistant Professor Daggy.

7, 8. DRAMATIC COMPOSITION. Two hours. M., Th., 9:25. A course based upon the inductive study of the

technique of the drama. Lectures on the principles of dramatic criticism. Practical work in the composition of the drama required of all students.

Assistant Professor Daggy.

[Not offered in 1906-7.]

9, 10. FORENSICS. Afternoons. Practice in Argumentation and formal Debating.

Professor Priest.

13, 14. ORAL EXPRESSION. 11:15. The purpose of this course is to cultivate a direct and natural delivery; to stimulate correct thinking; and to develop the imagination. Vocal technique, including breathing, poise, action and correct vocalization, is given much attention. Daily practice in reading and speaking is required of all students.

Assistant Professor Daggy.

15, 16. DRAMATIC READINGS. Two hours. M., Th., 10:20. A study of the classic drama from the point of view of vocal expression. Representative plays, such as Merchant of Venice, Hamlet, and As You Like It, are read, and selected scenes are acted by members of the class. Two dramatic readings are required of each student during the semester. Topics and critiques on various phases of dramatic art. Prerequisite, 13 or 14.

Assistant Professor Daggy.

17. ENGLISH ORATORY. First Semester. 8:30. Study of Edmund Burke and his contemporaries. Each member of the class will be required to write an original oration.

Assistant Professor Daggy.

18. AMERICAN ORATORY. Second Semester. 8:30. Study of Webster, Hayne, Calhoun, Everett, Sumner, Phillips, Beecher, Curtis, Grady and others. Each member of the class will be required to revise the oration written the preceding semester, and deliver the revised form before the class.

Assistant Professor Daggy.

19, 20. Identical with English Literature 9 and 10.

In addition to offering the courses outlined the instructors in the department will assist in supervising the work in the four literary societies, and in training the intercollegiate debaters and orators.

ENGLISH LANGUAGE AND LITERATURE.

FREDERICK MORGAN PADELFORD, *Professor.*
ALLEN ROGERS BENHAM, *Assistant Professor.*
IDA KATHERINE GREENLEE, *Instructor.*

The work in literature lays emphasis rather more upon forms, such as the drama, the epic, and the lyric, than upon periods, although the historical study of literature is not ignored. The courses in language are designed to give a knowledge of the development of our language from the earliest monuments to the time of Shakespeare.

Students conditioned in English for admission to the University will be given an opportunity to work off the condition under a tutor appointed by the department and paid by the student.

SUBJECTS.

1, 2. SHAKESPEARE AND VICTORIAN LITERATURE. Section A, 8:30; Section B, 9:25; Section C, Float. Critical study of a few plays of Shakespeare, with special attention to the laws and technique of the drama: selected essays of Ruskin, Arnold, Newman and Carlyle. The study of the literature is accompanied with practice in English composition.
Professor Padelford, Assistant Professor Benham and Miss Greenlee.

3, 4. BROWNING AND WORDSWORTH. 9:25. The first semester is devoted to Browning; the second to Wordsworth, with supplementary reading in other nineteenth century poets. One long theme is required each semester. Prerequisite 2.
Professor Padelford.

5. ENGLISH OF THE FIFTEENTH CENTURY: Ballads and Mallory's Morte D'Arthur. First Semester. Float. This course is designed as a continuation of the lingustic studies started in Courses 11 and 12, and as a connecting link in literary history between Chaucer and Shakespeare. Prerequisite 1, 2; 11, 12.
Assistant Professor Benham.

6. PRINCIPLES OF LITERARY CRITICISM. Second Semester. Float. An inductive course, designed to furnish sound principles for literary criticism. Literature of a wide range is discussed, and the relation of literature to the other arts is defined. Prerequisite, two courses in literature.

Assistant Professor Benham.

9, 10. COLLEGE ENTRANCE REQUIREMENTS. 8:30. A normal course designed especially for those advanced students who wish to prepare to teach English in the High School. The history of English teaching is reviewed, problems in the teaching of English are discussed, the entrance requirements are critically studied, bibliographies for High School libraries are prepared, and a large number of editions of the required classics are examined. Prerequisites, two courses in literature.

Miss Greenlee.

11, 12. OLD AND MIDDLE ENGLISH. 11:15. During the first semester the Old English language and literature are studied. Reading is begun at the earliest practicable moment, and the study is made as literary in character as is consistent with a thorough grounding in the rudiments of the language. Some time is given to considering the early English civilization. During the second semester Middle English texts are read. Prerequisite, two courses in literature. Required of all students majoring in the Department.

Assistant Professor Benham.

13, 14. Identical with Rhetoric 3, 4.

15, 16. Identical with Rhetoric 5, 6.

17, 18. Identical with Rhetoric 7, 8.

PHILOSOPHY.

WILLIAM SAVERY, *Professor.*

HERMAN CAMPBELL STEVENS, *Assistant Professor.*

The aims of this department are five:

First—To aid students to entertain clear ideas and to think consistently on any subject. (To this end the courses in Logic and Metaphysics are especially adapted.)

Second—To help such students as desire to entertain clear ideas and to think consistently and independently on the ultimate problems of reality, the human self, the physical world and God; and to aid them to steer clear of the errors of popular mythology and an easy scepticism. (Metaphysics.)

Third—To furnish a part of the general culture of some students by acquainting them with the thoughts of the great thinkers of the past. (History of Philosophy.)

Fourth—To teach worthy moral ideals and to elucidate a proper basis for conduct. (Ethics.)

Fifth—To teach the facts of Psychology to those interested in the study of the mind or in the allied studies of biology, sociology or pedagogy. (Psychology, elementary, experimental and general.)

SUBJECTS.

1, 2. ELEMENTS OF LOGIC, PSYCHOLOGY AND ETHICS. Tu., W., Th., Float. (a) LOGIC.—A study of the nature of clear ideas and valid reasoning, deductive and inductive. Analysis of fallacies. Some account of the aims of the natural sciences. Text: Creighton's An Introductory Logic.

(b) PSYCHOLOGY.—A study of the facts and laws of consciousness and their relation to the body. Text: Titchener's An Outline of Psychology.

(c) ETHICS.—A study of the meaning of value, the nature of the good, duty, the moral virtues and institutions. Some account of progress, pessimism, and the relation of morality to religion. Text: Paulson's System of Ethics.

Lectures and recitations in the three courses. Laboratory M., Tu. or F., 1:15-4. Prerequisite, Sophomore or higher standing.

Professor Savery and Assistant Professor Stevens.

3, 4. HISTORY OF PHILOSOPHY. 8:30. The aim in this course is both historical and constructive. Texts: Windelband's History of Greek Philosophy and Falckenberg's History of Modern Philosophy. Readings in the philosophers studied. Lectures and recitations. No prerequisite in philosophy. Prerequisite, Sophomore or higher standing.

Professor Savery.

5, 6. METAPHYSICS. 9:25. A study of the theory of knowledge and the nature of Reality—including the natures of the self and the physical world and their relations, and the problems of God and immortality. The two main present day tendencies in metaphysics will be considered at length, namely,

(1) Absolute Idealism in the writings of Bradley and Royce.

(2) Radical Empiricism in the writings of William James and his followers.

Lectures and discussions. Prerequisite, Philosophy 1, 2 or 3, 4.

Professor Savery.

7, 8. GENERAL PSYCHOLOGY. Three hours. Tu., Th., F., 10:20. After a brief survey of the historical development of modern psychology, the course will take up some of the more important problems of the science. Attention, feeling, action, habit, memory, consciousness of self, and language will be studied during the first semester. In the second semester, sleep and dreams, hypnosis, double personality, telepathy, clairvoyance, automatism and the psychology of animals will be discussed and interpreted, as far as possible, in the light of the normal consciousness. The course will be conducted, in part, by lectures and, in part, by discussions and reports. Prerequisite, Philosophy 1, 2.

Assistant Professor Stevens.

9, 10. EXPERIMENTAL PSYCHOLOGY. Three hours. Laboratory M., W., F., 1:15-4. The object of this course is both to acquaint the student with the experimental methods and results of this science and to afford a general training in scientific method and technique. For the most part, qualitative experiments upon sensation, affection, attention, action, perception, mental imagery and association of ideas will constitute the subject matter of the course; though, toward the end of the year, some experiments which involve the use of the psychological methods will be introduced. Tichener's Manual, Qualitative, Pt. I., will be used as a text. The student is strongly advised to take courses in physiology with special reference to the nervous system, and in physics, either along with or before taking this course. Prerequisite, Philosophy 1, 2.

Assistant Professor Stevens.

11, 12. STUDIES IN THE PHILOSOPHY OF THE NINETEENTH CENTURY. Three hours. Time to be arranged with the class. Probably in the evening. This course is primarily for graduate or other advanced students, and will follow the seminary plan of instruction. The philosophers studied will be, within limits, at the option of the class. The study will be critical and constructive as well as historical.

Professor Savery.

COMPARATIVE RELIGION.

21, 22. COMPARATIVE RELIGION. Two hours. M., Th., 10:20. An account of the nature and origin of religion, its early development and a comparison of the more advanced types. Especial attention will be given to Brahmanism, Buddhism, Confucianism, Zoroastrianism and Christianity. Lectures and readings in the sacred writing of the religions studied. Elective for Sophomores, Juniors and Seniors.

Professor Savery.

EDUCATION.

ALBERT HENRY YODER, *Professor.*
FLETCHER HARPER SWIFT, *Assistant Professor.*

It is the proper function of the University as the head of the system of public instruction, to furnish properly trained superintendents, principals and assistants for the larger public schools, and instructors for high schools and academies. It is hoped that by the instruction given in the principles and methods of education these schools may be helped and brought into closer relations with the University.

The aims of the Department of Education may be briefly stated as follows:

1. To develop a conception of the meaning and purpose of education as a factor in human society.
2. To train students in scientific methods of dealing with educational problems.
3. To bring students into sympathetic relations with school work and to give them an intelligent appreciative comprehension of school life through actual observation and practice in neighboring schools.
4. To give a knowledge of the nature of the child and the involved problems.
5. To provide the state with teachers grounded in the principles and standards of sound teaching.

The work in this department is not academic and should not be undertaken until near the close of the college course. Before entering the department students should have completed one year in biology and one year in psychology. The course in sociology is required of all students who do major work in the department. For the Normal Diploma (see below for a fuller statement) the following courses are required: Courses 1 or 2, four hours; courses 3 or 4, four hours. Students who major in the department are required to take the above eight hours and sixteen hours of additional work arranged by the director.

NORMAL DIPLOMA.

A Normal Diploma, equivalent to a life certificate to teach in the public schools of Washington without further examina-

tion, will be granted upon the fulfillment of the following conditions:

1. Evidence of fitness to teach. This condition is determined by a conference of the professors in the Department of Education with the professors in the student's major and collateral subjects. Natural fitness, scholarship and professional training are prominent considerations.

2. The satisfactory completion of the teacher's course or courses in the student's major subjects and collateral subjects.

3. The satisfactory completion of the eight hours of required work (see above), in the Department of Education.

A recommendation to teach certain subjects will be granted each recipient of a normal diploma.

SUBJECTS.

1, 2. CHILDHOOD AND ADOLESCENCE. First Semester, 9:25; Second Semester, 8:30. Emphasis is placed upon adolescence during both semesters. Texts: Kirkpatrick's Essentials of Child Study. Hall: Adolescence. Characterization of six adolescents from literature; hygiene of growth; intellectual development and education; evolution of the feelings; social adjustment; moral and religious education. Two lectures, one recitation, interpretation of collected data one hour per week. Required of all students who major in the department; four hours' work required for the Normal Diploma.

Professor Yoder.

3, 4. HISTORY OF EDUCATION. First Semester, 8:30; Second Semester, 9:25. This course is designed both for those who intend to teach and for those who are interested from a cultural or sociological point of view in the history of educational thought and progress. The course aims, first, to show education as a process of conscious social evolution; second, to present as type studies the systems out of which modern educational institutions, theory and practice have arisen; third, to show the relation of these to their predecessors. During the first semester are studied the primitive, Oriental, Greek, Roman, Mediæval, and Humanistic types. During the second semester, the types studied include the prominent educational tend-

encies from the time of the German Renaissance to the present. Text, both semesters: Monroe's History of Education. Four hours' required for the Normal Diploma.

Assistant Professor Swift.

5, 6. PHILOSOPHY OF EDUCATION.. Two hours. M., W., Float. This course is designed both for those who intend to teach and for those interested in a basic study of the different factors of education. It aims, first, to answer the questions of the origin, the nature, and ultimate purpose of education as a permanent factor in social and individual evolution; second, to formulate the principles underlying such evolution; and third, to develop ability to do philosophic thinking upon educational problems. One year in biology and one in psychology and logic are essential prerequisites. The work consists of lectures, recitations, collateral reading and discussions. Text: First semester, Horne's Philosophy of Education; second semester, to be selected.

Assistant Professor Swift.

7, 8. GENERAL METHOD. Two hours. Tu., F., 10:20. This course is designed only for those who intend to teach. It aims, first, to show the processes involved in acquiring knowledge; second, to present the general principles upon which any sound method of instruction and acquisition must be based. It is advisable that the course in "The Course of Study" be taken in connection with this.

Assistant Professor Swift.

9, 10. COURSE OF STUDY. Two hours. M., Th., 10:20. A study of the curriculum of the secondary school; one visit to a high school and one conference a week. Topics: Organization of the high school; educational value of the elements of the course; recitation and laboratory schedules; student enterprises.

Professor Yoder.

11, 12. SCHOOL ORGANIZATION AND SUPERVISION. 3 to 5 p. m., Tu., F. Text: Chancellor's Administration and Supervision of Schools. This course is open only to those who have had considerable teaching experience and who plan to take up

supervision. One conference and one recitation each week; frequent visits to the various educational agencies of Seattle and surrounding towns and cities; comparison of school systems at home and abroad by means of city, state and government reports.

Professor Yoder.

13, 14. PROBLEMS OF CHILDHOOD AND ADOLESCENCE OR SCHOOL SUPERVISION. Time to be selected. Individual research; results to be presented to the department in the form of reports and a final thesis; credit determined by the amount and quality of the work.

Professor Yoder.

15, 16. JOURNAL CLUB. Two hours. Tu., Th., Float. This course is designed only for teachers of experience and mature students. The work consists of reports and discussions based on the reading of current educational literature. The aims of the courses are, first, to present the most prominent problems in education; second, to develop a scientific and critical attitude of dealing with the same; and third, to familiarize students with the best current educational literature.

Assistant Professor Swift.

17, 18. OBSERVATION AND PRACTICE. Two hours of two afternoons a week. One hour reports and directions; arranged for students who have never taught; no more than six students will be assigned during one semester; credit is determined by the quality of the work.

Professor Yoder.

POLITICAL AND SOCIAL SCIENCE.

J. ALLEN SMITH, *Professor.*

VANDERVEER CUSTIS, *Assistant Professor.*

1a. THE ELEMENTS OF ECONOMICS. First Semester. 9:25. An introductory study of the principles governing the production and distribution of wealth, with special reference to some of the more prominent aspects of modern industry. This course is parallel to Economics 1b, and is intended primarily for students in the College of Engineering.

Assistant Professor Custis.

1b. THE ELEMENTS OF ECONOMICS. First Semester. 11:15. This course is arranged primarily for students in the College of Liberal Arts.

Professor Smith.

2. THE ECONOMIC HISTORY OF THE UNITED STATES. First Semester. 10:20. A study of the development of the United States in some of its most important economic and financial aspects. Among the subjects taken up are: The commercial and industrial aspects of the Revolution; the development of the protective tariff and of manufactures; the economic basis of slavery; and the growth of transportation and the settlement of the West. Prerequisite, 1a or 1b.

Assistant Professor Custis.

3. THE MONOPOLY PROBLEM. Second Semester. 11:15. The development of the railway system and its influence upon industrial and political life; the growth of combinations and trusts; government regulation of monopolies. Prerequisite, 1a or 1b.

Professor Smith.

4. THE PRINCIPLES AND METHODS OF TAXATION. Two hours. Second Semester. W., F., 9:25. A study of the different forms of taxation, their efficiency in raising revenue, and their effect on social welfare. Prerequisite, 1a or 1b.

Assistant Professor Custis.

5. STATISTICS. Two hours. Second Semester. M., Th., 9:25. The course deals with the methods of interpreting and presenting groups of facts, chiefly of economical and social im-

portance. The work consists of reading, chart work, and class room discussion. So far as possible students will be allowed to investigate statistically, as a part of their work, subjects in which they are especially interested. Prerequisite, 1a or 1b.

Assistant Professor Custis.

6. LABOR. Two hours. Second Semester. M., Th., 10:20. The effect of modern industrial changes upon the wage-earning class; the growth of labor organizations and their objects and methods; employers' associations; labor legislation. Prerequisite, 1a or 1b.

Professor Smith.

7. THE DISTRIBUTION OF WEALTH. Second Semester. 10:20. The course deals with some of the plans suggested for social reform, such as Anarchism, Communism, and Socialism. Under the last head will be included, not only Socialism proper, but "State Socialism," "Agrarian Socialism" (Single Tax), and "Religious Socialism" ("Altruistic Socialism"). Prerequisite, 1a or 1b.

Assistant Professor Custis.

8. MONEY AND BANKING. First Semester. 10:20. A discussion of the principles relating to this branch of economics, followed by a review of the more important monetary and banking legislation of the last century. Prerequisite, two courses in Economics.

Professor Smith.

9. PRINCIPLES OF SOCIOLOGY. First Semester. 8:30. A consideration of the causes and methods of the development of society. Special attention is devoted to an examination of the origin and function of some of the most important social institutions, such as the family, the religious organization, and the political organization.

Assistant Professor Custis.

10. SOCIAL PROBLEMS. Second Semester. 8:30. A study of the most important problems before American society today, such as: poverty, pauperism, intemperance, and crime, and the methods of dealing with them. Prerequisite, Economics 1a, 1b or 9.

Assistant Professor Custis.

11, 12. CONSTITUTIONAL GOVERNMENT. Float. A discussion of the political theories of the last two centuries with special reference to their influence upon the constitution and development of the United States. Prerequisite, Courses 5 and 13 in History.

Professor Smith.

13. MUNICIPAL GOVERNMENT. Two hours. Second Semester. Tu., F., 10:20. The development of municipal government in the United States and its relation to the state government; present tendencies in municipal organization; municipal problems. This course ought to be taken in connection with or after the course on Constitutional Government. Prerequisite, 1a or 1b.

Professor Smith.

14. PUBLIC INTERNATIONAL LAW. Two hours. Second Semester. W., F., 9:25. The history and development of Public International Law with special reference to American diplomacy.

Professor Condon.

HISTORY.

EDMOND STEPHEN MEANY, *Professor.*
GEORGE HENRY ALDEN, *Associate Professor.*

Effort is made to give the students a survey of the field of history as broad as possible without detracting from a thoroughness of the study. With this in view, the courses are arranged in the order it is desired that the work be followed. Stress is laid upon the use of the best authorities, and upon frequent reference to historical sources, whenever available. The library is being constantly enriched in the lines of history. A special library, known as the Frederic James Grant Memorial Library of American History, has been greatly increased within the last few years. Students are also trained in methods of history, receiving practice in the collection and use of materials for local history, as well as in the preparation of theses in the broader fields.

SUBJECTS.

1, 2. THE ENGLISH PEOPLE AND INSTITUTIONS. Section A, 8:30.; Section B, 10:20; Section C, 11:15. From the Anglo-Saxon invasion to the present time. Students beginning work in the Department of History are recommended to start with this course. *Associate Professor Alden.*

3a. GREECE. Two hours. First Semester. Tu., Th., Float. A study of the Hellenic peoples from Homer till the Roman subjugation. Not open to students who have presented a year's work in ancient history for entrance.

Associate Professor Alden.

3b. ROME. Two hours. Second Semester. Tu., Th., Float. From the foundation of the city to the fall of the Western Empire with particular attention to the development of Roman political institutions. Not open to students who have presented a year's work in ancient history for entrance.

Associate Professor Alden.

4. WESTERN EUROPE. Second Semester. Float. From the fall of the Western Roman Empire to the present time. A general course on feudalism, the church, the monarchy, and other institutions of mediæval and modern times, together with the rise and development of the nations of Western Europe. Omitted in 1906-07. *Associate Professor Alden.*

5. THE AMERICAN COLONIES, THE REVOLUTION AND THE CONSTITUTION. First Semester. 9:25. Discussion of the period from 1492 to 1829. Lectures, collateral reading, reports.

Professor Meany.

6. ERA OF SLAVERY, CIVIL WAR AND RECONSTRUCRION. Second Semester. 9:25. Discussion of the period from 1829 to 1889. Lectures, collateral reading and reports.

Professor Meany.

7a. THE FRENCH REVOLUTION. Two hours. First Semester. M., W., Float. Lectures, class discussions, and library work on the causes and general course of the revolution till the rise of Napoleon Bonaparte. Open to seniors, juniors, and others who have had 2 or 4.

Associate Professor Alden.

7b. THE NAPOLEONIC ERA. Two hours. Second Semester. M., W., Float. European history as centered in the public career of Napoleon Bonaparte. Open to seniors, juniors, and others who have had 2 or 4.

Associate Professor Alden.

8. EUROPE IN THE NINETEENTH CENTURY. Second Semester. Continuation of 7b from the fall of Napoleon through the century. The development of liberal political systems in European states and the course of international relations to the present time are studied as a means of understanding present political conditions in Europe. Omitted in 1906-07.

Associate Professor Alden.

9, 10. NORTHWESTERN HISTORY. Two hours. M., W., 11:15. From the earliest voyages of discovery to the settlement and organization of the territories. Lectures. Theses on assigned topics.

Professor Meany.

11. SPAIN IN AMERICA. First Semester. 10:20. 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. Lectures and theses.

Professor Meany.

12. DEVELOPMENT OF THE PACIFIC. Second Semester. 10:20. History of the countries bordering upon the Pacific Ocean, with special reference to the changes now in progress of development. Lectures, collateral reading and theses.

Professor Meany.

13. HISTORY OF THE ENGLISH CONSTITUTION. First Semester. Float. The evolution of the British governmental system is studied, particular attention being given to the British political system of today. Prerequisite, History 1, 2. Omitted in 1906-07.

Associate Professor Alden.

14. MAKERS OF THE NATION. Two hours. First Semester. Tu., F., 11:15. Lectures on the lives of Washington, Franklin, Jefferson, Jackson, Clay, Webster, Lincoln, Grant, Lee and others.

Professor Meany.

PHYSICS.

FREDERICK ARTHUR OSBORN, *Professor.*
HENRY LOUIS BRAKEL AND FRANK EDWARD JOHNSON, *Instructors.*

The instruction in this department is designed to meet the needs of three different classes of students. First, those who desire to complete a liberal education or to undertake the subject for its disciplinary value; second, those who wish to pursue it as a preparation for the engineering profession; and third, those who intend, for the purpose of teaching or investigation, to make the study of physics their life work.

I. Students who wish physics as a part of a general education are advised to elect the following courses, in order given, 1, 2, and 9.

II. Students who major in physics with a view to teaching should elect courses 1a, 2a, 4, 5 and 9 and take as many as possible of the following courses: 3, 6, 7, 8, 10, 16, 17, 18, and 19.

A student may begin his University work in physics either the first or second semester. Students presenting note-books from high school physics laboratories approved by this department may be excused from about one-third of the laboratory work in Courses 1 and 2.

SUBJECTS.

1. MECHANICS, HEAT AND SOUND. First Semester. W., Th., F., 9:25. This course is planned for those who wish a year of physics as a part of a general education. It will take a survey of the great facts and principles of physics, dealing with them from the experimental descriptive side very largely. The history of the science will be made a prominent feature of the course. Three lectures and one laboratory period each week. Laboratory Tu., or Th., 1:15.

Professor Osborn, Mr. Brakel and Mr. Johnson.

2. ELECTRICITY AND LIGHT. Second Semester. W., Th., F., 9:25. A continuation of Course 1.

Professor Osborn, Mr. Brakel and Mr. Johnson.

1a. MECHANICS, SOUND AND LIGHT. First Semester. 8:30. Laboratory, Section A, W., F.; Section B, Tu., Th.,; Section C, M., S. *Professor Osborn, Mr. Brakel and Mr. Johnson.*

2a. ELECTRICITY AND HEAT. Second Semester. 8:30. Laboratory, Section A, F.; Section B, Tu.; Section C, W.
Professor Osborn, Mr. Brakel and Mr. Johnson.

Courses 1a and 2a are primarily for students of engineering, but may be elected by students in other departments, provided they have had eight hours of mathematics.

3. LIGHT. PRESTON. First Semester. Hours to be selected. Two lectures and two laboratory periods.
Professor Osborn.

4. ELECTRICAL MEASUREMENTS. Three or four hours. First Semester. M., 10:20. Prerequisites, 1, 2.
Mr. Brakel.

5. PRIMARY AND SECONDARY BATTERIES. Two or three hours. First Semester. Th., 10:20. Laboratory: Tu., F., 10:20 to 12:10. Prerequisites, 1, 2.
Mr. Brakel.

6. THEORETICAL MECHANICS OR MATHEMATICAL ELECTRICITY. Two hours. First Semester. Tu., Th., Float. Prerequisites, 1 and 2, and Calculus.
Professor Osborn.

7. HEAT. PRESTON. Second Semester. Hours to be selected. Two lectures and two laboratory periods.
Professor Osborn.

8. SOUND. Second Semester. Hours to be selected. Everett's Vibratory Motion and Sound. Two lectures.
Professor Osborn.

9. HISTORY OF PHYSICS. One hour. Second Semester. Tu., Float. Prerequisites, 1, 2.
Professor Osborn.

10. TEACHERS' COURSE. Two hours. Second Semester. This is designed for those who wish to teach physics. It will consider the history of physics, methods of teaching, organization and equipment of laboratories, and a review of some of the literature of physics. The student will be given an opportunity to take up some of the simpler parts of physical technics. Open to those who receive special permission.
Professor Osborn.

16, 17. DYNAMO ELECTRIC MACHINERY. Two hours. W., F., 8:30. Theory of magnetic circuit, construction, operation and characteristics of direct current dynamos and motors. Prerequisites, 1a, 2a.

Professor Magnusson.

18, 19. ALTERNATING CURRENTS. Three hours. M., W., F., 9:25. Theory and applications of alternating currents, power measurements, alternators, transformers, induction motors, synchronous motors, rotary convertors. Prerequisite, 1a, 1b.

Professor Magnusson.

Courses 16, 17 correspond to Courses 1a, 1b, and Courses 18, 19 to Courses 6a, 6b in Electrical Engineering. Laboratory work may be elected in both courses.

20. GRADUATE WORK. Courses 3 to 19 are for major or graduate students, and other work will be offered to meet the needs of the more advanced students.

Students conditioned in physics for admission to the University will be given an opportunity to work off the condition under a tutor appointed by the department and paid by the student.

CHEMISTRY.

HORACE BYERS AND CHARLES WILLIS JOHNSON, *Professors.*

HENRY KREITZER BENSON AND IRVIN WALTER BRANDEL, *Assistant Professors.*

JAMES H. HANCE, *Instructor.*

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, and 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.

SUBJECTS.

1a, 2a. ENGINEERING CHEMISTRY. Tu., W., F., 11:15. This course consists of illustrated lectures supplemented by quizzes. Laboratory work during the first semester consists of illustrative experiments, many of which are quantative. The work of the second semester is largely qualitative analysis. Smith's University Chemistry and Laboratory Manual are used and Dennis and Whittlesey in quantitative. Prerequisite, a high school course in chemistry or simultaneous carrying of the Zero course. Laboratory work, Tu., Th., 1:15.

ZERO. Throughout the year. M., 11:15. Many students come from high school courses of which chemisty forms no part and in order to make it possible for them to carry the regular work a supplementary course is offered. It must be taken, if at all, with Course 2. It consists of an extra quiz on the lecture work and four hours of laboratory work per week. Laboratory work either Friday morning or Saturday afternoon. If not required for entrance credit it will be given two hours credit.

Professor Byers, Assistant Professor Benson and Mr. Hance.

1. GENERAL INORGANIC CHEMISTRY. Five hours. First Semester. 11:15. A lecture and quiz course on the principles of general inorganic chemistry with special reference to the needs of students in pharmacy and those preparing for the study of medicine.

Professor Johnson.

2. ORGANIC CHEMISTRY. Five hours. Second Semester. 11:15. A lecture and quiz course on the chemistry of the compounds of carbon. This course is designed for students of pharmacy as well as for those preparing to study medicine. Special attention will be called to the organic compounds used in medicine, also to those parts of the subject which form a portion of the study of physiological chemistry.

Professor Johnson.

1b, 2b. LABORATORY COURSE IN GENERAL CHEMISTRY, QUALITATIVE ANALYSIS AND ORGANIC PREPARATIONS. Five hours. T., W., Th., F., 1-4 p. m., Sat. 9-12 a. m. This course is designed to accompany Courses 1 and 2. The year's work will be divided into three parts, twelve weeks being given to general inorganic

laboratory work, twelve weeks to the study of qualitative analysis and twelve weeks to the manufacture and study of such organic preparations as best illustrate the subject and are of interest to students of pharmacy and medicine.

NOTE: Students who enter with high school chemistry will receive five hours' credit per semester for Courses 1, 2, 1b and 2b. Students who enter without having had high school chemistry will receive four hours' credit per semester for each course and in addition on completing the year's work will receive one unit entrance credit.

Professor Johnson.

3, 4. ORGANIC CHEMISTRY. Tu., Th., F., 10:20. A lecture course on the chemistry of the compounds of carbon with special reference to the Aliphatic and Aromatic series. It consists of three lectures and quizzes and four hours of laboratory work per week. A text-book is followed as a lecture syllabus. Holleman. Laboratory work based on Gatterman. Prerequisite, 1, 2.

Professor Byers.

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. W., F., 9:25. 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.

Professor Byers.

6. QUANTITATIVE ANALYSIS. Both Semesters. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week, M., W., F., afternoons and S. morning. This course is given in both semesters and if taken in the first semester the work may be continued throughout the year. Prerequisite, 2.

Professor Byers and Assistant Professor Brandel.

7. INDUSTRIAL CHEMISTRY. Second Semester. M., Th., F., 10:20. A course designed primarily for engineering students. It will take up subjects of importance along engineering lines and discuss them with respect to manfacture and applications. About one-half of the time is spent in a discussion of the manufacture and applications of iron and steel. This treat-

ment will be supplemented by lantern slide illustrations, trips to industrial plants and by numerous drawings and samples. Each student will be expected to prepare a paper on some assigned subject. Three lectures or quizzes will be given each week and four hours of laboratory work F., 1:15.

Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. Tu., Th., Float. An elementary course consisting of lectures upon fundamental principles of chemistry based upon physical measurements. The laboratory work consists of determinations of molecular weights by the various methods, construction of solubility curves, specific gravity and conductivity measurements, etc., Prerequisites, 6, and College Physics.

Assistant Professor Benson.

9. ELECTRO CHEMISTRY. Second Semester. Tu., Th., Float. 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. Prerequisites, 8, and College Physics.

Assistant Professor Benson.

10. INORGANIC PREPARATIONS. Second Semester. Methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles. Twelve laboratory hours per week. Prerequisite, 6.

Professor Byers.

11, 12. SPECIAL METHODS. Analysis of water, gas, foods, etc. This course will be essentially an advanced course in quantitative analysis and will take up subjects in addition to those indicated according to the line of work which the student hopes to pursue later. This course is open only to advanced students of the department and will be given by the member of the staff most interested in the special subjects chosen. The work of the first semester will be essentially the same for all students.

Professor Byers.

13, 14. ORGANIC PREPARATIONS. An advanced course in organic work which requires reference to original literature and which will render necessary a reading knowledge of German. This course will be supplemented by a course of lectures on the history of chemistry. (Two lectures and eight to sixteen hours of laboratory work per week for six credits per semester. Prerequisites, 4, 6.)

Professor Byers.

15. INVESTIGATION. Any student who has completed at least three years' work in chemistry may, if he desires, 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 a master's degree.

16. PROSPECTOR'S COURSE. Tu., W., Th., 8:30. To meet the demand, a special course in chemistry will be given to miners who may enter January 1, and will continue to May 1. It will not require any previous knowledge of chemistry, and will be merged into a course of qualitative analysis. The text-book required is Hessler & Smith. Laboratory work, Wed. p. m.

Mr. Hance.

17. PHYSIOLOGICAL CHEMISTRY. First Semester. W., F., 9:25. Lectures and laboratory work on Carbohydrates, Fats, Proteids, Gastric Juice, Blood Tests and Analysis of Urine, including the microscopic examination of urinary sediments. Assigned reading. Two lectures and six laboratory hours per week.

Professor Johnson.

18. TOXICOLOGY. Second Semester. W., F., 9:25. Lectures and recitations on the physiological action of the various poisons, their antidotes and methods of using the same. Laboratory work on methods of separating and estimating inorganic and organic poisons from animal tissue.

Professor Johnson.

19. CHEMISTRY OF ALKALOIDS AND OTHER PLANT PRINCIPLES. Two to four hours. Second Semester. Methods of separating, estimating and identifying the active principles of

medicinal plants. This course is open to all students who have preparation in organic and analytical chemistry sufficient to carry the work. Two to four laboratory periods per week.
Professor Johnson.

20. CHEMICAL CLUB. A journal club consisting of members of the teaching force and of advanced students in the department meets every Thursday evening to discuss current events and to listen to prepared papers on topics of special interest. Students properly registered by their class advisors for this club will receive one scholastic credit per semester if they comply with the requirements of the club. During the year 1905-6 the History of Chemistry has been systematically studied and the course will be continued through 1906-7.

BOTANY.

THEODORE CHRISTIAN FRYE, *Professor.*

The coures in Botany are planned with the following things in view: (a) To give the students an opportunity to become familiar with the plants of this region; (b) to bring out the unity of structure and similarity of function in the plant kingdom as a part of a general education; (c) to prepare students for teaching or investigation; (d) to meet the requirements for students of pharmacy.

1, 2. GENERAL MORPHOLOGY. M., W., 9:25. A course planned for those who wish a year of scientific botany as part of a general education. Study of types with a view of the evolution of the plant kingdom. The general basis of classification. Analysis of some simple Phanerogams. This course is the best basis for advanced work. Laboratory, M., W., or Tu., F.
Professor Frye.

3. PLANT PHYSIOLOGY. First Semester. M., W., 11:15. The general laws of plant activities; discussing the manner in which gases, water and salts get into a plant, how food is formed from them, how it is digested and assimilated, and how the plant grows and moves. Six hours laboratory work. Prerequisite, 2.
Professor Frye.

4. FIELD BOTANY. Second Semester. M., Th., 10:20. Collection, identification, and preservation of plants. Morphology of types of flowering plants and ferns with a view to their analysis. This course is open to students entering the second semester. Six hours laboratory or field work.

Professor Frye.

5. HISTOLOGY. First Semester. Th., Float. The preparation of slides for the microscope. Includes imbedding, use of the microtome and various stains. Examination of tissues. Methods of drawing. Measurements of magnifications. Six hours laboratory work.

Professor Frye.

6. ECOLOGY. Second Semester. M., W., 11:15. Ecology attempts to explain why plants have particular habitats, forms, colors. It is a study of plant societies, the struggle for existence, and a comparison of plants in their water relations. Six hours laboratory or field work.

Professor Frye.

7, 8. PHARMACEUTICAL BOTANY. Three hours. Tu., 8:30. How to use the microscope. Study of the cell. Structure of flowering plants. Preparation of simple slides for the microscope. Study of natural orders of flowering plants. As far as possible medicinal plants will be studied. Six hours laboratory work.

Professor Frye.

9. BOTANICAL LECTURES. One hour. Second Semester. Th,. Float. A course of lectures on general botanical subjects, among which are: The evolution of sex in plants; grafting; the herb, shrub, tree, vine, habit; the fig; mangroves; the old and the new botany; plant hairs; water plants; desert plants; seed dispersal; pollination; Burbank's methods and work. Most of them illustrated with lantern slides. Open to students entering the second semester.

Professor Frye.

10, 11. BACTERIOLOGY. Tu., F., 11:15. A course in general bacteriology with special emphasis on pathogenic forms. How to find them, recognize them, and tell what they do. Six hours laboratory work.

12. TEACHING OF BOTANY. One hour. Second Semester. W., 8:30. Comparison of botanical texts. Discussion of the subject matter of high school botany. Collection of material for teaching. A course for students who expect to teach the subject.

ZOOLOGY.

TREVOR KINCAID, *Professor.*
CHARLES WILLIAM PRENTISS, *Assistant Professor.*

In this department the more elementary courses are designed with especial reference to the place of zoology in the general scheme of a liberal education. By means of the laboratory method the student is brought in direct contact with the facts of nature and taught to interpret the phenomena of life at first hand. An effort is also made to pave the way for a more through understanding of the related sciences in which biological principles play an important role.

The advanced courses are more technical in character and are planned to meet the needs of those wishing to specialize in biology, and for students intending to enter the medical profession.

The environment of the University offers a most favorable opportunity for the study of natural history. The shores of Puget Sound are near at hand and make possible the study of marine animals in the living condition, while the lakes whose shores form portions of the boundaries of the campus swarm with fresh water organisms.

SUBJECTS.

1, 2. ELEMENTS OF ZOOLOGY. Tu., F., 11:15. A general review of zoological science, involving a study of the sturucture, classification and habits of the principal types included in the great branches of the animal kingdom. This course includes a series of lectures upon the more important theories of biology in order that the student may pursue the work from an interpretative standpoint. Field work is regarded as an essential

feature and parties are frequently taken to the sea shore and to other points of zoological interest during the season. Laboratory: Tu,, Th., or W., F.

Professor Kincaid and Mr. .....

3. COMPARATIVE HISTOLOGY. First Semester. M., Th., 10:20. An introduction to the study of the finer structure of the animal organization, involving the application of modern microscopic technique. Laboratory: Tu., Th., or W., Fr.

Professor Kincaid.

4. VERTEBRATE EMBRYOLOGY. Second Semester. M., Th., 10:20. A study of the comparative developmental history of the vertebrates, based upon the embryonic development of the chick, with supplementary work upon the embryos of other vertebrate forms. Laboratory: Tu., Th., or W., F.

Professor Kincaid.

5, 6. VERTEBRATE ZOOLOGY. M., Th., 9:25. A study of the vertebrates from the standpoint of comparative anatomy. Types of the principal groups of backboned animals are dissected, and the classification of the phylum is dealt with from the point of view of genetic relationship. Prerequisite, 1 and 2 or their equivalent. Six hours laboratory work.

Assistant Professor Prentiss.

7, 8. ELEMENTARY PHYSIOLOGY. W., F., 8:30. A general course, dealing with the physiological activities of the human body. No prerequisite is demanded for this course, but it is advised that it be preceded or accompanied by a course in chemistry. Students may enter this course at the beginning of the second semester. Laboratory: M.

Assistant Professor Prentiss.

9, 10. ADVANCED PHYSIOLOGY. Tu., Fr., 10:20. This course is designed especially for students who are preparing for the study of medicine, and includes the experimental investigation of the physiology of muscle and nerve, of circulation, of digestion, respiration and excretion. Prerequisite, 7 and 8 or their equivalent. Six hours laboratory work.

Assistant Professor Prentiss.

11. ENTOMOLOGY. Second Semester. W., F., 9:25. The structure, classification and natural history of insects. This course involves the collection, preservation, and identification of the insects found in the local fauna. Six hours laboratory work.

Professor Kincaid.

12. HISTORY. One hour. First Semester. W., 11:15. Lectures upon the historical development of zoological science, including the rise of the more important biological theories and the life work of representative naturalists. Prerequisite, 1 and 2 or their equivalent.

Professor Kincaid.

13. PROBLEMS OF EVOLUTION. Two hours. Second Semester. M., W., 11:15. A discussion of fundamental biological problems, including natural selection, utility, and heredity. Prerequisite, 1 and 2 or their equivalent.

Professor Kincaid.

14, 15. NORMAL COURSE. One hour. Designed to meet the needs of students who expect to teach zoology in the high schools of the state.

Professor Kincaid.

16, 17. RESEARCH. Students who are capable of carrying on independent research will be allowed to do so under the direction of the instructors in charge. Hours and credit to be arranged.

Professor Kincaid and Assistant Professor Prentiss.

GEOLOGY.

HENRY LANDES, *Professor.*

GEORGE NELSON SALISBURY, *Lecturer in Meteorology.*

HARRY MEAD AND WILLIAM ROBERT CALVERT, *Instructors.*

In this department about one-half of the subjects offered might be styled general subjects, and are such as may be taken by any one as a part of a liberal education. The remaining subjects are more technical and are designed for those who wish to engage in geological work as a profession. The method of instruction is in the main by lectures, laboratory exercises, and field work, and in every course a certain amount of reading is required. Lantern slides, photographs, maps, models, etc., are used extensively in a majority of the subjects as important means of illustration. In the laboratories for mineralogy and petrography there are good collections of minerals and rocks, with several petrographical microscopes and lathes for cutting and grinding rock sections. The country contiguous to the University is an inviting region for field work; while the University library has in it all of the government publications pertaining to the work of the department, besides much of the general literature on geology.

SUBJECTS.

1, 2. GENERAL GEOLOGY. Tu., W., F., 11:15. A year's course treating of the principal facts and general principles of the science. Lectures and recitations. Occasional field trips on Saturday. Laboratory, M., W., or Tu., Th., 1:15.

Professor Landes and Mr. Calvert.

1a. GENERAL GEOLOGY. First Semester. M., Tu., Th., 10:20. A semester's course for engineering students. Lectures and recitations. Laboratory work, Th., 1:15.

Mr. Mead.

3, 4. MINERALOGY. Three hours. M., Th., 9:25. Principles of crystallography; blowpipe methods in testing minerals; descriptve and determinative mineralogy. Lectures and recitations. Laboratory work, F., 1:15.

Mr. Mead.

5. METEROLOGY. First Semester. M., W., F., 9:25. A general consideration of the atmosphere; winds and storms; the causes and distribution of rainfall; weather; climate; etc. Lectures, recitations and laboratory work.

Professor Landes and Mr. Salisbury.

6. PHYSIOGRAPHY. Second Semester. M., W., F., 9:25. This course includes a study of the surface features of the earth, considered in the light of their origin and history; lectures upon the ocean, dealing with its composition, temperature, waves, currents, tides, life, etc.; instruction and practice in making relief maps. Lectures and recitations, with laboratory hours to be arranged.

Professor Landes.

(5 and 6 constitute an advanced or college course in physical geography. They are recommended for those who are preparing to teach in the public schools.)

7. PETROGRAPHY. First Semester. Tu., W., Th., Float. A study of the distinguishing characteristics of the different groups and species of rocks, with the methods of classifications employed. Lectures and recitations. Laboratory hours to be arranged. Prerequisites, 1, 2 and 3, 4.

Professor Landes.

8. ECONOMIC GEOLOGY. Second Semester. Float. A study of the origin and extent of metalliferous veins veins and ore deposits; varieties of coal, extent and locations of coal fields; gas and oil; origin, occurrences, and uses of clays; building and ornamental stones; minor mineral products of use in the arts and of commercial importance. Lectures and recitations. Prerequisites, 1, 2 and 3, 4.

Professor Landes.

9, 10. PALEONTOLOGY. Three hours. Tu, W., F., 8:30. The elements of invertebrate paleontology, consisting of a study of the hard parts of animals preserved as fossils, with their geologic and geographic distribution. Lectures and recitations. Laboratory hours to be arranged.

Professor Landes.

11. FIELD WORK AND RESEARCH. Second Semester. Instruction and practice in the methods of geologic field work; investigation of special problems in geology. To be taken by special permission. Credit and hours to be arranged.

Professor Landes.

ASTRONOMY.

PROFESSOR MORITZ.

1. GENERAL ASTRONOMY. Two hours. First Semester. M., W., Float. Brief outline of the fundamental facts in regard to the solar system and the stellar universe. The observatory is used for illustrative purposes.

2. PRACTICAL ASTRONOMY AND SPHERICAL TRIGONOMETRY. Two hours. Second Semester. M., W., Float. Solution of spherical triangles. Determination of time, latitude, and azimuth by means of the sextant and the engineer's transit.

MATHEMATICS.

ROBERT EDOUARD MORITZ, *Professor.*

JAMES EDWARD GOULD AND FRANK MARION MORRISON, *Assistant Professors.*

MR. ....., *Assistant.*

ADVICE AS TO CHOICE OF COURSES.

I. General students who pursue the study of mathematics primarily as a source of culture and discipline should take as many as possible of the following courses in the order given: 1 and 3, 2 and 4, 5, 6, 17.

II. Students who prepare to teach mathematics in the high schools should select their courses in the following order: 1 and 3, 2 and 4, 5, 6, 16, 17.

III. Engineering students who want the mathematics as a tool in practice should take courses 1a and 3, 2a and 4, 5a, 6a, 11, 14, and 15.

IV. Students who major or specialize in mathematics, or who want a thorough course in mathematics for advanced work in physics, chemistry or astronomy are advised to confer personally with the head of the department.

SUBJECTS.

Courses marked (E) are primarily for engineering students.

1. PLANE TRIGONOMETRY. First or Second Semesters. Section A: First Semester, Float. Section B: First Semester, 8:30. Section C: First Semester, 9:25. Section D: Second Semester, Float. Section E: Second Semester, 8:30.

This course is required of all freshmen in the College of Liberal Arts and may be taken either the first semester or the second. Students who expect to continue their mathematics should take the work during the first semester and follow it with Course 2 in the second semester.

Assistant Professors Gould and Morrison.

2. HIGHER ALGEBRA. Second Semester. 9:25. This course must be preceded by Course 1. The course includes a study of the binomial theorem for positive and negative exponents; imaginary numbers; mathematical induction; the doctrine of limits and indeterminates; permutations, combination and the elementary theorems in probability determinants; the principle of undetermined coefficients; and an introductory study of the binomial, logarithmic, exponential and trigonometric series and their convergency.

Assistant Professor Gould.

1a. (E) PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. Section A, 8:30; Section B, 10:20; Section C, Float.

Primarily for engineering students. The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers and their trigonometric representation, Demoivre's theorem, solution of trigonometric equations, the theory of logarithms, the logarithmic series, construction of logarithmic and trigonometric tables, the sine and cosine series and the trigonometric solution of the cubic.

Assistant Professors Gould and Morrison and Mr. ....

2a. (E) ANALYTICAL GEOMETRY AND HIGHER ALGEBRA. Second Semester. Section A, 8:30; Section B, 10:20; Section C, Float. Must be preceded by 1a. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equations; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The algebra consists of lessons supplementary to the analytical geometry, viz: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc.

Assistant Professors Gould and Morrison.

3 and 4. SOLID GEOMETRY. Two hours. W., F., 9:25. Open to all students but required of engineering students who have to their credit less than 1½ units in geometry. Should be taken by students who expect to do major work in mathematics.

This course covers the usual theorems with exercises and applications to the mensuration of surfaces and solids.

Assistant Professor Morrison.

5. ANALYTICAL GEOMETRY. First Semester. 10:20. Open to students who have completed Courses 1 and 2. Elements of plane analytics including the geometry of the conic sections and an introduction to the analytical geometry of three dimensions.

Professor Moritz.

6. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. 10:20. Open to students who have completed Course 5. A preliminary course in the calculus with simple applications to mathematical physics and chemistry.

Professor Moritz.

5a. (E) ANALYTICAL GEOMETRY. First Semester. Two hours. Section A, Tu., F., 10:20; Section B, M., Th., 9:25. Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. Prerequisites, 1a and 2a.

Professor Moritz and Assistant Professor Gould.

5b. (E) DIFFERENTIAL CALCULUS. First Semester. Section A, Float; Section B, 11:15. A study of the infinitesmal

calculus with special reference to the need of engineers. Prerequisites, 1a and 2a.

Assistant Professors Gould, Morrison and Mr. .....

6a. (E) DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Section A, Float; Section B ,11:15. Continuation of Course 5a.

Assistant Professors Gould and Morrison.

7 and 8. ADVANCED CALCULUS 8:30. Open to students who have completed Courses 6 or 6a. A comprehensive and rigorous course in the infinitesmal calculus, including a study of hyperbolic functions, elliptic integrals, definite integrals and the application of the calculus to questions of probability.

Professor Moritz.

9 and 10. THEORY OF EQUATIONS Open to students who have completed Course 6 or 6a. Omitted in 1906-07.

Professor Moritz.

11. METHOD OF LEAST SQUARES. Two hours. First Semester. Tu., Th., Float. Open to students who have completed Courses 6a or 7. An exposition of the theory of errors with numerical applications.

Professor Moritz.

12 and 13. ADVANCED ANALYTICAL GEOMETRY. Two hours. M., W., 11:15. Open to students who have completed Course 5 or 5a. Modern methods in analytical geometry; homogeneous coordinates, the principle of duality, poles and polars, reciprocal polars, abridged notation, etc. Omitted in 1906-07.

Professor Moritz.

14 and 15. DIFFERENTIAL EQUATIONS. Two hours. Tu., F., 11:15. This course presupposes Courses 6a or 8. An introductory course in the methods of solving differential equations.

Professor Moritz.

16. MATHEMATICAL PEDAGOGY. Two hours. First Semester. W., F., 11:15. Open to students who have completed at least 16 hours of mathematics in addition to the mathematics required for admission to the University. The course deals with such questions as the following: the educational value of mathe-

matics, the course of mathematics in the high schools, text-books and reference books, correlation of mathematics, the laboratory method, treatment of definitions and principles, reviews and examinations, etc. Omitted in 1906-07.

Assistant Professor Gould.

17. HISTORY OF MATHEMATICS. Second Semester. 9:25. Open to students who have completed Course 6 or 6a. A study of the history of elementary mathematics with special reference to mathematical pedagogy.

Assistant Professor Morrison.

18. MATHEMATICAL CLUB. Meets the first Tuesday evening of each month from 8:00 to 10:00 in Room 26, Science Hall. Student membership is restricted to those who have completed two years of mathematics in the University.

Students conditioned in the mathematics requirements for admission may remove the condition with the assistance of a tutor, regularly authorized by the department, and paid by the student.

PHYSICAL CULTURE.

PROFESSOR ROLLER AND MISS RUDBERG.

Two years work is required in the department of Physical Culture for graduation. The gymnasium is made a place of beneficial and carefully directed pleasure and recreation. The floor, apparatus and baths are accessible at all hours, and the athletic and competitive spirit is encouraged in every exercise to stimulate vim and enthusiasm in the work.

Ample opportunity is offered for the development of prize-winners, and star performers, but the policy of the department is, first, to aid those who are afflicted or deformed, and the Director's services are available as a practicing physician.

The department aims secondly to preserve the health of those who are sound and well. To this end carefully graded apparatus and calisthenic work is recommended according to the particular needs of the student; and when desired, practical instruction as well as beneficial exercise may he had in wrestling, boxing, and fencing. In these especial attention is paid to the most scientific and effective methods of self-defense.

It is the object of this department in the third place, to disseminate such knowledge of the fundamental principles of self-preservation as will make students in college and in after life to a reasonable extent masters of themselves. To this end lectures are given throughout the course upon the cardinal elements of Histology, Anatomy, Physiology, and Hygiene, and considerable attention is paid to emergency aid to the ill or injured.

A certificate of graduation from the Department of Physical Culture, bearing the seal of the University, may be obtained upon complying with the following requirements, viz:

1. The 128 credits required for graduation from the College of Liberal Arts.

2. The major work must be taken in the department of Biology, the courses having been outlined by the professor in charge and endorsed by the Professor of Physical Culture.

3. Four hours of advanced work in physical culture as follows:

1. Physical examination and Anthropometry.
2. Advanced apparatus work.
3. Specialties—fencing, dancing, boxing, wrestling, games, etc.
4. Organization and teaching.

SUBJECTS.

1, 2. APPARATUS WORK. Section A, Tu., Th., 3 p. m.; Section B, Tu., Th., 4 p. m. For men. Regular Freshman course. *Professor Roller.*

3, 4. APPARATUS WORK. Section C, M., W., 3 p. m.; Section D, M., W., 4 p. m. For men. Regular Sophomore course. *Professor Roller.*

1a, 2a. FLOOR WORK. Section A, Tu., Th., 3 p. m.; Section B, Tu., Th., 4 p. m. For women. Regular Freshman course. *Miss Rudberg.*

3a, 4a. FLOOR WORK. Tu., Th., 4 p. m. For women. Regular Sophomore course. *Miss Rudberg.*

5, 6. LECTURE. F., 4 p. m. For both men and women. *Professor Roller.*

COLLEGE OF ENGINEERING.

THE FACULTY.

THOMAS FRANKLIN KANE, Ph. D., *President.*

ALMON HOMER FULLER, C. E., Professor of Civil Engineering, *Dean.*

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

HORACE BYERS, Ph. D., Professor of Chemistry.

MILNOR ROBERTS, A. B., Professor of Mining Engineering and Metallurgy.

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

ROBERT EDOURD MORITZ, PH. D., Professor of Mathematics and Astronomy.

BENJAMIN FRANKLIN ROLLER, A. B., M. D., Professor of Physical Culture and Hygiene.

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

EVERETT OWEN EASTWOOD, B. S., C. E., Professor of Mechanical Engineering.

JAMES EDWARD GOULD, Ph. B., Assistant Professor of Mathematics.

HENRY KREITZER BENSON, A. M., Assistant Professor of Chemistry.

CHARLES CHURCH MORE, C. E. Assistant Professor of Civil Engineering.

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

FRANK MARION MORRISON, A. B., Assistant Professor of Mathematics.

LOREN DOUGLAS MILLIMAN, A. B., Assistant Professor of Rhetoric.

ALONZO KEYT ISHAM, B. S., Assistant Professor of Mechanical Engineering.

CHARLES EVAN FOWLER, M. AM. SOC. C. E., Lecturer on Engineering Contracts and Specifications.

ELBERT GROVER ALLEN, M. S., Lecturer and Consulting Electrical Engineer on Electric Traction.

JAMES DELMAGE ROSS, Lecturer and Consulting Electrical Engineer on Central Station Practice.

JOHN HARRISBURGER, Lecturer and Consulting Engineer on Power Transmission.

WILLIAM BOUSE HAMPSON, M. E., Director of Shop Work.

IDA KATHERINE GREENLEE, A. B., Instructor in English.

HENRY LOUIS BRAKEL, A. B., Instructor in Physics.

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

HARRY MEAD, E. M., Instructor in Mining and Geology.

HENRY LEE BOWLBY, B. S., Instructor in Civil Engineering.

JAMES H. HANCE, A. B., Instructor in Chemistry.

CHARLES B. GIBBONS, Assistant in Descriptive Geometry.

WILLIAM R. LINDSAY, Assistant in Surveying.

PURPOSE.

The College of Engineering offers four complete courses: Civil, electrical, mechanical and chemical engineering.

The aim of this college is to impart such training as will prepare its graduates for successful careers in their chosen professions. During the freshman and sophomore years there is laid a broad foundation of mathematics, physics, chemistry, English, drawing and surveying. The last two years are devoted to work more purely professional. The usual methods of text-book study, recitations and lectures are employed and the student is required to supplement these, as far as possible, with actual practice in the field and laboratory, and by making tests of available commercial plants. Occasional inspection tours among the varied engineering interests in Seattle and vicinity furnish excellent illustrations. Engineering students are strongly advised to devote their vacations to surveying, draughting, work in factories, repair shops, electric light and railway stations and similar work, in order to obtain commercial experience and a better appreciation of the relation of technical training to practical work.

Class room and public lectures of special interest to engineers are given from time to time by the leading consulting and contracting engineers of the vicinity.

The Pacific Northwest, in its present state of rapid development offers exceptional opportunities for engineers and engineering students. The large amount of work under construction and in operation furnishes splendid object lessons for illustrating and supplementing the University work. The engineers of the vicinity have been very generous in extending courtesies to the classes on their various trips of inspection and thoughtful in considering them when in need of assistance. All of the graduates of the college have been immediately placed in desirable positions and a large percentage of the undergraduates have always been able to secure vacation work with surveying parties, in draughting rooms and in power plants and factories.

The State of Washington is exceedingly well supplied with water power, a considerable portion of which is still in its undeveloped state. This offers a great field for hydraulic and electrical engineers for the most economical and flexible means of utilizing this power and distributing it by the agency of electricity.

The Snoqualmie falls station, the Puget Sound Power Company's plant on the Puyallup river and the Seattle Municipal plant on Cedar river having a combined output of 44,000 horse power, are all within thirty-five miles of the University and delivering power into the city. They are splendid examples of hydraulic and electric development and of high tension and power transmission work.

Numerous other plants are in successful operation throughout the state. As the country continues to develop, the increased demand for power will call for development of many of the still unused water powers, and demand the services of men especially trained to do that kind of work and do it economically. Especial attention is being given to this phase of the hydraulic and electrical courses.

The course in Chemical Engineering is designed for those who wish a thorough training in the fundamental branches of engineering as a means of strengthening their work in the applied lines of chemistry and in the belief that such a system of training will increase the present tendency for the chemists of the large industries to develop into superintendents and managers.

GOVERNMENT TIMBER TESTING SERVICE

The United States Government through its Forest Service has designated the University of Washington to be the site of a Government Timber Testing Station. A Timber Testing Engineer has been stationed here and actual work in the investigation of the mechanical properties of Northwestern timber will be regularly carried on. Engineering students will be able to derive much interest and value from this. The structural materials testing laboratory is used jointly for this work and for University instruction and investigation.

LABORATORIES.

For a description of the laboratories of the College of Engineering, as well as other University laboratories used by engineering students, see page 31.

ADMISSION.

The requirements for admission to the Freshman class of the College of Engineering are:

English	4
Algebra	1½
Plane Geometry	1
Solid Geometry	½
Physics	1
Chemistry	1
Modern Language	2
History	1
Civil Government	½
Elective	2½
Total	15

For more specific information concerning the preparation necessary to meet the above requirements and list of electives, see page 45.

It is desirable for the student to review his preparatory mathematics just before entering the College of Engineering. By such a step much time will be saved and the work of the College will be rendered far more valuable.

The Freshman work in the several courses is identical, thus making it possible for a student to delay the definite choice of a course until the beginning of the Sophomore year.

SEMINARY.

The senior students will be expected to meet for an hour each week, with one of the instructors in their respective departments for the consideration and discussion of engineering questions, not specifically covered by the class room work. In connection with this each student will do systematic reading in the engineering periodicals and submit both oral and written reports.

The juniors will attend certain meetings of the seminary when requested by their class advisers, and each present at least one formal paper each semester.

THESIS.

A graduating thesis is required of each student of the College of Engineering in his senior year. It is intended that this thesis shall represent original research or design in some branch of engineering, or the careful 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.

DEGREES.

The courses of the College of Engineering lead to the degree of Bachelor of Science (B. S.), in civil, mechanical, electrical and chemical engineering, respectively.

DEGREES WITH HONORS.

A degree with honors in engineering may be conferred upon any student of the College of Engineering who is recommended by the engineering faculty.

ADVANCED DEGREES.

The master's degrees in engineering, namely, Civil Engineer (C. E.), Mechanical Engineer (M. E.), and Electrical Engineer (E. E.), will be conferred upon graduates in engineering who give evidence of having been engaged in responsible work for three years in their chosen profession and present a satisfactory thesis.

COURSES IN THE COLLEGE OF ENGINEERING.

The subjects in each department are described in full under the departmental statements, page 140, and following:

Course in Civil Engineering.

Freshman Year.

First Semester—	Hours.	Second Semester—	Hours.
Plane Trigonometry and Higher Algebra, 1a	4	Analytic Geometry and Higher Algebra, 2a	4
Chemistry, 1a	4	Chemistry, 1b	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4

Sophomore Year.

	Hours.		Hours.
Analytic Geometry, 5a	2	Industrial Chemistry, 7	4
Differential Calculus, 5b	4	Calculus, 6a	4
Physics, 1a	6	Physics, 2a	5
City Surveying, 3b	3	Topographic Surveying, 3c	3
Descriptive Geometry, 2b	2	Physical Culture, 4	2
Physical Culture, 3	2		
	17-|-2		16-|-2

Junior Year.

	Hours.		Hours.
Mechanics, 5a	4	Mechanics, 5b	5
Political Science, 1a	4	Industrial Electricity 3	2
Railroads, 4a	4	Railroads, 4b	4
Geology, 1a	4	Masonry Construction, 8	4
	16		15

Senior Year.

	Hours.		Hours.
Hydraulics, 6a, 6b	4	Hydraulics, 6b, 6c	4
Bridges, 7a	4	Bridges, 7b	4
Astronomy, 1	2	Astronomy, 2	2
Least Squares, 11	2	Geodesy, 3d	2
Roads and Pavements, 9	2	Contracts & Specifications, 11	1
Structural Materials, 10a	2	Thesis	3
	16		16

Course in Electrical Engineering.

First Semester—	Hours.	Second Semester—	Hours.
Freshman Year.			
Plane Trigonometry and Higher Algebra, 1a	4	Analytic Geometry and Higher Algebra, 2a	4
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4
Sophomore Year.			
Analytic Geometry, 5a	2	Calculus, 6a	4
Differential Calculus, 5b	4	Industrial Chemistry, 7	4
Physics, 1a	6	Physics, 2a	5
Machine Design, 5a	3	Machine Design, 5b	2
Elements of Steam Engineering, 6	2	Engines and Boilers, 7a	2
Shop, 3a	2	Shop, 4a	2
Physical Culture, 3	2	Physical Culture, 4	2
	17-|-4		17-|-4
Junior Year.			
Mechanics, 5a	4	Mechanics, 5b	5
Political Science, 1a	4	Dynamo Machinery, 1b, 1e.	3
Dynamo Machinery, 1a	2	Dynamo Lab., 1c	4
Electrical Measurements, 4a.	4	Electrical Measurements and Photometry, 4b	2
Primary and Secondary Batteries, 5a	2	Experimental Engineering, 13a	2
	16		16
Senior Year.			
Hydraulics, 6a, 6b	4	Hydraulics, 6b	1
Electric Railways, 2	2	Telegraphs & Telephones, 9.	2
Central Stations, 8a	2	Power Transmission, 8b	2
Alternating Currents, 6a, 6c.	5	Alternating Currents, 6b, 6d.	5
Commercial Testing, 7	3	Thesis	4
	16		14

Course in Mechanical Engineering.

Freshman Year.

First Semester—	Hours.	Second Semester—	Hours.
Plane Trigonometry and Higher Algebra, 1a	4	Analytical Geometry and Higher Algebra, 2a	4
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4

Sophomore Year.

	Hours.		Hours.
Analytical Geometry, 5a	2	Calculus, 6a	4
Differential Calculus, 5a	4	Industrial Chemistry, 7	4
Physics, 1a	6	Physics, 2a	5
Machine Design, 5a	3	Machine Design, 5b	2
Elements of Steam Engineering, 6	2	Engines and Boilers, 7a	2
Shop, 3a	2	Shop, 4a	2
Physical Culture, 3	2	Physical Culture,	2
	17-|-4		17-|-4

Junior Year.

	Hours.		Hours.
Mechanics, 5a	4	Mechanics, 5b	5
Political Science, 1a	4	Experimental Engineering, 12a	2
Dynamo Machinery, 1a	2	Dynamo Machinery, 1b, 1d	3
Electrical Measurements, 4a	1	Graphic Statics of Mechanism, 12	3
Kinematics, 10	3		
Thermodynamics, 11	3	Gas and Compressed Air, 15	2
Shop, 4b	1	Machine Design, 5c	2
	17-|-1		17

Senior Year.

	Hours.		Hours.
Hydraulics, 6a, 6b	4	Hydraulics, 6b	1
Engine & Boiler Design, 7b	2	Machine Design, 5d	2
Experimental Engineering, 13b	2	Experimental Engineering, 13c	2
Railway Mechanical Engineering, 20	2	Power Plants, 25	2
Steam Turbines, 26	3	Contracts and Specifications, 11	1
Electric Railways, 2	2	Heating and Ventilating, 16	2
Structural Materials, 10b	1	Thesis	4
	16		14

Course in Chemical Engineering.

Freshman Year.

First Semester—	Hours.	Second Semester—	Hours.
Plane Trigonometry and Higher Algebra, 1a	4	Analytical Geometry and Higher Algebra, 2a	4
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4

Sophomore Year.

	Hours.		Hours.
Analytical Geometry, 5a	2	Calculus, 6a	4
Differential Calculus, 5b	4	Physics, 2a	5
Physics, 1a	6	Quantitative Analysis, 6	4
Quantitative Analysis, 5	2	Geology, 2	4
Geology, 1	4	Physical Culture, 4	2
Physical Culture, 3	2		17-|-2
	18-|-2		

Junior Year.

	Hours.		Hours.
Mechanics, 5a	4	Mechanics, 5b	5
Organic Chemistry, 3	4	Industrial Chemistry	4
Metallurgy, 1	4	Metallurgy, 2	4
Mineralogy, 3	3	Elective	4
Primary and Secondary Batteries, 5a	2		17
	17		

Senior Year.

	Hours.		Hours.
Hydraulics, 6a, 6b	4	Hydraulics, 6b, 6c	4
Gas and Water, 11	4	Engines and Boilers, 7a	2
Elements of Steam Engineering, 6	2	Elective	4
Dynamo Machinery, 1a	2	Dynamo Machinery, 1b	2
Physical Chemistry, 8	4	Thesis	4
	16		16

DEPARTMENTS OF INSTRUCTION

CIVIL ENGINEERING.

ALMON HOMER FULLER, *Professor.*
CHARLES CHURCH MORE, *Assistant Professor.*
CHARLES EVAN FOWLER, *Lecturer.*
HENRY LEE BOWLBY, *Instructor.*

SUBJECTS.

1. MECHANICAL DRAWING. First Semester. Section A, W., F., 9:25; B, M., Th., 9:25; C, Tu., F., 10:20; D, M., Th., 10:20. Drawing periods: Section A and B, 1:15 to 4, W. and F.; C and D, 1:15 to 4, Tu. and Th. The elements of descriptive geometry including projections of points, lines and planes; instruction in use of instruments and practice in linear drawing; construction from printed descriptions in orthographic projection; lettering including the Roman and Gothic alphabets and a practical free hand alphabet for working drawings. Prerequisites, plane and solid geometry.

Assistant Professor More.

2a. DESCRIPTIVE GEOMETRY. Second Semester. Section A: W, F., 9:25; B: M., Th., 9:25; C: Tu., F., 10:20; D: M., Th., 10:20. Drawing periods: Section A: M., 1:15 to 4 and Th., 9:25-12:10; B: W., 8:30-11:15, and Sat., 9-12; C and D: Tu. and Th., 1:15 to 4:00. Continuation of Mechanical drawing 1. Curved surfaces, plane sections and section lining; intersection of simple geometric forms; rotation of points, lines and planes; warped surfaces.

Assistant Professor More and Mr. Gibbons.

2b. DESCRIPTIVE GEOMETRY. Two hours. First Semester. Tu., 10:20. Shades, shadows and linear perspective. Laboratory work, M., 1:15. Prerequisite, 2a.

Mr. Bowlby.

3a. PLANE SURVEYING. Second Semester. Section A, M., W., Float; B: Tu., Th., Float; C: W., F., 8:30; D: Tu., Th., 8:30. Theory of chain, compass, and transit surveying, and leveling; the adjustment and use of instruments, computations of area,

maps. Prerequisites, Drawing 1 and Mathematics 1a. Laboratory work—Sections A and B: W., F., 1:15; C and D: Sat., 8:30 to 2:30.

Mr. Bowlby and Mr. Lindsay.

3b. CITY AND MINE SURVEYING. Three hours. First Semester, until Christmas recess. Section A: W., 9:25; Section B: F., 9:25. Study of the precision necessary to be obtained; servey of a convenient portion of the city and field and office work of laying out a new addition. Mining survey methods. Pen topography will be taken up for the remainder of the semester. Laboratory work—Section A: Tu., Th.; Section B: M., W., 1:15 to 4. Prerequisite, 3a.

Mr. Bowlby.

3c TOPOGRAPHIC SURVEYING.. Three hours. Second Semester. W., 9:25. Colored topography until Easter recess. Thereafter, base line measurement; transit triangulation; plane table and stadia work; maps. Laboratory work, Tu., Th., 1:15 to 4. Prerequisite, 3b.

Mr. Bowlby.

3d. ELEMENTS OF GEODESY. Two hours. Second Semester. Tu., 11:15. General study of the figure of the earth and of the methods and instruments used in precise surveys over large areas; field work. Laboratory work, M., 1:15. Prerequisites, 3c, Mathematics 11, preceded or accompanied by Astronomy 1, 2.

Mr. Bowlby.

4a. RAILROAD LOCATION. First Semester. Tu., F., 11:15 and Sat., 8:30 to 2:30. Theory of circular curves, spirals and turnouts. Reconnaisance, preliminary, location and construction surveys. Maps, profiles, cross-sections and earthwork computation. Prerequisite, 3c.

Mr. Bowlby.

4b. RAILROAD ECONOMICS. Second Semester. 10:20. Continuation of 4a. Study of the conditions controlling the economic relation of location, construction and maintenance. Details of construction.

Mr. Bowlby.

5a. MECHANICS. First Semester. Section A, 8:30; Section B, Float. Statics and dynamics. Special attention is paid to practical applications. Original problems form a prominent feature. Lectures and recitations. Prerequisites, Mathematics 6a, and Physics, 1a and 2a.

Professor Fuller.

5b. MECHANICS. Five hours. Second Semester. Section A, 8:30; Section B, Float. Continuation of 5a, and Mechanics of Materials. Lectures, recitations and solution of problems. Computations, W., 1:15.

Professor Fuller.

6a. THEORETIC HYDRAULICS. Three hours. First Semester until Christmas recess. Section A, 8:30; Section B, Float. Hydrostatic pressure; immersion and flotation; steady flow of water through pipes and orifices, over weirs and in open channels. Prerequisite, 5b.

Assistant Professor More.

6b. HYDRAULIC MOTORS. Two hours. From Christmas recess to Easter recess. Section A: T., W., Th., 8:30; Section B: M., T., Th., Float. Special attention is given to the theoretic treatment of wheels of the Pelton type and to turbines. Laboratory tests are made of small motors and meters. Prerequisite, 6a. Laboratory work, Sat., 9-12.

Assistant Professor More.

6c. WATER SUPPLY. Three hours. Second Semester after Easter recess. 8:30. The design and construction of water supply, sewerage and irrigation systems. Lectures, recitations and the design of an imaginary system.

Assistant Professor More.

7a, 7b. BRIDGES. M., Th., 10:20, and Tu., Th., 1:15 to 4. Theory of stresses and deflections in simple trusses. Graphic determination of stresses, design of sections, and construction of stress sheet for a roof truss and a curved chord, pin-connected bridge. Design with working drawings, bill of material and estimate of cost of a plate girder railroad bridge. Prerequisites, 2b, 5b.

Professor Fuller.

7c, 7d. HIGHER STRUCTURES. Two hours. Draw-bridges, cantilever bridges, suspension bridges, metalic and reinforced concrete arches; stresses and deflections. Lectures, recitations and graphic determinations. Must be preceded or accompanied by 7a, 7b.

Professor Fuller.

8. MASONRY CONSTRUCTION. Second Semester. Tu., F., 11:15. A study of the properties of stone, brick, cement and concrete, and their use in foundations, dams, piers, abutments and retaining walls. Theory and design of masonry arches. Reinforced concrete construction. Lectures, recitations, design and cement laboratory work. Laboratory work, Tu., Th., 1:15. Prerequisites, 2b, preceded or accompanied by 5b.

Assistant Professor More.

9. ROADS AND PAVEMENTS. Two hours. First Semester. M., Th., 9:25. Fundamental principles of the location, construction and maintenance of country roads and city streets. Lectures, recitations and assigned reading. Prerequisites, 3c and 8.

Mr. Bowlby.

10a. STRUCTURAL MATERIALS. Two hours. First Semester. A study of the physical properties of wood, iron, steel, stone, brick, etc. Lectures and laboratory work., M., W., 1:15. Prerequisite, 5b.

Professor Fuller.

10b. STRUCTURAL MATERIALS. One hour. First Semester. M., 1:15. An abridgement of 10a for seniors in mechanical engineering. Special attention is given to iron and steel.

Professor Fuller.

11. CONTRACTS AND SPECIFICATIONS. One hour. Second Semester. F., 11:15. Lectures on the law of contracts and a study of engineering specifications.

Mr. Fowler.

ELECTRICAL ENGINEERING.

CARL EDWARD MAGNUSSON, *Professor.*

ELBERT GROVER ALLEN, JAMES DELMAGE ROSS, JOHN HARRISBERGER, *Lecturers.*

FRANK EDWARD JOHNSON, *Instructor.*

1a, 1b. DYNAMO ELECTRIC MACHINERY. W., F., 8:30. Theory of magnetic circuit, construction, operation and characteristics of direct current dynamos and motors. The theory is supplemented and illustrated by a large number of quantative problems taken from modern commercial machines. Prerequisites, Physics, 1a, 2a.

Professor Magnusson.

1c. DYNAMO TESTING. Second Semester. Laboratory work, M., 11:15 to 4; Th., 1:15 to 4; Sat., 8 to 12:30. Experimental study of direct current machinery. Prerequisite, 1a.

Professor Magnusson and Mr. Johnson.

1d. SHORT COURSE IN DYNAMO TESTING. One hour. Second Semester. Tu., 1:15-4. Abridgment of Course 1c for Mechanical Engineers.

Professor Magnusson.

1e. DYNAMO DESIGN. One hour. Second Semester. W., 11:15. Complete design of one direct current dynamo or motor.

Professor Magnusson.

2. ELECTRICAL RAILWAYS. Two hours. First Semester. W., F., 11:15. Electrical equipment, roadbed, rolling stock, construction and operation of direct current, single phase and poly-phase systems.

Professor Magnusson and Mr. Allen.

3. INDUSTRIAL ELECTRICITY. Two hours. Second Semester. W., 11:15; F., 1:15. Outline of industrial applications. Prerequisites, Physics, 1a, 2a.

Mr. Johnson.

4a. ELECTRICAL MEASUREMENTS. First Semester. M., 10:20. Laboratory work, Tu., W., F., 1:15. Prerequisites, Physics 1a, 2a.

Mr. Brakel.

4b. ELECTRICAL MEASUREMENTS AND PHOTOMETRY. Two hours. Second Semester. Tu., 10:20. Laboratory work, F., 9:25-12:10. Prerequisite, 4a.

Mr. Johnson.

5a. PRIMARY AND SECONDARY BATTERIES. Two hours. First Semester. Th., 10:20. Laboratory, Tu., F., 10:20-12:10. Prerequisites, Physics 1a, 2a.

Professor Osborn.

6a, 6b. ALTERNATING CURRENTS. Three hours. Throughout the year. M., W., F., 9:25. Theory and applications of alternating currents, power measurements, alternators, transformers, induction motors, synchronous motors, rotary convertors and accessory apparatus. Prerequisites, 1a, 1b.

Professor Magnusson.

6c, 6d. ALTERNATING CURRENT TESTING. Two hours. First Semester. M., W., 1:15-4; Second Semester, W., 10-20-4. Experimental study of alternating current machinery.

Professor Magnusson.

7. COMMERCIAL TESTING. Three hours. First Semester. Tu., 10:20-4; S., 8:30-12. Practical testing of machines and appliances in commercial use, locating grounds, inspecting and testing of new installations. Prerequisites, 4a, 5a.

Mr. Johnson.

8a. CENTRAL STATIONS AND ELECTRIC LIGHTING. Two hours. First Semester. Tu., Th., 8:30. Location, design and operation of central stations. Electric lighting systems.

Professor Magnusson and Mr. Ross.

8b. POWER TRANSMISSION. Two hours. Second Semester. Tu., and Th., 8:30. Design, construction and operation of electric transmission system.

Professor Magnusson and Mr. Harrisberger.

9. TELEPHONES AND TELEGRAPHS. Two hours. Second Semester. M., Th., 10:20. Theory of telephones, multiplex and wireless telegraphy.

Mr. Johnson.

The special lectures in Courses 2, 8a, 8b, are integral parts of the work required and are covered in each case by the semester examinations. They emphasize the commercial side and bring theories and principles in close connection with the latest and best engineering practice. These lectures are open to the public.

MECHANICAL ENGINEERING.

EVERETT OWEN EASTWOOD *Professor.*
ALONZO KEYT ISHAM, *Assistant Professor.*
WILLIAM BOUSE HAMPSON, *Director of Shop Work.*

1a. WORK IN WOOD. Two hours. First Semester. Section A: Sat., 8:30-2:30; B: M., F., 8:30-10:20; C: Tu., Th., 1:15-4. A systematic course of exercises showing the use of the different carpenter's tools. Also a graded series of exercises in wood turning.

Mr. Hampson.

1b. PATTERN MAKING AND FOUNDRY PRACTICE. Two hours. Second Semester. Hours same as 1a. Exercise in the construction of various forms of patterns, core-boxes, etc. Special attention is given to the use of the pattern maker's scale, shrinkage, etc. Bench and floor moulding and coremaking. Work will be given in both iron and brass.

Mr. Hampson.

3a. FORGE PRACTICE AND BENCH WORK IN IRON. Two hours. First Semester. Section B: Sat., 8:30-2:30; C: W., F., 1:15-4. A systematic graded course of exercises in iron and steel forging, hardening and tempering tools, use, care and selection of machinists' hand tools, filing, chipping, polishing, etc.

Mr. Hampson.

4a. MACHINE WORK IN IRON. Two hours. Second Semester. Section B: Sat., 8:30-2:30; C: M., W., 1:15-4. Plain and taper turning, boring, thread cutting, drilling, planing, milling, etc. Special attention will be given to the construction of the modern machine tools.

Mr. Hampson.

4b. MACHINE WORK IN IRON. One hour. First Semester. Th., 1:15-4. Continuation of 4a.

Mr. Hampson.

In giving the course of shop work it is not the object of the department to make tradesmen of the engineering students, but to give them sufficient experience to make them competent judges of shop work. A series of lectures is given during the progress of each course on the construction, care and selection of all shop tools.

5a. ELEMENTS OF MACHINE DESIGN. Three hours. First Semester. Th., Float. A study of the design of machine details, giving practice in the application of modern formulae and manufacturer's standards. Design of bolts, riveted joints, boiler staying, bearings, etc. Prerequisites, Des. Geom. 2a. Laboratory work, Tu., Th., 1:15-4.

Assistant Professor Isham.

5b. ELEMENTS OF MACHINE DESIGN. Two hours. Second Semester. A continuation of Course 5a, consisting in the design of gearing, cone pulleys and belt transmission. Practice in tracing and blue printing will comprise a part of this work. Prerequisite, 5a. Laboratory work: Tu., Th., 1:15.

Assistant Professor Isham.

5c. DESIGN OF SPECIAL MACHINERY. Two hours. Second Semester. Special problems in the design of hoisting and pumping machinery will be assigned. Attention will be given to the theory of design and the methods employed by various builders. Prerequisites, 5b, Mech. 5a. Laboratory work: M., 1:15 and F., 9:25-12:10.

Professor Eastwood and Assistant Professor Isham.

5d. ADVANCED MACHINE DESIGN. Two hours. Second Semester. Special problems in the design of machine tools, automatic machinery, etc., will be given, suited to the abilities and inclinations toward specilization of the students. Prerequisites, 10, 12; Mech. 5b. Laboratory work: Tu., 10:20-4.

Professor Eastwood and Assistant Professor Isham.

6. ELEMENTS OF STEAM ENGINEERING. Two hours. First Semester. W., F., 9:25. Brings before the student the various forms of steam apparatus used in modern power plants, considering the construction, use and reasons for installing such apparatus. The course tends to create a working vocabulary in this branch of engineering.

Professor Eastwood.

7a. ENGINES AND BOILERS. Two hours. Second Semester. W., F., 9:25. A study of 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. Prerequisite, 6.

Professor Eastwood.

7b. DESIGN OF ENGINES AND BOILERS. Two hours. First Semester. A study of the theory of the design and its application. One complete problem will be assigned for solution in the class room. Special reference will be made to the methods employed by various engine and boiler manufacturers. Prerequisites, 10, 11, and Mech. 5b. Laboratory work: Tu., Th., 1:15.

Professor Eastwood.

10. KINEMATICS. Three hours. First Semester. Tu., Th., 8:30. A study of the operation of machines involving the transmission of forces and the production of determinate motions. Prerequisites, 5b, 7a, and preceded or accompanied by Mech. 5a. Laboratory work: M., 1:15.

Assistant Professor Isham.

11. THERMODYNAMICS. Three hours. First Semester. Tu., Th., F., 10:20. A consideration of the fundamental principles underlying the transformation of heat into work, with special reference to the steam engine. The solution of numerous problems arising in practice are required. Prerequisites, Physics, 1a, 2a; Math. 6a; M. E., 7a.

Professor Eastwood.

12. GRAPHIC STATICS OF MECHANISM. Three hours. Second Semester. Th., 10:20. The graphic determination of the forces acting at different points in machines used for hoisting, crushing, punching and power transmission. Also, a study of the effects of friction and the stiffness of ropes and belts. Prerequisites, 10; Mech. 5a. Laboratory work: Th., 1:15-4 and Sat., 9-12.

Professor Eastwood.

13a. EXPERIMENTAL ENGINEERING. Two hours. Second Semester. T., 9:25 and F., 1:15. Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine are made. Special lectures on the standard methods of engine, boiler and pump tests are given during the course. Prerequisites: 6, 7a; Physics, 1a, 2a.

Professor Eastwood and Assistant Professor Isham.

13b. EXPERIMENTAL ENGINEERING. Two hours. First Semester. A continuation of Course 13a involving more extended and complete investigations. Special attention is given to the theory involved and previous experiments. Gas and fuel analysis. Prerequisites: 13a, 11. Laboratory work, W., 1:15-4 and F., 10:20.

Professor Eastwood and Assistant Professor Isham.

13c. EXPERIMENTAL ENGINEERING. Two hours. Second Semester. An advanced course in commercial testing. Special advantages are enjoyed in this work in having the privileges of a number of the large power plants extended to the department. The work will be carried on from the commercial standpoint and reports made from the same point of view. Prerequisite, 13b. Laboratory work, W., 1:15-4 and F., 10:20.

Professor Eastwood and Assistant Professor Isham.

15. GAS AND COMPRESSED AIR. Two hours. Second Semester. Tu., Th., 8:30. A study of the development of gas and compressed air engineering. Detailed consideration of the theory of gas and hot-air engines, air compressors, etc. Prerequisite, 11.

Assistant Professor Isham.

16. HEATING AND VENTILATING. Two hours. Second Semester. M., Th., 9:25. A course of lectures and recitations considering the various systems of heating and ventilating, methods of design and tests. Prerequisites, 13a, 15.

Professor Eastwood.

20. RAILWAY MECHANICAL ENGINEERING. Two hours. First Semester. M., Th., 9:25. Mechanical engineering as related to the machinery and maintenance of railways. Prerequisites, 10, and 15.

Assistant Professor Isham.

25. POWER PLANTS. Two hours. Second Semester. M., W., 11:15. A study of the design of power plants involving their location, buildings, prime movers, power transmission, etc.

Professor Eastwood.

26. STEAM TURBINES. Three hours. First Semester. Tu., W., F., 8:30. The theory, construction and design of steam turbines.

Professor Eastwood.

CHEMICAL ENGINEERING.

HORACE BYERS AND CHARLES WILLIS JOHNSON, *Professors.*
HENRY KREITZER BENSON, *Assistant Professor.*
JAMES H. HANCE, *Instructor.*

1a, 2a. ENGINEERING CHEMISTRY. Tu., W., F., 11:15. This course consists of illustrated lectures supplemented by quizzes. Laboratory work during the first semester consists of illustrative experiments, many of which are quantitative. The work of the second semester is largely qualitative analysis. Smith's University Chemistry and Laboratory manual are used and Dennis and Whittlesey in qualitative. Prerequisite, a high school course in chemistry or simultaneous carrying of the Zero course. Laboratory work, Sections A and B: Tu., Th., 1:15-4; C and D: M., W., 11:15-4.

ZERO COURSE, M., 11:15. Many students come from high school courses of which chemistry forms no part and in order to make it possible for them to carry the regular work, a supplementary course is offered. It must be taken, if at all, with Courst 1a, 2a. It consists of an extra quizz on the lecture work and four hours of laboratory work per week. Laboratory work, F. p. m.

Professor Byers, Assistant Professor Benson and Mr. Hance.

3, 4. ORGANIC CHEMISTRY. Tu., Th., F., 10:20. Alecture course on the chemistry of the compounds of carbon with special reference to the Aliphatic and Aromatic series. It consists of three lectures or quizzes and four hours of laboratory work per week. A text-book is followed as a lecture syllabus. Holleman and Cooper. Laboratory work based on Gatterman. Laboratory work, Tu., Th., 1:15. Prerequisites, 1b and 2b.

Professor Byers.

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. W., F., 9:25. 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.

Professor Byers.

6. QUANTITATIVE ANALYSIS. First and Second Semesters. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week.

7. INDUSTRIAL CHEMISTRY. Second Semester. M., Th., F., 10:20. A course designed primarily for engineering students. It takes up subjects of importance along engineering lines and discusses them with respect to their manufacture and applications. About half of the time will be spent on iron and steel. This treatment will be supplemented by lantern slide illustration, trips to industrial plants, numerous samples, etc. Each student will prepare a paper on some assigned subject. Laboratory work, F., 1:15.

Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. Tu., Th., Float. An elementary course consisting of lectures and recitations upon fundamental principles of chemistry based upon physical measurements. The laboratory course consists of determinations of molecular weights by the various methods, construction of solubility curves, specific gravity determinations, conductivity measurements, etc. Two lectures and six laboratory hours. Prerequisites, Chemistry 6, and College Physics.

Assistant Professor Benson.

9. ELECTRO CHEMISTRY. Second Semester. Tu., Th., Float. 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 by electrosynthesis, electro-plating, etc., and of illustrations of the subject matter of the lectures. Prerequisites, Chemistry 8 and College Physics.

Assistant Professor Benson.

11, 12. SPECIAL METHODS. 8:30. Analysis of water, gas, foods, etc. This course will be essentially an advanced course in quantitative analysis and will take up subjects in addition to those indicated according to the line of work which the student hopes to pursue later. This course is open only to advanced

students of the department and will be given by the member of the staff most interested in the special subjects chosen. The work in the first semester will be essentially the same for all students.

Professor Johnson.

MATHEMATICS.

ROBERT EDOUARD MORITZ, *Professor.*

JAMES EDWARD GOULD AND FRANK MARION MORRISON, *Assistant Professors.*

1a. PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. Section A, 8:30; Section B, 10:20; Section C, Float. The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers and their trigonometric representation. Demoivre's theorem, the theory of logarithms, the construction of logarithmic and trigonometric tables, and sine and cosine series, and the trigonometric solution of the cubic.

Assistant Professors Gould and Morrison and Mr. .....

2a. ANALYTICAL GEOMETRY AND HIGHER ALGEBRA. Second Semester. Section A, 8:30; Section B, 10:20; Section C, Float. Must be preceded by 1a. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equations; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The algebra consists of lessons supplementary to the analytical geometry, viz: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc.

Assistant Professors Gould and Morrison.

5a. ANALYTICAL GEOMETRY. Two hours. First Semester. Section A, Tu., F., 10:20; Section B, M., Th., 9:25. Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. Prerequisites, 1a and2a.

Assistant Professors Gould and Morrison and Mr. .....

5b. DIFFERENTIAL CALCULUS. First Semester. Section A, Float; Section B, 11:15. A study of the infinitesimal calculus, with special reference to the needs of engineers. Prerequisites, 1a and 2a.

Assistant Professors Gould and Morrison.

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Section A, Float; Section B, 11:15. Continuation of Course 5b.

Assistant Professors Gould and Morrison.

11. METHOD OF LEAST SQUARES. Two hours. First Semester. Tu., Th., Float. An exposition of the theory of errors with numerical applications. Prerequisites, 6a or 7.

Professor Moritz.

ASTRONOMY.

ROBERT EDOUARD MORITZ, *Professor.*

1. GENERAL ASTRONOMY. Two hours. First Semester. M., W., Float. Brief outline of the fundamental facts in regard to the solar system and the stellar universe. The observatory is used for illustrative purposes.

2. PRACTICAL ASTRONOMY AND SPHERICAL TRIGONOMETRY. Two hours. Second Semester. M., W., Float. Solution of spherical triangles. Determination of time, latitude, and azimuth by means of the sextant and the engineer's transit.

PHYSICS.

FREDERICK ARTHUR OSBORN, *Professor.*

HENRY LOUIS BRAKEL AND FRANK EDWARD JOHNSON, *Instructors.*

1a. MECHANICS, SOUND AND HEAT. Six hours. First Semester. 8:30. Laboratory work: Section A, W., F.; B, Tu., Th.; C, M., Sat.

Professor Osborn, Mr. Brakel and Mr. Johnson.

2a. ELECTRICITY AND LIGHT. Five hours. Second Semester. 8:30. Laboratory work: Section A, W.; B, Tu.; C, F.

Professor Osborn, Mr. Brakel and Mr. Johnson.

GEOLOGY.

HENRY LANDES, *Professor.*

HARRY MEAD, *Instructor.*

1a. GENERAL GEOLOGY. First Semester. M., Tu., Th., 10:20. A semester's course for engineering students. Lectures and recitations. Laboratory work, Th. afternoon.

3, 4. MINERALOGY. Three hours. M., Th., 9:25. Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. Laboratory work, F. afternoon.

METALLURGY.

MILNOR ROBERTS, *Professor.*

HARRY MEAD, *Instructor.*

1. FIRE ASSAYING. First Semester. F., 10:20. Laboratory work, M., Tu., 1:15, and Sat., 8:30.

2. GENERAL METALLURGY. Second Semester. M., Th., F., 9:25. Laboratory work, M., 1:15.

3. WET ASSAYING. First Semester. F., 10:20, and M., Tu., W., T., 1:15.

4. METALLURGICAL ANALYSIS. Second Semester. Hours same as 3.

POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, *Assistant Professor.*

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester. 9:25.

RHETORIC.

LOREN DOUGLAS MILLIMAN, *Assistant Professor.*

IDA KATHERINE GREENLEE, *Instructor.*

1. ENGLISH COMPOSITION. Section D, 8:30; Section C, 9:25; Section A, 10:20; Section B, Float.

PHYSICAL CULTURE.

BENJAMIN FRANKLIN ROLLER, *Professor.*

1, 2. APPARATUS WORK. Section A, Tu., Th., 3 p. m.; Section B, Tu., Th., 4 p. m. Regular Freshman course.

3, 4. APPARATUS WORK. Section C, M., W., 3 p. m.; Section D, M., W., 4 p. m. Regular Sophomore work.

5, 6. LECTURES. Fr., 4 p. m.

THE SCHOOL OF MINES.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., *President.*

MILNOR ROBERTS, A. B., Professor of Mining Engineering and Metallurgy, *Dean.*

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

ALMON HOMER FULLER, C. E., Professor of Civil Engineering.

HORACE BYERS, Ph. D., Professor of Chemistry.

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

FREDERICK ARTHUR OSBORN, Ph. B., Professor of Physics and Director of the Physics Laboratories.

ROBERT EDOUARD MORITZ, Ph .D., Professor of Mathematics and Astronomy.

BENJAMIN FRANKLIN ROLLER, A. B., M. D., Professor of Hygiene and Physical Culture.

CARL EDWARD MAGNUSSON, Ph. D., Professor of Electrical Engineering.

EVERETT OWEN EASTWOOD, B. S., Professor of Mechanical Engineering.

JAMES EDWARD GOULD, Ph. B., Assistant Professor of Mathematics.

HENRY KREITZER BENSON, A. M., Assistant Professor of Chemistry.

CHARLES CHURCH MORE, C. E., Assistant Professor of Civil Engineering.

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

FRANK MARION MORRISON, A. B., Assistant Professor of Mathematics.

LOREN DOUGLAS MILLIMAN, A. B., Assistant Professor of Rhetoric

ALONZO KEYT ISHAM, B. S., Assistant Professor of Mechanical Engineering.

GEORGE JAMME, Lecturer on Coal Mining.

MAURICE D. LEEHEY, Lecturer on Mining Law.

THEODORE KIRKLAND WILKINSON, B. S., Lecturer on Copper Smelting and Refining.

WILLIAM BOUSE HAMPSON, M. E., Director of Shop Work.

HENRY LOUIS BRAKEL, A. M., Instructor in Physics.

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

HARRY MEAD, E. M., Instructor in Mining and Geology.

HENRY LEE BOWLBY, B. S., Instructor in Civil Engineering.

JAMES H. HANCE, A. B., Instructor in Chemistry.

WILLIAM ROBERT CALVERT, B. S., Instructor in Geology and Mining.

ADMISSION.

The requirements for admission to the Freshman class of the School of Mines are:

English	4
Algebra	1½
Plane Geometry	1
Solid Geometry	½
Physics	1
Chemistry	1
Modern Language	2
History	1
Civil Government	½
Elective	2½
Total	15

For more specific information concerning the preparations necessary to meet the above requirements and for list of electives see page 45.

Students may be admitted:

(1) By presenting a certificate of graduation from an accredited school (for list see page 56), covering the above subjects.

(2) By passing a satisfactory examination in above subjects.

It is desirable for the student to review his preparatory mathematics just before entering the School of Mines. By such a step much time will be saved and the work of the School will be rendered far more valuable.

SUMMER WORK.

Every mining student who is a candidate for a degree is required to spend a portion of his summer vacations in actual work in a mine, mill or smelter. An exhaustive report of such work must be presented before the middle of the following semester. Students in Course II may present geological field work as a partial substitute.

DEGREE.

The four year courses of the School of Mines lead to the degree of Bachelor of Science (B. S.) in mining engineering.

DEGREE WITH HONORS.

A degree with honors may be conferred upon any student who has been recommended by the faculty of the School of Mines.

STATE ASSAYING.

Owing to the constant demand which is made upon the department of assaying for ascertaining the value of various minerals, the following scale of prices has been adopted:

Gold	$1.00
Gold and silver	1.00
Silver	.50
Lead	.50
Copper	2.00
Tin	2.00
Zinc	2.00
Qualitative Analysis	$2.00 to $5.00
Quantitative Analysis, for each element $2.00, or a complete analysis	5.00 to 25.00

COURSES OF THE SCHOOL OF MINES.

I. Course in Mining.

First Semester— Second Semester—

Freshman.

Hours.		Hours.	
Math., 1a (Plane Trig., Higher Algebra)	4	Math., 2a (Anal. Geom., Higher Algebra)	4
Chemistry, 1a (Gen. Inorg.)	4	Chemistry, 2a (Gen. Inorg.)	4
Civil Eng., 1 (Mech. Draw.)	4	Civil Eng., 2a (Descr. Geom.)	4
Rhetoric, 1 (Eng. Comp.)	4	Civil Eng., 3a (Plane Surv.)	4
Mech. Eng., 1a (Woodwork)	2	Mech. Eng. 1b (Foundry)	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4

Sophomore.

Hours.		Hours.	
Geology, 3 (Mineralogy)	3	Geology, 4 (Mineralogy)	3
Math., 5a (Anal. Geom.)	3	Math., 6a (Calculus)	4
Math., 5b (Diff. Calculus)	3	Chem., 6 (Quant. Anal.)	4
Physics, 1a	5	Physics, 2a	5
Civil Eng., 3b (City Surv.)	3	Physical Culture, 4	2
Mech. Eng., 3a (Forge)	2		16-|-2
Physical Culture, 3	2		
	17-|-4		

Junior.

Hours.		Hours.	
Metallurgy, 1 (Fire Assay.)	4	Metallurgy, 2 (Gen. Met.)	4
Civil Eng., 5a (Mechanics)	4	Civil Eng., 5b (Mechanics)	5
Geology, 1a	4	Civil Eng., 3c (Topog. Surv.)	3
Political Science, 1a	4	Elective (Engineering)	4
	16		16

Senior.

Hours.		Hours.	
Mining, 1 (Ore Dressing)	4	Mining, 2 (Mining Methods)	4
Geology, 7 (Petrography)	4	Geology, 8 (Economic)	4
Metallurgy, 3 (Wet Assaying)	4	Geology, 11 (Field Work)	1
Civil Eng., 6a (Hydraulics)	4	Civil Eng., 6b (Hydraulics)	2
	16	Mining, 3 (Mining Law)	1
		Elective (Engineering)	4
			16

II. Course in Geology and Mining.

First Semester—	Hours.	Second Semester—	Hours.
Freshman.			
Math., 1a (Plane Trig., Higher Algebra)	4	Math., 2a (Anal. Geom., Higher Algebra)	4
Chemistry, 1a (Gen. Inorg)	4	Chem., 2a (Gen. Inorg.)	4
Civil Eng., 1 (Mech. Draw)	4	Civil Eng., 2a (Descr. Geom.)	4
Rhetoric, 1 (English Comp.)	4	Civil Eng., 3a (Plane Surv.)	4
Mech. Eng., 1a (Woodwork)	2	Mech. Eng., 1b (Foundry)	2
Physical Culture, 1	2	Physical Culture, 2	2
	16-|-4		16-|-4
Sophomore.			
Geology, 3 (Mineralogy)	3	Geology, 4 (Mineralogy)	3
Math., 5a (Aanal. Geom.)	3	Math., 6a (Calculus)	4
Math., 5b (Diff. Calculus)	3	Chem., 6 (Quant. Anal.)	4
Physics, 1a	5	Physics, 2a	5
Civ. Eng., 3b (City Surv.)	3	Physical Culture, 4	2
Mech. Eng., 3a (Forge)	2		16-|-2
Physical Culture, 3	2		
	17-|-4		
Junior.			
Metallurgy, 1 (Fire Assay.)	4	Metallurgy, 2 (General)	4
Zoology, 1	4	Zoology, 2	4
Geology, 1a	4	Geology, 6 (Physiography)	4
Political Science, 1a	4	Elective (Science)	4
	16		16
Senior.			
Mining, 1 (Ore Dressing)	4	Mining, 2 (Min. Methods)	4
Geology, 7 (Petrography)	4	Geology, 8 (Economic)	4
Metallurgy, 3 (Wet Assay.)	4	Geology, 11 (Field Work)	2
Elective (Science)	4	Mining, 3 (Mining Law)	1
	16	Zoology, 12 (Evolution)	1
		Elective (Science)	4
			16

III. Short Course for Mining Men.

From January 3rd to April 3rd the instructors in mining engineering offer a course for the benefit of mature persons who are interested in prospecting and mining. Admission to the classes is without examination. The subjects are suited to those who wish sufficient information in geology, mineralogy, chemistry and related subjects to take up practical work with a proper understanding of it. Instruction is given by lectures, laboratory exercises and visits to reduction plants. The past experience and future aims of each student are taken into consideration, and the character of his work arranged accordingly. 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. Occasional trips are made to the Tacoma and Everett smelters, the U. S. Assay Office in Seattle, the coal and metal mines and the hydro-electric plants near Seattle. Tests of ores are made in the complete concentrating and stamp milling laboratory described elsewhere.

Those who are unable to devote their whole time to the work may omit one or more of the subjects listed below, except that subject 4 should be accompanied or preceded by subjects 1 and 3. There are no charges except the usual laboratory fees for material used and the usual deposits to cover the actual cost of supplies drawn by each student. The balance of the deposit is returned at the time of leaving the course. The total expenses are as follows: Registration fee, two dollars; subject 1, five-dollar fee, five-dollar deposit; subject 3, two-dollar fee, three-dollar deposit; subject 4, ten-dollar fee, five-dollar deposit; subject 5, two-dollar deposit. All fees must be paid and all deposits made at the beginning of each subject.

SUBJECTS.

1. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Laboratory practice in the determination of the common elements. Three lectures a week, and Saturday laboratory.

Professor Byers and Mr. Hance.

2. GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Three times a week.

Mr. Mead.

3. MINERALOGY. Instruction and practice in blowpipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Three times a week.

Mr. Mead.

4. FIRE ASSAYING. Lectures on sampling, preparing ores for assay, furnaces, fuels and reagents. The laboratory work includes the testing of reagents, and the assaying of various ores, furnace and mill products. One lecture and three afternoons a week in laboratory.

Mr. Calvert.

5. MINING. Lectures on prospecting, development, timbering, mine transportation, pumping, ventilation and hydraulic mining. Practice with stamp-milling and concentrating machinery, testing of ores, etc. Two lectures and two afternoons.

Professor Roberts.

6. MINING LAW. A series of lectures on the mining laws of the United States and Alaska. Twice a week.

Mr. Leehey.

7. ADVANCED MINERALOGY. A continuation of descriptive mineralogy with much practice and determinative work. Prerequisite, 3.

Mr. Mead.

8. QUANTITATIVE ANALYSIS. Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. Two afternoons a week. Prerequisite, 1.

9. WET ASSAYING. Assaying of bullion for fineness; assaying of copper by various methods; amalgamation assay. Prerequisite, 1. To be taken with 7.

Mr. Calvert.

MINING ENGINEERING AND METALLURGY.

MILNOR ROBERTS, *Professor.*

MAURICE D. LEEHEY, GEORGE JAMME, AND THEODORE KIRKLAND WILKINSON, *Lecturers.*

HARRY MEAD AND WILLIAM ROBERT CALVERT, *Instructors.*

MINING ENGINEERING.

The mining and milling methods in use at the present time throughout the western states are studied in detail, and comparisons made between the practice in different localities. Students are expected to gain such familiarity with some branch of the subject by practical work during the summer months that they can derive proper benefit during the junior and senior years from laboratory tests of ores and from a study of text-books, expert reports and professional papers. Visits are made to coal and metal mines in operation.

1. ORE DRESSING. First Semester. Tu., W., F., 11:15. Three lectures and one laboratory period. Treatment of ores underground and at surface; mill tests with stamp milling and concentrating machinery. Required visits to coal and metal mines.

Professor Roberts and Mr. Mead.

2. MINING. Second Semester. Tu., W., F., 11:15. Prospecting, shaft-sinking, stoping, timbering, drills, explosives, hoisting, ventilation, safety lamps, pumping, mine bookkeeping.

Professor Roberts and Special Lecturers.

3. MINING LAW. One hour. Second Semester. Th., 11:15. A study of the mining laws of the United States and especially those of Washington and Alaska. Lectures and required reading.

Mr. Maurice D. Leehey.

4. VENTILATION. Two hours. First Semester. Tu., Th., Float. A thorough study of such subjects as the structure of ventilating fans and formulae for their use, safety lamps, systems of coal mining, etc.

Professor Roberts.

5. SUMMER WORK. Required of all mining students. Continuous work in a mine, mill or smelter; geological field work, etc., followed by a written report of the work.

METALLURGY.

The class room and laboratory work in metallurgy is supplemented by frequent visits to the assay offices, smelting and refining plants located in Seattle and neighboring cities.

1. FIRE ASSAYING. First Semester. Testing of reagents, sampling and assaying of ores, furnace and mill products for lead, silver and gold. Four laboratory periods. Prerequisite, Chemistry 1, 2, and 6.

Professor Roberts and Mr. Mead.

2. GENERAL METALLURGY. Second Semester. 9:25. The properties of metals and alloys, the uses of various fuels, types of furnaces, and the blast-furnace treatment of ores (except iron). Prerequisite, Metallurgy 1.

Professor Roberts and Special Lecturers.

3. WET ASSAYING. First Semester. The determination of copper and other metals in ores and furnace products by electrolytic and volumetric methods. Four afternoons. Prerequisite, Chemistry 6.

4. METALLURGICAL ANALYSIS. Second Semester. Analysis of coal, slags, alloys, etc. Four afternoons. Prerequisite, Chemistry 6.

5. METALLOGRAPHY. The making and testing of alloys, the preparation and study (with microscope) of polished sections of metals and alloys, especially structural iron and steel. Prerequisite, Metallurgy 2.

6. GOLD AND SILVER. Three hours. W., 8:30. A detailed study of the processes of extraction, especially cyanidation, chlorination and amalgamation. Lectures and laboratory work.

Professor Roberts.

7. IRON AND STEEL. Second Semester. Four lectures a week. See Chemistry 7.

Professor Byers.

CIVIL ENGINEERING.

ALMON HOMER FULLER, *Professor.*
CHARLES CHURCH MORE, *Assistant Professor.*
HENRY LEE BOWLBY, *Instructor.*

SUBJECTS.

1. MECHANICAL DRAWING. First Semester. Recitation: Section A, Th., 9:25; Section B, M., 9:25: Drawing—M., W., F., 1:15. Instruction in the use of instruments and practice in linear drawing; construction from printed descriptions in isometric, cabinet and orthographic projections; plane sections and section lining; intersection of simple geometric forms; lettering, including the Roman and Gothic alphabets and a practical freehand alphabet for working drawing.

Assistant Professor More and Mr. Gibbons.

2a. DESCRIPTIVE GEOMETRY. Second Semester. M., Th., 9:25. Projections and rotation of points, lines, planes, curved and warped surfaces. Laboratory work, M., W., 1:15. Prerequisite, Drawing 1, and Mathematics 1a.

Assistant Professor More.

2b. DESCRIPTIVE GEOMETRY. Two hours. First Semester. Tu., 10:20. Shades, shadows and linear perspective. Laboratory work, M., 1:15.

Mr. Bowlby.

3a. PLANE SURVEYING. Second Semester. Section A, M., W., Float; Section B, Tu., Th., Float. Theory of chain, compass, and transit surveying, and leveling; the adjustment and use of instruments, computations of area, maps. Laboratory work, W., F., or Sat. a. m. Prerequisite, Drawing 1, Mathematics 1a.

Mr. Bowlby and Mr. Gibbons.

3b. CITY SURVEYING. Three hours. First Semester, until Christmas recess. Section A, W., 9:25; Section B, F., 9:25. Laboratory work—Section A, W., F.; Section B, Tu., Th., 1:15. Prerequisite, 3a.

Mr. Bowlby.

3c. TOPOGRAPHIC SURVEYING. Three hours. Second Semester. W., 9:25. Colored topography until Easter recess. Thereafter, base line measurements; transit triangulation; plane table and stadia work; maps. Laboratory work, Tu., Th., 1:15.

Mr. Bowlby.

5a. MECHANICS.—STATICS AND DYNAMICS. First Semester. Section A, 8:30; Section B, Float. Lectures and recitations. Special attention is paid to practical applications. Original problems form a prominent feature. Prerequisites, Mathematics 6a and Physics 1a.

Professor Fuller.

5b. MECHANICS. Five hours. Second Semester. Section A, 8:30; Section B, Float. Continuation of 5a and Mechanics of Materials. Lectures, recitations and seminary. Laboratory work, W., 1:15.

Professor Fuller.

6a. THEORETIC HYDRAULICS. First Semester until Christmas. Section A, 8:30; Section B, Float.

Assistant Professor More.

6b. HYDRAULIC MOTORS. Two hours. From Christmas recess to Easter recess.

Assistant Professor More.

ELECTRICAL ENGINEERING.

CARL EDWARD MAGNUSSON, *Professor.*

3. INDUSTRIAL ELECTRICITY. Two hours. Second Semester. Outline of industrial application. Ohm's law, wiring, etc.

MECHANICAL ENGINEERING.

EVERETT OWEN EASTWOOD, *Professor.*
ALONZO KEYT ISHAM, *Assistant Professor.*
WILLIAM BOUSE HAMPSON, *Director of Shop Work.*

1a. SHOP. Work in wood.

3a. SHOP. Forge and foundry work.

7. ENGINES AND BOILERS. Second Semester. Tu., Th., 9:25.

MATHEMATICS.

ROBERT EDOUARD MORITZ, *Professor.*
JAMES EDWARD GOULD AND FRANK MARION MORRISON, *Assistant Professors.*

SUBJECTS.

1a. PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. Section A, 8:30; Section B, 10:20. The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers and their trigonometric representation. Demoivre's theorems, the theory of logarithms, the logarithmic and trigonometric tables, the sine and cosine series, and the trigonometric solution of the cubic.

Assistant Professors Gould and Morrison.

2a. ANALYTICAL GEOMETRY AND HIGHER ALGEBRA. Second Semester. Section A, 8:30; Section B, 10:20. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equations; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The algebra consists of lessons supplementary to the analytical geometry, viz.: determinants; indeterminants and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc. Prerequisite, 1a.

Assistant Professors Gould and Morrison.

3. SOLID GEOMETRY. Two hours. First Semester. W., F., 9:25. This course covers the usual theorems with exercises and applications to the mensuration of surfaces and solids.

Assistant Professor Morrison.

4. SOLID GEOMETRY. Two hours. Second Semester. W., F., 9:25. Continuation of Course 3.

Assistant Professor Morrison.

5a. ANALYTICAL GEOMETRY. Three hours. First Semester. Section A, M., Th., F., Float; Section B, Tu., Th., 11:15. Application of analysis in the study of conic sections and other plane curves. Introduction to solid analysis. Prerequisites, 1a, 2a, 3 and 4.

Assistant Professors Gould and Morrison.

5b. DIFFERENTIAL CALCULUS Three hours. First Semester. Section A, Tu., F., 10:20; Section B ,M., Th., 9:25. A study of the infinitesimal calculus with special reference to the need of engineers. Prerequisites, 1a, 2a, 3 and 4.

Professor Moritz and Assistant Professor Morrison.

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Section A, Float; Section B, 11:15. Continuation of Course 5b.

Assistant Professors Gould and Morrison.

GEOLOGY.

HENRY LANDES, *Professor.*

HARRY MEAD, *Instructor.*

1a. GENERAL GEOLOGY. First Semester. M., Tu., Th., 10:20. A semester's course for engineering students. Lectures and recitations. Laboratory, Th., 1:15.

Mr. Mead.

3, 4. MINERALOGY. Three hours. M., Th., 9:25. Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. Laboratory, F., 1:15.

Mr. Mead.

7. PETROGRAPHY. First Semester. Tu., W., Th., Float. A study of the distinguishing characteristics of the different groups and species of rocks, with the methods of classification employed. Lectures and recitations. Laboratory hours to be arranged. Prerequisites, 1, 2, and 3, 4.

Professor Landes.

8. ECONOMIC GEOLOGY. Second Semester. Float. A study of the origin and extent of metalliferous veins and ore deposits; varieties of coal, extent and location of coal fields; gas and oil; origin, occurrences, and uses of clays; building and ornamental stones; minor mineral products of use in the arts and of commercial importance. Lectures and recitations. Prerequisites, 1, 2, and 3, 4. *Professor Landes.*

9, 10. PALEONTOLOGY. Throughout the year. Tu., W., F., 8:30. The elements of invertebrate paleontology, consisting of the study of the hard parts of animals preserved as fossils, with their geologic and geographic distribution. Lectures and recitations. Laboratory hours to be arranged.

Professor Landes.

11. FIELD WORK AND RESEARCH. Second Semester. Instruction and practice in the methods of geologic field work; investigation of special problems in geology. To be taken by special permission. Credit and hours to be arranged.

Professor Landes.

CHEMISTRY.

HORACE BYERS, *Professor.*
HENRY KREITZER BENSON, *Assistant Professor.*
JAMES H. HANCE, *Instructor.*

SUBJECTS.

ZERO CHEMISTRY. Two hours. M., 11:15. To meet the needs of those students who come from schools in which chemistry is not required for graduation. It consists of one recitation and four laboratory hours per week throughout the year, but must be taken, if at all, in conjunction with Chemistry 1a, 2a, which it is designed to supplement and make possible for the unprepared student. Where the student has admission clear it will be given two University credits per semester. Where offered for entrance requirements it will count as one credit.

1a, 2a. GENERAL INORGANIC. Tu., W., F., 11:15. Experimental lectures supplemented by quizzes. Laboratory work during first semester on selected illustrative experiments. Second semester, quantitative analysis. Remsen's Advanced Course. Smith's Laboratory Manual. Notes on qualitative analysis. Prerequisite, a high school course in chemistry or simultaneous taking of Chemistry Zero.

Professor Byers, Assistant Professor Benson and Mr. Hance.

6. QUANTITATIVE ANALYSIS. Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. Prerequisite, 2.

Assistant Professor Benson.

PHYSICS.

FREDERICK ARTHUR OSBORN, *Professor.*
HENRY LOUIS BRAKEL, *Instructor.*

1a. MECHANICS, SOUND AND HEAT. First Semester. 8:30. Laboratory work—Section A, W., F.; Section B, Tu., Th.; Section C, M., Sat.

2a. ELECTRICITY AND LIGHT. Second Semester. 8:30. Laboratory work—Section A, W.; Section B, Tu.; Section C, F.

ZOOLOGY.

TREVOR KINCAID, *Professor.*

1, 2. ELEMENTS OF ZOOLOGY. Tu., F., 11:15: A general review of zoological science, involving a study of the structure, classification and habits of the types included in the great branches of the animal kingdom. Laboratory work, Tu., Th., or W., F., 1:15.

12. PROBLEMS IN EVOLUTION. One hour. F., 11:15. A discussion of fundamental biological problems, including natural selection, utility and heredity, together with reviews of important contemporary articles.

RHETORIC.

LOREN DOUGLAS MILLIMAN, *Assistant Professor.*

1. ENGLISH COMPOSITION. Section A, 8:30; Section B, 9:25; Section C, 10:20; Section D, Float.

POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, *Assistant Professor.*

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester. 9:25.

PHYSICAL CULTURE.

BENJAMIN FRANKLIN ROLLER, *Professor.*

1, 2. APPARATUS WORK. Section A, M., W., 3 p. m.; Section B, M., W., 4 p. m. Regular Freshman course.

3, 4. APPARATUS WORK. Tu., Th., 3 p. m.; Tu., Th., 4 p. m. Regular Sophomore work.

5, 6. LECTURES. F., 4 p. m.

THE SCHOOL OF PHARMACY.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., *President.*

CHARLES WILLIS JOHNSON, Ph. C., Ph. D., Professor of Pharmacy and Physiological Chemisty, *Dean.*

HORACE BYERS,, Ph. D., Professor of Chemistry.

FREDERICK ARTHUR OSBORN, Ph. B., Professor of Physics.

THEODORE CHRISTIAN FRYE, Ph. D., Professor of Botany.

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

BENJAMIN FRANKLIN ROLLER, A. B., M. D., Professor of Physical Culture and Hygiene.

JAMES EDWARD GOULD, Ph., B., Assistant Professor of Mathematics.

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

HENRY KREITZER BENSON, A. M., Assistant Professor of Chemistry.

CHARLES WILLIAM PRENTISS, Ph. D., Assistant Professor of Biology (Physiology).

LOREN DOUGLAS MILLIMAN, A. B., Assistant Professor of Rhetoric

PETER LE FORT, A. M., Assistant Professor of French.

FRANK MARION MORRISON, A. B., Assistant Professor of Mathematics.

IRVIN WALTER BRANDEL, Ph. G., M. S., Assistant Professor of Pharmacy and Materia Medica.

HENRY LOUIS BRAKEL, A. M., Instructor in Physics.

IDA KATHERINE GREENLEE, A. B., Instructor in English Literature.

LAVINA RUDBERG, Instructor in Physical Culture.

HANNAH B. JOHNSTON, B. S., Assistant in Pharmaceutical Chemistry.

PURPOSE.

The School of Pharmacy of the University of Washington was established in 1894 and has for its chief aim the preparation of young men and women for responsible positions in the practice of pharmacy. It is well equipped to give instruction in all the lines of work that constitute a liberal as well as technical education in this important profession. It is not the purpose of the school to give "practical drug store experience," but it gives such thorough instruction in practical manufacturing, the compounding of prescriptions, materia medica, and such allied subjects as chemistry, physiology, botany and toxicology as will enable its graduates to take first rank in their chosen line of work. Being a department of the State University the school is able to offer its students the advantages of various liberal arts courses which afford those pursuing advanced work a liberal scientific education. This forms an excellent foundation for the study of medicine.

With the above purposes in view two courses of study have been outlined. (1) A two year course which prepares its graduates for responsible positions in the profession of pharmacy, and admits them to many of the schools of medicine. (2) A four year course which supplements the two years' work with such studies as prepare its graduates for responsible technical positions, and admits them to those schools of medicine which require as a prerequisite a collegiate training. The four year course includes the professional training of the two year work and leads to a regular collegiate degree.

ENTRANCE REQUIREMENTS.

CANDIDATES FOR DEGREES.

I. To obtain clear entrance to the School of Pharmacy, the student must be at least 18 years of age, and a graduate of some one of the accredited high schools of the state, or must have equivalent training in some other school or he must pass examination in the following subjects:

Specified Subjects.	*Optional Subjects.*
English, 4 units.	Latin, 2 or 4 units.
Mathematics, 2½ units.	Greek, 2 or 3 units.
General History, or	French, 1 or 2 units.
Greek and Roman History, 1 unit.	Solid Geometry, ½ unit.
Physics, 1 unit.	Trigonometry. ½ unit.
Civics, ½ unit.	American History, ½ unit.
	English History, 1 unit
	Physical Geography, ½ unit.
	Economics, ½ unit.
	Physiology, ½ unit.
	Botany, ½ or 1 unit.
	Chemistry, 1 unit.
	Zoology, ½ or 1 unit.
	Geology, 1 unit.
	Mechanical Drawing, 1 unit.

The total requirement for entrance is fifteen units, two of which must be a foreign language.

NOTE: By "unit" in the above is meant the equivalent of the High School course of one year in subjects specified.

II. A student may enter who is conditioned in not more than two units of the above subjects.

III. *Advanced Standing.* Students who can show equivalent training in any other school of good standing may be admitted to advanced classification in either course.

STUDENTS NOT CANDIDATES FOR DEGREES.

Students over nineteen years of age, who have not the regular High School entrance requirements, but can give sat-

isfactory evidence of their fitness to carry the work, may enter and pursue the regular course of study. 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 heading of Certificate Graduates. Students desiring to enter under the above conditions should write to the Dean, giving a detailed statement of their previous school training, and making mention of any practical experience in pharmacy they may have received.

DEGREES.

1. The degree of Pharmaceutical Graduate (Ph. G.) will be granted to any student over 21 years of age, who has fulfilled the entrance requirements and has completed the two year course as outlined. This degree entitles any holder who has had two years of practical experience to a Certificate of Registration from the State Board of Pharmacy (without examination) entitling him to practice pharmacy in the State of Washington. The graduates of the two year course are entitled to entrance to many of the best medical colleges.

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. Graduates of the four year course may continue work in the graduate school leading to the Master's degree.

A degree with honor may be conferred upon a student of the School of Pharmacy if recommended for this distinction by the Dean.

CERTIFICATE GRADUATES.

Students not candidates for degrees who satisfactorily pursue the studies outlined in the two year course will be granted a Certificate of Graduation. This certificate entitles the holder who has had two years of practical experience to a Certificate

of Registration from the State Board of Pharmacy (without examination) entitling him to practice pharmacy in the State of Washington.

THE T. W. LOUGH MEDAL.

T. W. Lough, of the State Board of Pharmacy, offers a Gold Medal to the first year student receiving the highest marks in the work of the year.

THE PREREQUISITE MOVEMENT.

Several states have enacted laws requiring a college training in addition to a certain amount of high school work as a prerequisite for registration as a pharmacist. The standard of preliminary education in several of these states will soon be that of graduation from a four year high school. Since this movement is spreading rapidly and many other states are sure to follow those now in the lead, it is desirable that young men and women of the Northwest who desire to enter the profession of pharmacy prepare themselves with a proper high school education and then attend a school of pharmacy the diploma of which will admit them to examination in any state in the Union. The University of Washington School of Pharmacy stands second to none in its standard of requirements for preliminary education and character of work necessary to secure a degree, and its graduates will find no trouble in meeting the requirements of the various states.

CORRESPONDENCE.

Inquiries in regard to the School of Pharmacy may be addressed to the Dean of the School or to the Registrar of the University. It is of advantage for persons making such inquiries to state definitely their previous school training. Copies of the Catalogue of the University or of the Special Announcement of the School of Pharmacy may be had upon application.

COURSES OF THE SCHOOL OF PHARMACY.

Two Year Course.

First Year

First Semester	Hours	Second Semester	Hours
Physiology	3	Physiology	3
Pharmaceutical Botany	3	Pharmaceutical Botany	3
General Chemistry 1	5	Organic Chemistry 2	5
Laboratory Course (Chem. 1 b)	5	Laboratory Course (Chem. 2 b)	5
Physical Culture	2	Physical Culture	2

Second Year

	Hours		Hours
Material Medica	4	Pharmacognosy	4
Physiological Chemistry	4	Toxicology and Drug Assaying	4
Theory and Practice of Pharmacy	4	Pharmacopoeia	4
Quantitative Analysis	4	Pharmaceutical Preparations	4

Four Year Course.

First Year

First Semester	Hours	Second Semester	Hours
Physiology	3	Physiology	3
Pharmaceutical Botany	3	Pharmaceutical Botany	3
General Chemistry 1	5	Organic Chemistry 2	5
Laboratory Conrse (Chem. 1 b)	5	Laboratory Course (Chem. 2 b)	5
Physical Culture	2	Physical Culture	2

Second Year

	Hours		Hours
Theory and Practice of Pharmacy	4	Pharmacopoeia	4
Quantitative Analysis	4	Pharmaceutical Preparations	4
Mathematics 1	4	Rhetoric	4
Language	4	Language	4
Physical Culture	2	Physical Culture	2

Third Year.

	Hours		Hours
Materia Medica	4	Pharmacognosy	4
Physiological Chemistry	4	Toxicology	4
Drug Adulteration	4	Drug Assaying	4
Language	4	Language	4

Fourth Year.

	Hours		Hours
Physics	4	Physics	4
Advanced Work in Pharmacy or Chemistry	4	Advanced Work in Pharmacy or Chemistry	4
Elective	8	Elective	8

DEPARTMENTS OF INSTRUCTION.

PHARMACY.

CHARLES WILLIS JOHNSON, *Professor.*
IRVIN WALTER BRANDEL, *Assistant Professor.*

1. THEORY AND PRACTICE OF PHARMACY. First Semester. M., T., W., Float. Lectures and recitations on the various processes employed in pharmacy and the study of galenical and other preparations: waters, tinctures, extracts, spirits, oleoresins, etc., also of pills, suppositories, ointments, plasters, etc. The laboratory work includes the manufacture and testing of various typical preparations. Laboratory work, Th., 9:25-12:10.

Assistant Professor Brandel.

2. CONTINUATION OF COURSE 1. Second Semester. Laboratory work in the manufacture of pharmaceutical preparations and in addition practice in the compounding of physician's prescriptions will be given with special reference to the study of physical, chemical and therapeutical incompatibilities. Four laboratory periods, M., T., W., Th., 1-4 p. m.

Assistant Professor Brandel.

3. U. S. PHARMACOPOEIA. Second Semester. Float. A careful study will be made of the United States Pharmacopoeia and National Formulary with the special object of explaining the text and requirements of the different compounds and preparations.

Assistant Professor Brandel.

4 and 5. ADVANCED WORK IN PHARMACY OR CHEMISTRY. A special course in pharmacy will be given to the four year students. A special study will be made of the manufacture and use of various inorganic and organic compounds of pharmaceutical importance such as new remedies. Credit and hours to be arranged.

Professor Johnson and Assistant Professor Brandel.

6. DRUG ADULTERATIONS. First Semester. Required of the four year pharmacy students in their third year. A study of the common adulterations of chemicals, oils and preparations,

together with methods of detection and assay. Open to all students who are interested in adulteration of chemicals. Four laboratory periods per week.

Assistant Professor Brandel.

7. DRUG ASSAYING. Second Semester. Required of the four year pharmacy students in their third year. Pharmacopoeial methods of assay of crude drugs and their preparations, also a study of alkaloids and methods of identification. This is essentially an advanced course in quantitative analysis and is open to all students who are prepared to carry the work. Four laboratory periods per week.

Professor Johnson.

MATERIA MEDICA AND PHARMACOGNOSY.

1. MATERIA MEDICA AND PHARMACOGNOSY. First Semester. 8:30. Lectures and recitations on the source, properties, actions, uses and doses of chemical, animal and vegetable drugs and their preparations; also a discussion of poisons, their toxic effects and antidotes.

Assistant Professor Brandel.

2. CONTINUATION OF COURSE 1. Second Semester. 8:30. In addition to Continuing the work as described under Course 1, special attention will be given to the study of the preservation, active constituents, identification and adulteration of drugs. The work will include a microscopic study and identification of powdered drugs.

Assistant Professor Brandel.

CHEMISTRY.

HORACE BYERS AND CHARLES WILLIS JOHNSON, *Professors.*

HENRY KREITZER BENSON AND IRVIN WALTER BRANDEL, *Assistant Professors.*

1. GENERAL INORGANIC CHEMISTRY. Five hours. First Semester. M., T., W., Th., F., 11:15. A lecture and quiz course on the principles of general inorganic chemistry with special reference to the needs of students in pharmacy and those preparing for the study of medicine.

Professor Johnson.

2. ORGANIC CHEMISTRY. Five hours. Second Semester. M., T., W., Th., F., 11:15. A lecture and quiz course on the chemistry of the compounds of carbon. This course is designed for students of pharmacy as well as for those preparing to study medicine. Special attention will be called to the organic compounds used in medicine also to those parts of the subject which form a portion of the study of physiological chemistry.

Professor Johnson.

1b, 2b. LABORATORY COURSE IN GENERAL CHEMISTRY, QUALITATIVE ANALYSIS AND ORGANIC PREPARATIONS. Five hours. T., W., Th., F., 1-4 p. m.; Sat. 9-12 a. m. This course is designed to accompany Courses 1 and 2. The year's work will be divided into three parts,—12 weeks being given to general inorganic laboratory work, 12 weeks to the study of qualitative analysis and 12 weeks to the manufacture and study of such organic preparations as best illustrate the subject and are of interest to students of pharmacy and medicine.

NOTE: Students who enter the department with high school chemistry will receive five hours credit per semester for each course. Students who enter without having had high school chemistry will receive four hours credit per semester for each course and in addition on completing the year's work will receive one unit entrance credit.

Professor Johnson and Mrs. Johnston.

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. M., Th., 9:25. Lectures on the theory of solution as applied to analytical work. Laboratory work on the analyses of alloys and minerals and illustrations of the subject matter of the lectures. Two lectures and six laboratory hours per week.

Professor Byers.

6. QUANTITATIVE ANALYSIS. First Semester. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. This course is especially recommended to pharmacy students. Twelve laboratory hours, M., T., W., T., 1-4 p. m., and one recitation per week.

Assistant Professor Brandel.

COURSE 6 is repeated in the second semester for Liberal Arts and Engineering students. *Professor Byers.*

7. INDUSTRIAL CHEMISTRY. Second Semester. M., Th., F., 10:20. Laboratory work, F., 1:15.
Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. Tu., Th., Float. Prerequisites, 5 and 6, and Physics 1 and 2.
Assistant Professor Benson.

9. ELECTRO CHEMISTRY. Second Semester. Tu., Th., Float. Prerequisite, 9.
Assistant Professor Benson.

10. INORGANIC PREPARATIONS. Second Semester. Special methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles. Twelve laboratory hours per week. Prerequisite, 6.
Professor Byers.

11, 12. SPECIAL METHODS. 8:30. Analysis of water, gas, foods, etc. This course will be essentially an advanced course in quantitative analysis and will take up subjects in addition to those indicated according to the line of work which the student hopes to pursue later. This course is open only to advanced students of the department and will be given by the member of the staff most interested in the special subjects chosen. The work in the first semester will be essentially the same for all students.
Professor Byers.

13, 14. ORGANIC PREPARATIONS. An advanced course in organic chemistry. Prerequisite, 4 and 6.
Professor Byers.

17. PHYSIOLOGICAL CHEMISTRY. First Semester. W., F., 9:25. Lectures and laboratory work on Carbohydrates, Fats, Proteids, Gastric Juice, Blood Tests and Analysis of Urine, including the microscopic examination of urinary sediments. Assigned reading. Laboratory work, F., Sat.
Professor Johnson.

18. TOXICOLOGY. Second Semester. W., F., 9:25. Lectures and recitations on the physiological action of the various poisons, their antidotes and methods of using the same. Laboratory work and reading on methods of separating inorganic and organic poisons from animal tissue.

Professor Johnson.

BOTANY.

PROFESSOR FRYE.

Since so many of the common drugs are obtained from plants, an intelligent pharmacist should have a general knowledge of botany. Since related plants often have similar medicinal properties, a knowledge of classification becomes valuable; and in the identification of drugs, a knowledge of cell forms, and of the structure of various parts of a plant is indispensible. With these needs in mind a year's work has been outlined including training in the use of the compound microscope; studies in cell forms and contents; a general knowledge of classification, with special emphasis on the flowering plants; the histology of plant tissues, and the methods of staining them for microscopic examination.

7 and 8. PHARMACEUTICAL BOTANY. Three hours. First Semester. Tu., 8:30. How to use the microscope. Study of the cell. Structure of the flowering plants. Preparation of simple slides for the microscope. As far as possible medicinal plants will be studied. One lecture and six hours laboratory work.

PHYSIOLOGY.

ASSISTANT PROFESSOR PRENTISS.

5 and 6. PHYSIOLOGY. Three hours. First Semester. W., F., 8:30. A general course, dealing with the physiological activities of the human body. No prerequisite is demanded for this work, but it is advised that it be preceded or accompanied by a course in chemistry. Laboratory work, M., 1:15.

MATHEMATICS.

JAMES EDWARD GOULD AND FRANK MARION MORRISON, *Assistant Professors.*

1. PLANE TRIGONOMETRY. First or Second Semester. Section A, 8:30; Section B, 9:25. Section C, Float.

PHYSICS.

FREDERICK ARTHUR OSBORN, *Professor.*
HENRY LOUIS BRAKEL, *Instructor.*

1. MECHANICS AND SOUND. First Semester. W., Th., F., 9:25. Laboratory work, Tu. or Th., 1:15.

2. HEAT, ELECTRICITY AND LIGHT. Second Semester. W., Th., F., 9:25. Laboratory work, Tu or Th.

A student may begin his University work in physics either the first or second semester.

Students presenting note books from high school physical laboratories approved by this department may be excused from about one-third of the laboratory work in Courses 1 and 2.

GERMAN.

OTTILIE GERTRUDE BOETZKES, *Assistant Professor.*

1, 2. ELEMENTARY. Section A, 8:30; Section B, 10:20; Section C, Float. Grammar and easy reading, with practice in speaking and writing.

FRENCH.

PIERRE JOSEPH FREIN, *Professor.*
PETER LE FORT, *Assistant Professor.*

1, 2. ELEMENTARY. Section A, 8:30; Section B, 9:25; Section C, Float. Frazer and Squair's Grammar.

RHETORIC.

LOREN DOUGLAS MILLIMAN, *Assistant Professor.*
IDA KATHERINE GREENLEE, *Instructor.*

1. ENGLISH COMPOSITION. First Semester. Section A, 8:30; Section B, 9:25; Section C, 10:20; Section D, Float. Daily and fortnightly themes together with the study of the principles of Rhetoric. Text: "Genung's The Working Principles of Rhetoric." Each student will meet the instructor for private consultation on his work at least once every two weeks. Required of freshmen in all courses.

2. ENGLISH COMPOSITION. Second Semester. Repetition of Course 1.

PHYSICAL CULTURE.

PROFESSOR ROLLER AND MISS RUDBERG.

1, 2. APPARATUS WORK. Section A, M., W., 3. p. m.; Section B, M., W., 4 p. m. For men. Regular Freshman course.
Professor Roller.

3, 4. APPARATUS WORK. Section A, Tu., Th., 3 p. m.; Section B., Tu., Th., 4 p. m. For men. Regular Sophomore course.
Professor Roller.

1a, 2a. FLOOR WORK. Section A, M., W., 3 p. m.; Section B, M., W., 4 p. m. For women. Regular Freshman course.
Miss Rudberg.

3a, 4a. FLOOR WORK. Tu., Th., 4 p. m. For women. Regular Sophomore work.
Miss Rudberg.

5, 6. LECTURES F., 4 p. m. For both men and women.
Professor Roller.

7. FIRST AID TO THE INJURED. An elective course of one hour per week during the first semester. A course of practical lectures upon the treatment of such emergency cases as frequently demand the attention of a pharmacist.
Professor Roller.

THE SCHOOL OF LAW.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., *President.*

JOHN T. CONDON, LL. M., Professor of Law, *Dean.*

J. ALLEN SMITH, Ph. D., Professor of Political and Social Science

EDMOND S. MEANY, M. S., Professor of Constitutional History.

ARTHUR R. PRIEST, A. M., Professor of Rhetoric and Oratory.

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

JOHN P. HOYT, LL. B., Professor of Law.

JOHN FLEMING MAIN, A. B., Professor of Law.

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

MAURICE D. LEEHEY, LL. B., of the Seattle Bar, Lecturer on Mining Law.

PURPOSE.

The purpose of the School of Law is to prepare students for the practice of the law in any state in the Union, and to give special training in the law of the State of Washington, and to afford a thorough scientific and practical education in the principles of law and in the methods of finding and preserving a record of them.

REQUIREMENTS FOR ADMISSION.

The requirements for admission to the Law School are the same as the requirements for admission to the Sophomore class in the College of Liberal Arts.

Students from other law schools of high grade, who are otherwise qualified to enter this School of Law, will ordinarily receive credit, not exceeding one year, for work satisfactorily completed in residence at such schools corresponding in amount and character to that required at this School. The right is re-

served to refuse such credit, in whole or in part, save upon examination.

Candidates for advanced standing must spend at least one full college year in this School.

DATES OF REGISTRATION AND EXAMINATION.

REGISTRATION. Monday and Tuesday, September 24 and 25, 1906.

EXAMINATIONS. Examinations upon Monday, September 24, are for entrance to Law School and upon Tuesday, September 25, 1906, are for subjects presented by candidates for advanced standing in the Law School.

FEES.

TUITION. The tuition fee in the Law School is twenty dollars a semester, to be paid at the beginning of each semester. A proportionate charge is made for special students who take less than the full course.

GRADUATION. The graduation fee is five dollars for each student receiving a degree.

COURSE OF STUDY.

The course of instruction is a graded one, and extends through two years of nine months each. The instruction is not confined to any one of the various systems of legal education. Believing that a thorough knowledge of the jural relations arising and existing among men, and of the rights and their correlative obligations and duties springing therefrom lies at the basis of legal education, it is the aim of this school to employ the best in all systems of legal education, to the end that the student may gain a thorough knowledge of the fundamental rights, obligations and duties. To accomplish this end, if the subject in hand is one that requires historical research for a complete understanding of it, the historical method is employed, tracing the growth and development of the subject and giving its application to the body of the law as it exists at the present day. If the subject is one which can be thoroughly understood from a study of well written text-books, advantage is taken of the

experience of years of work of the legal profession as crystallized in such works. If the subject is one, as many are, in which no safe generalization can be made, the inductive method is pursued by means of a study of the cases, in connection with some well written compendium or text-book upon the subject. And believing that the Law School should be practical, special courses have been designed to give the student an opportunity while he is in the Law School to put into practical operation the principles he learns. To this end we have the Practice Court under guidance of the Faculty, the course in Office Practice taking up the practical work of a law office in the drawing of papers from given states of facts and the course in Finding and Keeping a Record of the Law, consisting of a study in detail of all the different schemes of legal classification now in use by lawyers and in preserving a record of the law when found.

COURSES OF INSTRUCTION.

FIRST YEAR.

ELEMENTARY LAW. Text-book: Robinson's Elementary Law. Two hours per week; first semester.

Professor Main.

CONTRACTS. Text-book: Keener's Cases on Contracts. Four hours per week; first semester. Two hours per week; second semester.

Professor Lantz.

TORTS. Text-book: Ames and Smith's Cases on Torts. Two hours per week; entire year.

Dean Condon.

QUASI-CONTRACTS. Text-book: Scott's Cases on Quasi-Contracts. Two hours per week; second semester.

Dean Condon.

PROPERTY. (a.) Personal Property and Sales. Text-book: Williston's Cases on Sales. Two hours per week; first semester.

(b.) Chattel Mortgages and Conditional Sales. Lectures, Washington Statutes and Selected Cases. One hour per week; second semester.

(c.) Real Property. Text-book: Vol. Two, Gray's Cases on Property, Second Edition. One hour per week; second semester.

Professor Main.

CRIMINAL LAW. Text-book: Beal's Cases on Criminal Cases. Two hours per week; second semester.

Professor Main.

PERSONS. Text-book: Woodruff's Cases on Domestic Relations and the Law of Persons, supplemented by a selection of Washington Cases. Two hours per week; first semester.

Professor Lantz.

AGENCY. Text-book: Mechem's Cases on Agency, supplemented by a selection of Washington Cases. Two hours per week; first semester.

Judge Hoyt.

BAILMENTS AND CARRIERS. Text-book: Goddard's Cases on Bailments and Carriers, supplemented by a selection of Washington Cases. Two hours per week; second semester.

Professor Lantz.

STATUTORY INTERPRETATION AND CONSTRUCTION. Selection of Washington Cases, supplemented by lectures. Two hours per week; second semester.

Professor Lantz.

PLEADING. (a.) A brief study of Common Law and Equity Pleading so far as necessary to an understanding of Code Pleading, followed by a general study of Code Pleading. Text-book: Phillip's Code Pleading. Two hours per week; first semester.

(b.) A study of the Code of Washington and the Washington Cases upon the subject of Code Pleading. Two hours per week; second semester.

Dean Condon.

HOW TO FIND AND KEEP A RECORD OF THE LAW. A study of legal bibliography, including also a study of all the classification schemes used in digests and encyclopedias in use by law-

yers, together with a detailed study of how to keep a record of one's study and reading for purposes of ready reference. One hour per week; entire year.

Dean Condon.

MOOT COURT. Includes a study of Washington Code of Pleading, the drawing of Pleadings under Code, and the arrangement of motions, demurrers, etc., upon these pleadings. Two hours per week; entire year.

Professor Lantz.

SECOND YEAR.

PROPERTY. (a) Real Property and Mortgages. Text-book: Gray's Cases on Property, 2nd edition, Vol. III. first semester, and Vol. IV. second semester. Two hours per week; entire year.

(b) This course also includes a study of the Community Property system regulating the property rights of husbands and wives in force in Washington and several other Pacific states.

Professor Main.

EQUITY. Text-book: Hutchins' Cases on Equity, supplemented by a selection of Washington Cases. Two hours per week; entire year.

Judge Hoyt.

NEGOTIABLE INSTRUMENTS. Text-book: Selover's Negotiable Instruments supplemented by a study of the Washington Negotiable Instrument Act, and the Washington Cases. Two hours per week; first semester.

Professor Lantz.

PARTNERSHIP. Text-book: Burdick's Cases on Partnership, supplemented by a selection of Washington Cases. Two hours per week; first semester.

Professor Lantz.

PRIVATE CORPORATIONS. Text-book: Smith's Cases on Private Corporations. Three hours per week; first semester.

Professor Main.

SURETYSHIP. Text-book: Ames' Cases on the Law of Suretyship, supplemented by a selection of Washington Cases. Two hours per week; second semester.

Professor Lantz.

PRIVATE INTERNATIONAL LAW. Text-book: Minor's Conflict of Laws, supplemented by a selection of Washington and other Cases. Two hours per week; second semester.

Dean Condon.

MUNICIPAL CORPORATIONS. A study of the Washington Constitution, Statutes and Cases upon this subject, supplemented by Lectures. One hour per week; second semester.

Professor Main.

CONSTITUTIONAL LAW. Text-book: McClain's Cases on Constitutional Law, supplemented by a selection of Washington Cases. Two hours per week; second semester.

Dean Condon.

WILLS AND ADMINISTRATION. Text-book: Chaplin's Cases on the Law of Wills, supplemented by a selection of Washington Cases and a study of the Washington Statutes. Two hours per week; second semester.

Judge Hoyt.

ATTACHMENTS AND GARNISHMENTS. Washington Statutes and a selection of Washington and other Cases. One hour per week; first semester.

Judge Hoyt.

ADMIRALTY. Text-book: Justice Brown's Cases on Admiralty Law, supplemented by a selection of the later cases. One hour per week; first semester.

Professor Lantz.

MINING LAW. Lectures. One hour per week; second semester.

Mr. Leehey.

EVIDENCE. Text-book: Thayer's Cases on Evidence, supplemented by a selection of Washington Cases. Two hours per week; entire year.

Dean Condon.

FEDERAL JURISDICTION. Text-book: Thayer's Federal Jurisdiction, supplemented by a selection of Cases. One hour per week; second semester.

Professor Main.

OFFICE PRACTICE. Practical work in drawing legal papers such as contracts, deeds, wills, etc., from given states of facts. One hour per week; second semester.

Professor Main.

HOW TO FIND AND KEEP A RECORD OF THE LAW. A detailed study of the various Digest Classifications and of the methods of digesting and briefing and of keeping an office record of your investigation of legal questions. One hour per week; entire year.

Dean Condon.

MOOT COURT. Includes the drawing of pleadings, argument of motions, demurrers, etc., the trial of cases before the Court alone and before the Court and a Jury. Two hours per week; entire year.

Professor Main.

IRRIGATION LAW. Special Lectures upon this subject, open to second year students only. Time to be arranged.

ROMAN LAW AND ITS RELATIONS TO THE COMMON LAWS. Special Lectures upon the subject, open to second year students only. Time to be arranged.

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 term of his senior year, a thesis of not less than forty 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 type-written, and securely bound, and is to be kept permanently in the School of Law.

CAREEK PRIZE FOR THESIS UPON WASHINGTON LAW.

Mr. Vivian M. Carkeek of the Seattle Bar, a graduate of this Law School, has offered 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 any

subject of Washington Law, or upon any subject of peculiar interest to Washington lawyers, the subject to be approved by the Dean of the Law School.

THE PRACTICE COURT.

The practice court is a part of the School of Law and is presided over by competent instructors, while the other members of the faculty co-operate in conducting it. The court is provided with a full corps of officers, including the member of the faculty who shall sit from time to time as presiding judge, a clerk, a sheriff and the necessary deputies. It meets on Friday afternoons at 1:30.

ELOCUTION AND ORATORY.

It is improtant to those who study the law with the view of becoming advocates, that they should give attention to the subject of public speaking, in order to equip themselves for the performance of their duties as advocates.

The junior class may receive instruction in vocal culture, articulation and pronounciation; position and gesture; quality and force of voice. An advanced course in forensics and oratory is arranged for the senior class.

EXAMINATIONS.

The members of both classes are examined daily throughout the year in their studies. At the end of the first year the members of the junior class are subject to written examinations on the courses during the year, and their promotion to the senior class is dependent on the manner in which they pass such examinations. The examinations of the junior class at the end of the first year are final on the subjects of that year.

At the end of the second year the members of the senior class are required to pass satisfactory written examinations on the courses during the senior year.

ADMISSION TO BAR.

It is provided by an act of the Legislature of the State of Washington that the graduates of the Law School of the Uni-

versity who have taken the full two years' course shall be admitted to the bar without examination and without payment of the usual admission fee of twenty dollars.

DEGREE.

The degree of Bachelor of Laws (LL. B.) will be conferred upon such students as pursue the full course of two years in the School of Law of the University of Washington and pass an oral and a written examination on the course. It will also be conferred upon those who, having attended another approved law school for a period equal to one year of the course of this School of Law, pursue one year's course in this school and pass like examinations.

LIBRARY.

The general library of the University is open to the students in the Law School. The Law School has a law library containing all the modern books of reference and a fair selection of the State Reports. We have recently added about one thousand volumes and it is our hope to do as well each year. The law library is now in good working condition.

EVENING SCHOOL.

The University offers a course in law in the evening open to those who are not able to attend in the day time. The admission requirements for the evening law school are the same as the day school. The studies pursued in the evening are exactly the same and the same texts are used. The evening classes meet three times each week, Monday, Wednesday and Friday, for two hours each evening. For graduation from the evening school the student must get the same credits as for graduation from the day school.

THE SUMMER SCHOOL.

The third annual summer session of the University of Washington will begin June 25th, 1906.

The work of the last two years was so well received that the summer session is now permanently established.

THE WORK.

The work of the summer session will be of a three-fold character:

1. Work for high school and upper grade teachers who wish further preparation.
2. Regular college work.
3. Work in graduate departments.

REQUIREMENTS FOR ADMISSION.

There will be no formal entrance examinations. Attendants must give evidence of sufficient maturity and preparation to profit by the work offered.

There were in attendance at the summer session of 1905 one hundred and sixty-one students. Several were teachers in neighboring colleges and normal schools, so that the relation was often rather that of association in work of common interest, under favorable circumstances, than that of students to teachers. Among those present thirty per cent. were graduates of colleges, and fifteen per cent. were graduates of normal schools.

REGISTRATION.

Registration will begin Monday morning, June 25th. Prospective students are earnestly requested to notify the Registrar of their intention at an early date. All fees must be paid to the Registrar at the opening of the session.

CREDITS.

A student may earn six credits by securing passing grades in the requisite number of subjects, and under no conditions will he be allowed to make more than this number.

TEXT-BOOKS.

Text-books can be purchased at reduced rates, at the University Co-operative Book Store.

CERTIFICATE OF ATTENDANCE.

A certificate of attendance will be given to every regularly registered student, and in case credits are earned, these will be entered upon the certificate.

ASSEMBLIES.

Assemblies of a literary or musical character will be held every afternoon or evening in Denny Hall. These entertainments will be open to students of the summer school free of charge.

SPECIAL COURSES.

Attention is especially called to the course in Sociology given by Professor E. A. Ross. Dr. Ross, Professor-elect of Sociology in the University of Wisconsin, is now generally regarded as the leading authority in his line in the United States. We feel assured that many teachers will welcome this opportunity to study under so eminent a specialist.

Superintendent O. J. Kern of Winnebago County, Illinois, has been secured for a course of lectures on School Consolidation, Beautifying School Grounds, and kindred themes. Supt. Kern has a message for every live teacher.

The University is also negotiating for special courses of five or more lectures, to be given by prominent scholars, who will be attracted to the Coast by the annual meeting of the National Educational Association.

ROOM AND BOARD.

Room and board at the dormitories can be secured for $24.00 for the period of six weeks. Students must, however, furnish their own bedding, mattresses and linen. A number of mattresses belonging to the regular occupants of the dormitories are left in the rooms during the summer and these may in some instances be rented for a small amount.

A list of desirable rooms and boarding places for any who do not care to take advantage of the dormitories may be found at the Registrar's office.

TUITION.

An incidental fee of ten ($10.00) dollars will be required of all students registering, and special laboratory fees will be charged in certain science departments, such as physics and chemistry, to cover the cost of materials consumed.

No part of this fund is applied to pay for the services of any member of the faculty on the regular University payroll, but this money is used for the compensation of the instructors brought in especially for the summer session and for the incidental expenses for the general betterment of the session.

REGISTER OF STUDENTS.

1905-6.

GRADUATE STUDENTS.

NAME.	GRADUATE OF
Anderson, Malcolm C., A. M.	Tuft's College
Aoyagi, K., A. B.	Waseda University, Tokyo, Japan
Bossnell, John K., A. B.	Stanford University
Bowlby, Henry Lee, A. B.	University of Nebraska
Burch, Warren, B. S.	University of Washington
Burns, Omar A., A. B.	Greenville College, Ill.
Cummings, Ruth, A. B.	Cornell College, Iowa
Hance, James H., A. B.	Northwestern University
Johnston, Mrs. C. B., M. S.	Iowa State College
Kirkwood, Samuel K., A. B.	Wooster University, Ohio
McCarthy, John W., A. M.	Morningside College, Iowa
McCarthy, William G., A. B.	University of Washington
McElwain, Penrose L., A. M.	Grove City College, Pa.
Marston, C. May, A. B.	Greenville College, Ill.
Mead, Harry L., E. M.	Columbia University
Morford, Amanda F., A. B.	University of Washington
Morrison, Mary, A. B.	University of Chicago
Nixon, Laura S., A. B.	Whitman College
Rathbun, John Charles, A. M.	University of Washington
Roberts, Milnora, A. B.	Stanford University
Tadlock, James Marion	Lane University, Kans.
Von Zeipel, Henry, A. B.	University of Stockholm, Sweden
Wallace, J. Sherman. A. B.	University of Illinois
Waugh, Rachel Kathleen, A. B.	Washington State College
Wetherel, J. Mervin, A. B.	Buffalo Normal School

SENIORS.

NAME.	COURSE.	HOME ADDRESS.
Alcorn, Timothy K.	A. B.	Salina, Kans
Armstrong, Ottie E.	A. B.	Seattle
Bash, Clementine	A. B.	Port Townsend
Bell, Orelia Key	A. B.	Nashville, Tenn.
Biegert, Hanna E.	A. B.	Seattle
Biggs, Statira	A. B.	Fremont, Ohio
Bliss, Jeanette	A. B.	Seattle
Bowles, Elihu	A. B.	North Yakima
Boyd, Mildred May	A. B.	Sumner
Bragdon, Hazel	A. B.	West Seattle
Brooks, Edward M.	E. E.	Seattle
Brown, Margaret Barr	A. B.	Everett
Campbell, Annie L.	A. B.	Seattle
Carle, Arthur B.	Mech. Eng.	Seattle
Clark, Dee	A. B.	Hayes
Cooper, Adelaide	C. E.	Junction
Corbett, G. H. J.	A. B.	Seattle
Cordes, Henry G.	E. E.	St. Helens
Crahan, May	A. B.	Seattle
Crickmore, Minnie M.	A. B.	Seattle
Cunningham, Ardys B.	A. B.	Waterville
Cutting, Forest B.	A. B.	Walla Walla
Dam, Oscar W.	A. B.	North Yakima
Donovan, Lillian	A. B.	Raymond
Dootson, James W.	A. B.	Everett
Dudley, Florence	A. B.	Puyallup
Eisenbeis, Lillian K.	A. B.	Port Townsend
Fischer, Arthur H.	Min. Eng.	Seattle
Griggs, Stephen E.	A. B.	Seattle
Gullixson, Edna T.	A. B.	Seattle
Hafer, Wilhelmina E.	A. B.	Seattle
Hall, Charles Wilbur	A. B.	Vancouver
Hamlin, Milton	Mech. Eng.	Seattle

NAME.	COURSE.	HOME ADDRESS.
Harris, Helen	A. B	Seattle
Hastings, Albert C	Min. Eng	Seattle
Hill, William R	C. E	Seattle
Hoover, Arthur A	A. B	Seattle
Hopkins, Thomas A	C. E	Seattle
Hubert, Elsie	A. B	Seattle
Iffland, Frieda	A. B	Port Townsend
Irwin, Robert B	A. B	Tacoma
Joyce Mabel A	A. B	Seattle
Kahan, Sarah E	A. B	Seattle
Kellogg, Jessie M	A. B	Seattle
Kennedy, Nellie May	A. B	Tacoma
King, John R	E. E	Seattle
Laube, Fred E	Min. Eng	Bellingham
Livingstone, Gilbert T	Min. Eng	Seattle
McCrory, Thomas G	C. E	Ballard
McMicken, Maud	A. B	Seattle
Martin, Clarence D	A. B	Cheney
Mitchell, James B	A. B	Fairfax
Morrison, Robert A	A. B	Shell Lake, Wis.
Mylroie, Ruth M	A. B	Kent
Nelson, Charles Albert	A. B	Mt. Vernon
Norton, Grace C	A. B	Seattle
O'Brien, John J	A. B	Los Angeles, Cal.
Ormund, Alex. M	Mech. Eng.	Rochester, Minn.
Sater, Julia Mollie	A. B	Seattle
Sieler, George	A. B	Odessa
Skelton, Nellie V	A. B	Seattle
Sterling, Mrs. E. C	A. B	Vancouver
Sweet, Lester	A. B	Blaine
Taylor, Margaret M	A. B	Bellingham
Taylor, Mervin W	A. B	Prosser
Tenneson, Alice M	A. B	Cheney
Tibbals, Maurice L	C. E	Port Townsend

NAME.	COURSE.	HOME ADDRESS.
Vaupel, Helen K.	A. B.	Seattle
Warner, Blanche	A. B.	Tacoma
Wayland, Russell G.	Min. Eng.	Seattle
Wernecke, Livingstone	Min. Eng.	Seattle
Wetzell, Louise A.	A. B.	Spokane
White, Coral B.	A. B.	Bellingham

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JUNIORS.

Alexander, Edward D.	C. E.	Seattle
Anthon, Sister I.	A. B.	Seattle
Atkinson, Wallace L.	Min. Eng.	Mt. Holly, N. J.
Ball, Elsie M.	A. B.	The Dalles, Ore.
Borie, Fanchon	A. B.	Pendleton, Ore.
Botten, Henry H.	Mech. Eng.	Madelia, Minn.
Calkins, Donald J. F.	C. E.	Kennewick
Callow, Edward J.	A. B.	Summit
Campbell, Ruby	A. B.	Seattle
Child, Elsie T.	A. B.	Spokane
Clark, Lois	A. B.	Seattle
Coffman, Ethelin M.	A. B.	Chehalis
Combes, Gertrude	A. B.	Elma
Copestick, Maud	A. B.	Seattle
Cosgrove, Z. Myrn	A. B.	Pomeroy
Cox, Henry C.	E. E.	Kennewick
Crawford, Magnus Tate	E. E.	Bellingham
Crosby, W. E.	A. B.	Dunlap
Cunningham, Imogene	A. B.	Seattle
Dalgity, Annie D.	A. B.	Seattle
Dearle, Percy	A. B.	Everett
DeLand, Katherine	A. B.	Tacoma
Dougan, Lee Dewane	Min. Eng.	Plankington, S. D.
Douglas, Maud A.	A. B.	Seattle
DuFur, Kathryn L.	A. B.	Kalama

NAME.	COURSE.	HOME ADDRESS.
Ellis, Edward B.	Min. Eng.	Willapa
Emerson, Albert T.	E. E.	Elma
Erdmann, Earl E.	C. E.	Green Bay, Wis.
Fahnestock, John N.	C. E.	Seattle
Ferguson, James M.	C. E.	Hastings, Neb.
Fletcher, James G.	A. B.	Seattle
Gault, Perrett Franklin.	A. B.	Tacoma
Gibbons, Charles B.	Mech. Eng.	Seattle
Gibbons, Helen	A. B.	Granite Falls
Gilkey, Pearl	A. B.	Seattle
Gloster, Richard I.	C. E.	Bellingham
Griffiths, Mabel C.	A. B.	Bellingham
Griffiths, Stanley A.	A. B.	Seattle
Gustafson, Frederick C.	C. E.	Tacoma
Haberer, Emanuel J.	A. B.	Seattle
Hawkins, Lela M.	A. B.	North Yakima
Heyes, Margaret Louise.	A. B.	Seattle
Howell, Everett S.	A. B.	Falls City
Jackson, Edith L.	A. B.	Spokane
Jackson, Jesse	C. E.	Seattle
Jackson, Jessie M.	A. B.	Portland, Ore.
Jacobson, Clara	A. B.	Woodinville
Jaxtheimer, Bessie Eunice.	A. B.	Everett
Johnson, Hilma C.	A. B.	Vancouver
Johnson, Winnifred	A. B.	Seattle
Johnstone, Harriet R.	A. B.	Seattle
Kaufman, Elizabeth	A. B.	Spokane
Kennedy, Thomas J. L.	A. B.	Puyallup
Leach, Kenneth M.	Phar.	Raymond
Lindsay, Brent A.	A. B.	Wenatchee
Livesey, Esther E.	A. B.	Seattle
Lovejoy, Leah	A. B.	Seattle
Lucas, Mayme	Min. Eng.	Seattle
Marlow, Junia	A. B.	Seattle
Meyer, Anastacia	A. B.	Snohomish

NAME.	COURSE.	HOME ADDRESS.
Millican, Frank R.	A. B.	Seattle
Mitchell, D. DuBois.	A. B.	Seattle
Needham, Delos J.	A. B.	Lewiston, Idaho
Nefzger, Gertrude G.	A. B.	Seattle
Newton, Earl Burdette.	A. B.	Norwich, N. Y.
Niedergesaess, Gertrude	A. B.	Seattle
Norton, Charles A.	A. B.	Seattle
Ozasa, Sab Ro.	Min. Eng.	Japan
Parker, William E.	A. B.	Seattle
Perry, Percy J.	A. B.	Aberdeen
Peterson, Roy J.	Min. Eng.	Skagway, Alaska
Peterson, Henry E.	A. B.	Fremont
Phillips, James E.	Min. Eng.	Oakley, Kan.
Phillips, Walter I.	Min. Eng.	Oakley, Kan.
Pullen, Daniel Dee.	Mech. Eng.	Skagway, Alaska
Rathbun, John Charles.	C. E.	Seattle
Richardson, Fred H.	Mech. Eng.	Seattle
Robinson, Ephraim T.	A. B.	Valparaiso, Ind.
Russell, Helen R.	A. B.	Spokane
Sherman, Hermie.	A. B.	South Park
Simpson, Bessie	A. B.	Kalama
Sinclair, Annie Margaret.	A. B.	Seattle
Streator, Gertrude	A. B.	Davenport
Sullivan, Allen C.	Mech. Eng.	Seattle
Talbot, Nellie M.	A. B.	Seattle
Tomlinson, Grace E.	A. B.	Seattle
Torno, Ditteo W.	A. B.	Copenhagen, Sweden
Trumbull, Harlan L.	A. B.	Seattle
Uyehara, George	A. B.	Japan
Waddingham, Elsie K.	A. B.	Seattle
Wagner, Charles F.	Mech. Eng.	Vancouver
Wagner, Walter C.	E. E.	Seattle
Wells, Clyde E.	Min. Eng.	Seattle
Wharton, Henry J.	A. B.	Seattle

NAME.	COURSE.	HOME ADDRESS.
Whitfield, Jay A.	A. B.	Kent
Whittlesey, Walter B.	A. B.	Seattle
Wilbur, Bessie R.	A. B.	Seattle
Williman, Magdalene.	A. B.	Seattle
Willis, Agnes L.	A. B.	Chehalis
Wilson, Florence Alden.	A. B.	Ellensburg
Woodcock, Harold L.	A. B.	Seattle
Zednick, Victor H.	A. B.	Seattle
Zook, Carl S.	A. B.	Normal, Ill.

SOPHOMORES.

Albers, Otto J.	A. B.	Chehalis
Alexander, Mellie.	A. B.	Seattle
Allyn, Frank M.	A. B.	Spokane
Ames, Ethel	A. B.	Tacoma
Andrews, Ray	A. B.	Sunnyside
Ashmun, Raymond N.	A. B.	Hoquiam
Babcock, Frank E.	Min. Eng.	Everett
Bach, Lois	A. B.	Seattle
Bagshaw, Enoch W.	Min. Eng.	Seattle
Benham, Arthur	Phar.	Seattle
Birkett, Donald S.	A. B.	Seattle
Bliss, Amelia.	A. B.	Seattle
Brennesholtz, Richard.	A. B.	Waterville
Brown, Ethel.	A. B.	Camas
Brown, Vera Mae.	A. B.	Seattle
Cales, Tony F.	E. E.	Bucoda
Campbell, John W.	A. B.	Edwall
Campbell, Lucy.	A. B.	Seattle
Chambers, Lydia May.	A. B.	La Porte, Ind.
Chlopek, Edward H.	A. B.	Manitowac, Wis.
Christie, Morris W.	E. E.	Ottumwa, Ia.
Churchill, Elsa T.	A. B.	Seattle
Coffman, Florence A.	A. B.	Chehalis
Cole, Clarence M.	Mech. Eng.	Clear Lake
Collins, Edward D.	A. B.	Kirkland

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NAME.	COURSE.	HOME ADDRESS.
Cooper, Alton	A. B.	Bellingham
Cooper, John F	A. B.	Seattle
Cox, Roy E	E. E.	Kennewick
Crim, E. Owen	E. E.	Seattle
Crim, Lemuel P	E. E.	Seattle
Davis, Reba	A. B.	Spokane
Dean, Arthur B	E. E.	Everett
Dean, Homer L	Phar.	Bellingham
Deming, Horace G	Chem. Eng.	Centralia
Duffy, Gilbert L	Mech. Eng.	Seattle
Dunlap, Nellie M	A. B.	Seattle
Easter, Roderick R	E. E.	Seattle
Engelund, Eunice	A. B.	Seattle
Erickson, John Otto	A. B.	Astoria, Ore.
Fallis, Annie L	A. B.	Centralia
Farley, Harry R	A. B.	Bellingham
Fowler, Frank H	Mech. Eng.	Bellingham
Frailey, Oscar A	C. E.	Everett
Garvey, Victor H	C. E.	Green Lake
Gearey, J. Leslie	Mech. Eng.	Seattle
Georgeson, Dagmar	A. B.	Sitka, Alaska
Grout, Rose E	A. B.	Seattle
Hartshorn, Ernest G	A. B.	Dundee, Mich.
Hewitt, Frank C	A. B.	Tacoma
Himelhoch, Coral	A. B.	Seattle
Hinckley, Grace F	A. B.	Seattle
Hipkoe, Max O	A. B.	Sardis, B. C.
Holcomb, Harold I	A. B.	Seattle
Hoover, J. Webster	C. E.	Everett
Jacobsen, Etta	A. B.	Seattle
Jacobsen, Sara	A. B.	Woodinville
Jamieson, Edward H., Jr	A. B.	Spokane
Judge, Redmond H	A. B.	Ballard
Kahan, Rose	A. B.	Seattle
Karr, Arthur T	A. B.	Hoquiam

NAME.	COURSE.	HOME ADDRESS.
Kelsey, Eva Minnie	A. B.	Hatton
Kiemle, Florence A.	A. B.	Spokane
Kinney, Ivan J.	A. B.	Olympia
Kittredge, Margaret	A. B.	Seattle
Krumdick, Anna	A. B.	Seattle
Lindsay, W. Rufus	C. E.	Utsallady
Lingerman, Birdena A.	A. B.	Tacoma
Lough, Jacob W.	Phar.	Ballard
Lowry, Samuel D.	Mech. Eng.	Seattle
Luby, Florence	A. B.	Seattle
Lukes, Marion Robinson	A. B.	Seattle
Lumbard, George A.	Min. Eng.	Seattle
Luzader, Floyd L.	A. B.	Tacoma
McArdle, Joseph F.	A. B.	Seattle
McCready, Evaline	A. B.	Tacoma
McCurdy, Uriah F.	Phar.	Seattle
McDaniels, Meta L.	A. B.	Tacoma
McLachlan, Margaret Mae	Phar.	Sedro-Woolley
Madsen, Magda	A. B.	Seattle
Maggs, Joyn M.	Mech. Eng.	Seattle
Marble, James E.	C. E.	Seattle
Martin, Lela C.	A. B.	Seattle
Miller, Mayme B.	A. B.	Seattle
Missigman, Lemon	Mech. Eng.	Seattle
Morrison, Elmer H.	Phar.	Bellingham
Murchinson, Alice	A. B.	Seattle
Murray, May	A. B.	Seattle
Nash, Lulu May	Phar.	Tacoma
Nettleton, Jessie Baird	A. B.	Seattle
Ovitt, Goldie E.	A. B.	Tukwila
Parr, Myrtle Irene	A. B.	Seattle
Philben, Honoria	A. B.	Puyallup
Phillips, Earl Edgar	A. B.	Davenport
Pope, Arthur S.	A. B.	Kent
Porter L. M.	Chem. Eng.	Seattle
Price, Isabella M.	A. B.	Seattle

NAME.	COURSE.	HOME ADDRESS.
Prosch, Beatrice	A. B	Seattle
Prosser, William	A. B	Black Diamond
Pugsley, Harriet M	A. B	Seattle
Rawel, Alfred John	A. B	Santa Cruz, Cal.
Reuhle, Godfrey L. A	Phar.	Port Townsend
Rosaan, Archibald G	A. B	Seattle
Rothschild, E. Eugene	Phar.	Port Townsend
Scatcherd, Roy	Phar.	Seattle
Sharkey, Fred J	Min. Eng	North Yakima
Sheerer, Harold M	Min. Eng	Seattle
Sherwood, Homer D	A. B	Seattle
Sims, Hortense	A. B	Seattle
Smith, Glen H	A. B	Seattle
Smith, Guy L	Phar.	Everett
Snoke, Rupert P	E. E	Seattle
Starr, George E	A. B	Waterville
Stead, Maude Alice	A. B	Seattle
Steele, Harry H	Min. Eng	Seattle
Stickler, Clair H	Min. Eng	Olympia
Stone, Seymour Iver	A. B	Kodiak, Alaska
Strout, Rena	A. B	Tacoma
Taylor, Josephine	A. B	Bellingham
Thompson, Amos Warren	E. E	Stanwood
Thompson, Hugh L	E. E	Kelowna, B. C.
Thompson, William P	A. B	Seattle
Tierney, Ray Lillian	A. B	Townsend, Mont.
Umpleby, J. Bertram	A. B	Olympia
Vogt, Edith Francis	A. B	Seattle
Waite, Genevieve	A. B	Seattle
Wakefield, Cleo M	A. B	Seattle
Walsh, Gertrude	A. B	Seattle
Walter George E	Phar.	Seattle
Watson, Grace E	A. B	Seattle
Waugh, Howard C	C. E	Mt. Vernon
Way, Ethel Elizabeth	A. B	Seattle
Way, Evelyn Dorothy	A. B	Seattle

NAME.	COURSE.	HOME ADDRESS.
Wernecke, Chauncey	A. B	Seattle
West, Ruth	A. B	Seattle
White Eugene A	Min. Eng	Seattle
Wimmler, Norman L	Min. Eng	Seattle
Witbeck, I. T	A. B	Belvedere, Ill.
Woodbridge, Laura Frances	A. B	Seattle

FRESHMEN.

Adams, Mabel B	A. B	Port Townsend
Allen, Eva D	A. B	Seattle
Alling, Julia	A. B	Olympia
Ames, Ezra Floyd	C. E	Park River, N. D.
Amos, Clarabel	A. B	Cashmere
Anderson, Anna M	A. B	Fremont
Annis, Lucile	A. B	Spokane
Ashton, Fred W	Chem. Eng	Ft. Lawton
Askren, Thomas Merle	A. B	Carbonado
Balthus, Lillian Claire	A. B	Seattle
Barrett, Fred S	A. B	Seattle
Bartlett, Phoebe M	A. B	Seattle
Beckett, Thomas W	E. E	Seattle
Begley, G. Verne	C. E	Seattle
Bell, Charles W	E. E	Edmonds
Bennett, Mary Pearl	A. B	Seattle
Berry, John L	C. E	Bremerton
Beurhaus, William Geo	A. B	Tacoma
Birkett, Harold	A. B	Seattle
Blackman, Helen	A. B	Everett
Blake, Hazel A	A. B	Seattle
Bollong, J. W. A	E. E	Ballard
Bonnett, Ada M	A. B	Seattle
Borie, Earl D	Min. Eng	Pendleton, Ore.
Bowman, Warren	C. E	Puyallup
Brackett, George W	Mech. Eng.	Skagway, Alaska
Breece, Dor F	A. B	Seattle
Brown, Cora	A. B	Camas
Burke, Jessie C	A. B	Tacoma
Burkhart, Ralph	A. B	Tacoma

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NAME.	COURSE.	HOME ADDRESS.
Burnett, Hettie Rose	A. B	Seattle
Burwell, Edgar H	E. E	Tacoma
Byers, Roy B	A. B	Seattle
Byrd, Edna M	A. B	Spokane
Cain, Mabel Celestia	A. B	Ballard
Camp, Hiram W	C. E	Centralia
Campbell, Dora S	A. B	Black River
Campbell, Jessie D	A. B	Seattle
Carlson, Elmer E. P	E. E	Stanwood
Caskin, Olaf E	A. B	Puyallup
Chittenden, Ralph G	A. B	Cadillac, Mich.
Clark, Arthur M	A. B	Centralia
Clark, Charles Arthur	Phar.	Tacoma
Clark, Christine	A. B	Seattle
Clark, Genevieve B	A. B	Everett
Cobb, Asa Albert	Mech. Eng	Waverly
Collier, Edith	A. B	Seattle
Conner, Irene Russell	A. B	Seattle
Conners, Caroline E	A. B	Seattle
Cook, Arthur A	E. E	Tacoma
Cook, William Bell	A. B	Seattle
Cordes, Edward G	E. E	Cheney
Coryell, Jane Agord	A. B	Green Lake
Coulter, Chester	C. E	Seattle
Cowgill, Carrie	A. B	Wardner, Idaho
Crane, Harry S	Min. Eng	Seattle
Craven, Leslie	A. B	Bellingham
Crollard, Fred. M	A. B	Wenatchee
Dalby, Edwin J	A. B	Seattle
Daniels, Frank	C. E	Seattle
Davidson, Carlon C	C. E	Seattle
Day, Glen L	A. B	Seattle
Dearborn, Elizabeth	A. B	Seattle
Dewhurst, John A	E. E	Seattle
Donahoe, Paul L	A. B	Chehalis
Dowd, Frank	A. B	Seattle
Drake, Bartlett T	Phar.	Bellingham

NAME.	COURSE.	HOME ADDRESS.
Drake, Edward Fred	A. B	Bellingham
Drowley, Charles Lewis	Phar.	Tacoma
Dunbar, Walter C	Min. Eng	Seattle
Dungan, Violet W	A. B	Seattle
Dunlap, George S	E. E	LaConner
Durham, Kenneth	A. B	Spokane
Edwards, Hillatje R	A. B	Everett
Egbert, Grace L	A. B	Olympia
Ellis, Hubert I	Min. Eng	Willapa
Ellis, William G	E. E	Willapa
Enyart, Edna H	A. B	Seattle
Erickson, Charles E	C. E	Seattle
Erickson, Helga M	A. B	Astoria, Ore.
Everett, John R	C. E	Custer
Fallis, Pearl	A. B	Centralia
Fischer, Adelaide D	A. B	Seattle
Fitts, Finley F	Min. Eng	Seattle
Flaherty, Benj. Guy	E. E	Sedro-Woolley
Fos, Maude W	Phar.	Seattle
Fowle, William Page	Mech. Eng	Bellingham
Fowler, Harry E	Mech. Eng	Bellingham
Franklin, Phil A	C. E	Seattle
Franklin, William H	C. E	Seattle
Frein, Bessie M	A. B	Seattle
Gaches, Harry W	Mech. Eng	LaConner
Gaches, Hilda	A. B	LaConner
George, Lawrence E	A. B	Olympia
Georgeson, Rosemary	A. B	Sitka, Alaska
German, Glenn A	Min. Eng	Seattle
Gleason, Mabel E	A. B	Seattle
Godfrey, William B	C. E	Port Townsend
Goodner, Henry E	A. B	Spokane
Gould, Mrs. Minnie E	A. B	Seattle
Grainger, Clyde	A. B	Sumner
Gregg, Kate L	A. B	Clarkston
Grinnell, Ethel Agnes	A. B	Tacoma
Gruwell, Edna	A. B	Seattle

NAME.	COURSE.	HOME ADDRESS.
Hadlock, Minnie M.	A. B.	Seattle
Hall, Joseph E.	A. B.	Vancouver
Hamlin, Pearl.	A. B.	Puyallup
Hammond, Ada Eugenie.	A. B.	Seattle
Hammond, Edith.	A. B.	Tacoma
Hancock, Eugene A.	E. E.	Coupeville
Hansen, Bert A.	E. E.	Tacoma
Hardman, Cecilia.	A. B.	Seattle
Harmon, Fred D.	E. E.	Bellingham
Harper, Helen.	A. B.	Seattle
Harris, Alexander.	E. E.	North Yakima
Harrison, Joseph B.	A. B.	Seattle
Hartman, Fred L.	A. B.	Pendleton, Ore.
Hawes, Raymond.	C. E.	Everett
Hayes, A. Reed.	A. B.	Seattle
Hayman, Benjamin E.	A. B.	New York City
Heffner, Carrie.	A. B.	Snohomish
Hemphill, Wylie J.	A. B.	Seattle
Henehan, Marlina.	A. B.	Providence, R. I.
Heyes, Mary.	A. B.	Seattle
Hollingsworth, George E.	A. B.	Seattle
Hoover, Glenn E.	A. B.	Hoquiam
Hopkins, Raymond A.	E. E.	Tacoma
Houlehan, Kathleen	A. B.	Seattle
Hubert, Lulu.	A. B.	Seattle
Hughes, Edward F.	Min. Eng.	Snoqualmie
Hulse, Thomas E.	A. B.	Bremerton
Hunt, Clara Alice.	A. B.	Bellingham
Isbell, Harry R.	E. E.	Seattle
James, Sidney T.	A. B.	Seattle
Jameson, Helen.	A. B.	Tacoma
Jarvis, Paul.	E. E.	Georgetown
Johns, David P.	A. B.	Seattle
Johnson, George W.	E. E.	Seattle
Johnson, Ida.	A. B.	Seattle
Johnson, Pearl.	A. B.	Seattle
Johnstone, A Eleanor.	A. B.	Seattle
Jones, Anna Ray.	A. B.	Seattle

NAME.	COURSE.	HOME ADDRESS.
Kanters, Christine	A. B	Seattle
Kay, Lew Geate	A. B	Seattle
Keasal, Rinaldo	Min. Eng	Tacoma
Keho, Joseph	Phar.	Tacoma
Kelly Myra	A. B	Tacoma
Kennedy, George E	Min. Eng	Puyallup
Kennedy, Joseph A	E. E	Pendleton, Ore.
Kilbourne, Edna F	A. B	Seattle
King, Lewis	Min. Eng	Snohomish
Kingston, Mary B	A. B	Seattle
Kirsten, Fred J	E. E	Germany
Knox, Queen Juliet	A. B	Olympia
LaFranz, Arnold L	Phar.	Spokane
Lamping, Samuel G	Min. Eng	Seattle
Laube, E. Leona	A. B	Bellingham
Lee, Kate Elizabeth	A. B	Seattle
Leigh, Charles Jr	Mech. Eng	Seattle
Linne, Agnes E	A. B	Seattle
Linne, Edna Hilgarde	A. B	Seattle
Loewe, Walter George	A. B	West Seattle
Lohman, Lillian	A. B	Seattle
Loomis, Ralph C	Mech. Eng	Olympia
Lum, Burton O	A. B	North Yakima
Lynn, Edwin V	A. B	Tacoma
McCormack, J. Garfield	C. E	Hibbing, Mont.
McDonald, Helen	A. B	Seattle
McGee, Merritt M	A. B	West Seattle
McGlauflin, Clarice	A. B	Hoquiam
McKean, Flobell	A. B	Walla Walla
McMaster, Ella Carkener	A. B	Seattle
McWilliams, Alice B	A. B	Seattle
MacDonald, Maude A	A. B	Seattle
MacMillan, Marie George	A. B	Chicago, Ill.
Mackey, Walton F	Min. Eng	Bellingham
Mackie, Paul	C. E	Ballard
Macleay, Elizabeth L	A. B	Olympia
Madison, Lillian	A. B	Kent
Mallory, Charles E	C. E	Tacoma

NAME.	COURSE.	HOME ADDRESS.
March, J. Gordon	A. B.	Bellingham
Marion Arthur T.	Mech. Eng.	Walla Walla
Marston, Roy H.	A. B.	Lawtell, Cal.
Mason, Marion J.	A. B.	Fort Flagler
Matthys, Fred P.	Min. Eng.	Van Wert, O.
Meier, Elsie Anna.	A. B.	Seattle
Metcalfe, James Vernon.	A. B.	Seattle
Metcalf, Mayre Pearl.	A. B.	Seattle
Millar, Emily D.	A. B.	Seattle
Montgomery, Alice E.	A. B.	Seattle
Montgomery, Ralph S.	A. B.	Seattle
Moran, Marjorie Elmore.	A. B.	North Yakima
Morgan, Edith Maude.	A. B.	Snohomish
Morgan, Mabel.	A. B.	Waitsburg
Moyer, Leonard M.	C. E.	Seattle
Munson, Dorothy Grace.	A. B.	Seattle
Murphy, Joseph Myron.	A. B.	Westfield, Wis.
Newcomb, Dolph Allen.	A. B.	Seattle
O'Brien, Russell L.	C. E.	Olympia
Oliver, Grace M.	A. B.	Pendleton, Ore.
Oliver, Louis D.	Chem. Eng.	Seattle
O'Meara, Margaret C.	A. B.	Seattle
O'Neal Arthur T.	A. B.	Spokane
Osterud, Hjalmar L.	A. B.	Seattle
Ostrom, Arthur W.	A. B.	Seattle
Palmer, Lee Chase.	A. B.	Seattle
Parker, Lela Kathleen.	A. B.	Seattle
Parker, Phoebe	A. B.	Tacoma
Parker, Shirley Delancy.	Phar.	North Yakima
Peters, William G.	C. E.	Bellingham
Phelps, Benjamin F.	E. E.	North Yakima
Potter, Joseph B.	Mech. Eng.	Berrysville, Ark.
Powers, Myrtle R.	A. B.	Everett
Powles, Olive R.	A. B.	Seattle
Pratt, Frank Gillett.	A. B.	Seattle
Prosser, Margaret Helen.	A. B.	Seattle
Pugsley, Edmond P.	E. E.	Seattle

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NAME.	COURSE.	HOME ADDRESS.
Ratcliffe, F. Lynn	A. B	Cheney
Ray, Dora Belle	Phar.	Van Asselt
Reagh, Arthur L	C. E	Seattle
Renken, Louise	A. B	Seattle
Ridgway, Elizabeth Grace	A. B	Seattle
Riedel, Chris G	A. B	Little Falls
Roberts, G. Braden	C. E	Kalama
Robinson, Lou S	E. E	Spokane
Roe, Charles C	A. B	Seattle
Roller, Floyd H	Min. Eng	Seattle
Ross, Donald W	Chem. Eng	Everett
Ross, Lavern Louise	A. B	Seattle
Ross Rex L	E. E	Seattle
Roth, Edna Elizabeth	A. B	Bellingham
Rudberg, Lavina C	A. B	Seattle
Rudio, Roy David	A. B	Walla Walla
Rupp, Rudolph H	C. E	Walla Walla
Ryan, Warren W	E. E	Sumner
Sanford, Chard	Min. Eng	Los Angeles
Schneider, Hugo H	Mech. Eng	Snohomish
Scholes Stella	A. B	Mandalay, Burmah
Scott, Rudolph B	Min. Eng	Spokane
Shaw, Emily E	A. B	Seattle
Shaw, Royal	A. B	North Yakima
Shelton, Ellen Frances	A. B	Seattle
Sherrard, Ethel M	A. B	Kent
Simpkins, Emily	A. B	Seattle
Simpson, Grace	A. B	Matlock
Simpson, Nina B	A. B	Kalama
Sisson, Ralph W	E. E	Snohomish
Smith, Beulah Faye	A. B	Seattle
Smith, E. Rex	Chem. Eng	Seattle
Smith, James G. Blaine	A. B	Tacoma
Smith, Joseph L	Min. Eng	Seattle
Smith, Lucas Folsom, Jr	A. B	Santa Cruz, Cal.
Smith, Mary Agnes	A. B	Seattle
Smith, William D	C. E	Ballard
Spurrell, Florence Ivie	A. B	Snohomish
Stahl, Gustav R	C. E	Seattle

NAME.	COURSE.	HOME ADDRESS.
Starr, Sarah Helen	A. B.	Seattle
Stewart, Elsie H.	A. B.	Seattle
Sturley, Ruth Emeline	A. B.	Tacoma
Sutherland, Catherine B.	A. B.	Seattle
Sutherland, John	E. E.	Seattle
Sveinson, Mekkin	A. B.	Blaine
Sweet, Nettie May	A. B.	Ballard
Swyney, Hendley N.	E. E.	Seattle
Talcott, Viretta	A. B.	Olympia
Talmadge, Henry O.	Min. Eng.	Ballard
Tamany, Patrick	A. B.	Seattle
Tanggard, Ludwig Carlo	A. B.	Shuwah
Tanner, Merle H.	A. B.	Seattle
Taylor, Fannie	A. B.	Olympia
Taylor, Grayce Fray	A. B.	Seattle
Teats, Ralph	Phar.	Tacoma
Tegtmeier, Fred T.	C. E.	Everett
Terrell, Charles F.	E. E.	Tecumsah, Neb.
Thomas, B. C.	A. B.	Cashmere
Thomas, Clarence L.	A. B.	Seattle
Thomas, Clifford A.	A. B.	Cashmere
Thomas, Walter R.	E. E.	Wenatchee
Thompson, Albert C.	Chem. Eng.	Tacoma
Thompson, Alfred L.	E. E.	Spokane
Thompson, Claud S.	E. E.	Fairfax
Thornton, Harry Albert	A. B.	Seattle
Thurston, May A.	A. B.	Seattle
Tibbals, Henry C.	C. E.	Port Townsend
Tilley, Homer H.	E. E.	Portland, Ore.
Tillman, Helen C.	A. B.	Seattle
Totten, Joseph P.	A. B.	Seattle
Tremper, Abe	A. B.	Seattle
Troll, Annie May	A. B.	Seattle
VanEman, Andrew G.	Min. Eng.	Augusta, Mont.
Vellat, Alice Marie	A. B.	Winslow
Vernon, Frank L.	Chem. Eng.	Ballard
Vincent, Fred W.	A. B.	Pendleton, Ore.
Voswinkle, Olive	A. B.	Seattle

NAME.	COURSE.	HOME ADDRESS.
Wagoner, Louisa Catherine	A. B	Seattle
Wanamaker, Lemuel P	C. E	Coupeville
Ward, Edith	A. B	Seattle
Ward, John S	C. E	Centralia
Ware, John F	A. B	St. Paul, Minn.
Watson, Harry Turner	A. B	Tacoma
Waugh, Eva May	A. B	Mt. Vernon
Waugh, Richey L	A. B	Mt. Vernon
Way, Stephen F	Min. Eng	Seattle
Wells, Chester G	C. E	Seattle
Wells, Clarke J	Min. Eng	Spokane
Wells, Floy Lydia	A. B	Seattle
Whitney, Glenn Thornton	A. B	Seattle
Wilkinson, George E	Min. Eng	Seattle
Wilkinson, Marshal D	C. E	Walla Walla
Williams, Arthur E	Min. Eng	Frank, Alaska
Williams, Blanche	A. B	Seattle
Williams, Charlotte F	A. B	Olympia
Wills, Fred G	A. B	Walla Walla
Wilson, William S	Mech. Eng	Aberdeen
Winn, Grover C	A. B	Juneau, Alaska
Winn, Milton	Phar.	Juneau, Alaska
Winslow, Carl Henry	Mech. Eng	LaCrosse, Wis.
Winsor, William	Mech Eng	Seattle
Wood, Charlotte A	A. B	Melhauk, S. D.
Woodbury, Vida	A. B	Seattle
Woodnut, Lloyd H	Min. Eng	West Seattle
Wright, William H	A. B	Pomona, Cal.
Wyman, Prudence Estelle	A. B	Olympia
Yeager, Ida Naoma	A. B	Olympia
Yeager, William H	C. E	Olympia
Yoho, Orletta Violet	A. B	Seattle

UNCLASSIFIED STUDENTS.

NAME.	COURSE.	HOME ADDRESS.
Allen, Floyd W.	C. E.	Seattle
Allen, Herman	A. B.	Kent
Appleton, Montez Minnie	A. B.	Port Angeles
Armstrong, Edward	C. E.	San de Fuca
Armstrong, Leland S.	C. E.	West Seattle
Atkinson, Howard	Min. Eng.	Mt. Holly, N. J.
Babcock, Frank D.	Phar.	Port Angeles
Baker, Cecil	Phar.	Port Townsend
Ball, Alice Martha	A. B.	Seattle
Bantz, Burwell E.	C. E.	Coupeville
Baumbach, August H.	Phar.	Puyallup
Bell, Roscoe	Min. Eng.	Seattle
Benson, Grace	C. E.	Seattle
Bilger, Ruby E.	A. B.	Seattle
Brown, Robinson A.	Min. Eng.	Seattle
Bues, William E.	Phar.	Menlo
Burcham, Carrie E.	A. B.	Kelso
Canney, Clyde	E. E.	Seattle
Carlisle, Walter O.	E. E.	Edison
Carr, Mary E.	A. B.	Tacoma
Chittenden, Coy W.	Mech. Eng.	Cadillac, Mich.
Christopher, Arthur L.	Min. Eng.	Ketchikan, Alaska
Coats, Zoe	Phar.	Seattle
Conner, Elmer Arthur	Mech. Eng.	Seattle
Constantine, Myra	A. B.	Seattle
Covey, Edith	A. B.	Seattle
Craig, Dora Belle	A. B.	Eureka, Kans.
Crawford, William H.	Min. Eng.	Vancouver, B. C.
Cunningham, Allan	Min. Eng.	Seattle
Cunningham, Anna	A. B.	Seattle
Dana, Lee	A. B.	Seattle
Daniels, Dorothy	A. B.	River Falls, Wis.
Dennis, Mary Webb	A. B.	Seattle
Dewey, Albert H.	Phar.	Pennside, Pa.
Dickson, John J.	A. B.	North Yakima

NAME.	COURSE.	HOME ADDRESS.
Douglas, Edwin S	A. B	Seattle
Downing, Walter E	Phar.	Seattle
Eliott, Edith M	A. B	Seattle
Emerson, Lathie D	Phar.	Ellensburg
Frink, Athena	A. B	Seattle
Frink, Helena	A. B	Seattle
Galbraith, Georgia B	A. B	Seattle
Gallagher, Charles E	Min. Eng	Bellingham
Grimm, Huber E	A. B	Centralia
Hager, Luther G	A. B	Seattle
Hamilton, Lillian	A. B	Seattle
Hance, James H	Min. Eng	Seattle
Hargreaves, Annie	A. B	Seattle
Harsha, Robert Van Tuyl	C. E	Seattle
Henry, Elsie	A. B	Seattle
Hill, Elston	Min. Eng	Seattle
Horsfall, Charles G	Min. Eng	Seattle
Howard, Annie	A. B	Henderson, Ky.
Hughes, Ingraham	A. B	Palouse
Hume, Walter H	Phar.	Snohomish
Hunt, Maude N	A. B	Seattle
Jack, Eugene C	A. B	Seattle
Jarvis, Beulah	A. B	Seattle
Jones, Otto C	A. B	Seattle
Keatts, Bessie M	A. B	Pomeroy
Keatts, Mattie	Phar.	Pomeroy
Kinnaird, Margaret R	A. B	Danville, Ky.
Kirby, Homer	A. B	Castle Rock
Knipe, Robert T	C. E	Ireland
Lamey, Jane	A. B	Billings, Mont.
Lawstchek, Elly	A. B	Germany
Libbie, Harry E	Phar.	Seattle
Lincoln, Julia	A. B	Denver, Colo.
Lively, John W	A. B	Vancouver
Livesley, Carrie B	A. B	Sumner

NAME.	COURSE.	HOME ADDRESS.
Lovejoy, Bartlett H	E. E	Seattle
Lovett, Joseph C	Phar.	Seattle
Lutz, Donald Haswell	A. B	Seattle
McAusland, Ruth	A. B	Seattle
McCauley, Harriet M	A. B	Seattle
McClain, Bovia	A. B	Tacoma
McDonald, Geo. Francis	A. B	Seattle
McDonald, Thomas G	A. B	Seattle
McDonald, William J	A. B	Seattle
McLean, Ina Winifred	A. B	Georgetown
McMillin, Paul H	A. B	Roche Harbor
Mason, Joseph E	Min. Eng.	San Francisco, Cal.
Merguson, Walter	A. B	Seattle
Michelson, Edith S	A. B	Seattle
Moran, John Parnell	Phar.	Seattle
Morrow, Claire H	A. B	Waitsburg
Murray, John Shortreed	Phar.	Wenatchee
Nebergall, Leon	Min. Eng	Davenport, Ia.
Nichols, Ray E	A. B	South Park
Paley, Eugenie	A. B	Seattle
Parton, John A	Phar.	Seattle
Perkins, Scott B	Phar.	La Cabah
Peterson, Carl Henry	Phar.	Seattle
Platt, Pearl Iowa	A. B	Seattle
Polson, William L	Min. Eng	La Conner
Provine, Ellis Frayne	Mech. Eng	Seattle
Rathbun, J. C	Min. Eng	Seattle
Reser, George Y	A. B	Walla Walla
Rice, William Fish	Phar.	Seattle
Rosenberg, Jennie	A. B	Ballard
Rossman, Emory Blaine	A. B	Fremont
Schoening, Wilhelm Gustav	Min. Eng	Germany
Shelton, Mary E	A. B	Seattle
Shelton, Robert	A. B	North Yakima
Sherrill, Elmer	Chem. Eng	Licking, Mo.
Sikes, G. R	A. B	Tacoma

NAME.	COURSE.	HOME ADDRESS.
Sjolseth, George Leander	E. E	Seattle
Skone, Robert C	E. E	Seattle
Smith, Gertrude	A. B	Seattle
Smith, W. Wellington	Min. Eng	Seattle
Sparks, Leslie C	A. B	Vancouver
Stafford, Charles F	Phar.	Cle Elum
Staup, Minnie G	A. B	Valley Springs, S. D.
Stoetling, Arthur E	A. B	Seattle
Sutton, Fred H	A. B	Cashmere
Sze, Bessie M	A. B	China
Teats, Leo	Mech. Eng	Tacoma
Tholstrup, Iner Theodore	E. E	Bay View
Thorp John Edith	Phar.	Ballard
Tremper, Helen K	A. B	Olympia
Troth, Ray L	Phar.	Vandalia, Ind.
Trumbull, Mrs. Frances	A. B	Seattle
Tyler, Joseph C	A. B	Seattle
Ward, William	A. B	Seattle
Warne, Harry F	Phar.	Winlock
Washburn, Winifred	A. B	Seattle
Watanuki, Tayoharu	A. B	Japan
Westfall, Levi L	Mech. Eng	Seattle
Whaley, Myrtle Mae	A. B	Chelan
Wheeler, Elmer Guy	Phar.	Seattle
Wheeler, Roy R	A. B	Seattle
Will, Cameron G	E. E	Seattle
Winn, Milton	Phar.	Juneau, Alaska
Wisner, Myrtle, V	A. B	Seattle
Wolford, Roy T	A. B	Seattle
Woodman, William L	Phar.	Seattle
Young, Earl T	A. B	Seattle

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SPECIAL TEACHERS' COURSES.

NAME.	COURSE.	HOME ADDRESS.
Aaling, A. O	A. B	Seattle
Aasved, Mina H	A. B	Tacoma
Allen, Inez L	A. B	Seattle
Allen, W. N	A. B	Tacoma
Anderson, Tekla E	A. B	Tacoma
Austin, G. R	A. B	Seattle
Baldwin, Mrs. M	A. B	Seattle
Baldwin, V. M	A. B	Seattle
Barnard, E. K	A. B	Tacoma
Barnes, Lucy R	A. B	Seattle
Beckstrom, Anna	A. B	Tacoma
Beebe, L. E	A. B	Seattle
Berkman, Effie	A. B	Tacoma
Boggs, Cassandra	A. B	Seattle
Bristow, Adda M	A. B	Tacoma
Brooke, Sallie	A. B	Tacoma
Brown, Browder D	A. B	Tacoma
Bryan, Clara M	A. B	Seattle
Buchanan, Nina	A. B	Seattle
Buckles, Lilly	A. B	Seattle
Bulen, Martha A	A. B	Tacoma
Burdick, Mary	A. B	Seattle
Burgess, Edith L	A. B	Tacoma
Burgess, Doris C	A. B	Tacoma
Burkaus, Lina	A. B	Tacoma
Burmer, Eva H	A. B	Tacoma
Burns, O. A	A. B	Ross
Burr, Margaret	A. B	Tacoma
Cameron, Sarah	A. B	Seattle
Campbell, Emma J	A. B	Seattle
Caskin, Ivanilla M	A. B	Puyallup
Cassel, J. W	A. B	Ballard
Chapman, Emma L	A. B	Seattle
Chase, Lou A	A. B	Foster
Chesney, Bertha W	A. B	Tacoma
Chopson, Estella	A. B	Seattle

NAME.	COURSE.	HOME ADDRESS.
Clarahan, Elizabeth	A. B.	Seattle
Clark, Mary	A. B.	Seattle
Collins, Helen H	A. B.	Kirkland
Conn, Caroline C	A. B.	Tacoma
Conn, Walter S	A. B.	Tacoma
Cook, Isabella	A. B.	Tacoma
Cooper, Mary B	A. B.	Seattle
Cowen, Mary S	A. B.	Tacoma
Curtis, James D	A. B.	Seattle
Davis, Maud A	A. B.	Tacoma
Davis Olga	A. B.	Tacoma
DeVoe, Helen G	A. B.	Seattle
DeVoe, Marmora	A. B.	Seattle
Donoghue, Lucy C	A. B.	Seattle
Egan, Blanche	A. B.	Seattle
Egger, J. B	A. B.	Tacoma
Elliott, Jennie	A. B.	Tacoma
Fagan, Charles	A. B.	Seattle
Fogg, Helen B	A. B.	Tacoma
Frier, Laura C	A. B.	Tacoma
Fryer, Alice	A. B.	Seattle
Fuller, Carrie J	A. B.	Tacoma
Garretson, Henry H	A. B.	Tacoma
Getty, Jennie V	A. B.	Kirkland
Gifford, Annie L	A. B.	Seattle
Gilkey, M. R	A. B.	Seattle
Glass, Rose	A. B.	Ballard
Gourley, Edith B	A. B.	Seattle
Grass, W. F	A. B.	Tacoma
Groat, Flora B	A. B.	Tacoma
Hall, Bessie	A. B.	Tacoma
Hall, May	A. B.	Tacoma
Hallock, Edna	A. B.	Seattle
Harrold, Laura	A. B.	Van Asselt
Hastings, B. C	A. B.	Seattle
Hawk, Alice B	A. B.	Tacoma
Hawley, Adela	A. B.	Tacoma

NAME.	COURSE.	HOME ADDDESS.
Hopkins, Maud	A. B	Ballard
Houghton, Mabel	A. B	Tacoma
Hunt, H. Franklin	A. B	Tacoma
Irwin, Mary J	A. B	Tacoma
Jamieson, Anna W	A. B	Seattle
Johnson, Benj. W	A. B	Seattle
Johnson, Edith	A. B	Tacoma
Jones, R. W	A. B	Seattle
Joyce, L	A. B	Seattle
Keith, John C	A. B	Seattle
Kellet, Susanna	A. B	Seattle
Kelly, Ada M	A. B	Tacoma
Kelly, Elizabeth J	A. B	Tacoma
Kelly, M. Cornelia	A. B	Tacoma
Kiler, Reta	A. B	Seattle
Kingsbury, J. A	A. B	Seattle
Kleeb, Rose	A. B	Tacoma
Larkworthy, Bessie L	A. B	Tacoma
Lawrence, J. G	A. B	Seattle
Loveless, Frances B	A. B	Tacoma
McCarney, Margaret	A. B	Seattle
McCarthy, William G	A. B	Seattle
McElreath, B. R	A. B	Seattle
McGovern, W. C. P	A. B	Tacoma
McKechnie, Grace	A. B	Seattle
Mahlow, Rose	A. B	Seattle
Metsker, C. W	A. B	Seattle
Metzler, Frances	A. B	Tacoma
Miller, Joseph W	A. B	Seattle
Miles, Edith R	A. B	Tacoma
Murray, Eleanor	A. B	Tacoma
Oakley, Enola	A. B	Ballard
O'Meara, Mary G	A. B	Seattle
Osborn, Eleanor S	A. B	Tacoma
Osmond, Edith F	A. B	Tacoma
Osmond, Louise M	A. B	Tacoma

NAME.	COURSE.	HOME ADDRESS.
Parker, Agnes F.	A. B.	Seattle
Parker, Adella M.	A. B.	Seattle
Patton, Gypsie N.	A. B.	Tacoma
Pearce, Estella.	A. B.	Seattle
Peregrine, Anna B.	A. B.	Seattle
Peterson, Lucie F.	A. B.	Hillhurst
Phelps, Harriet N.	A. B.	Tacoma
Plum, F. H.	A. B.	Seattle
Pollock, Adelaide L.	A. B.	Seattle
Powell, Margaret.	A. B.	Tacoma
Reitze, Gertrude.	A. B.	Seattle
Resor, E. Belle.	A. B.	Seattle
Rice, Angie H.	A. B.	Tacoma
Roberts, Olive W.	A. B.	Seattle
Russ, Louise.	A. B.	Tacoma
Sanford, Maude.	A. B.	Seattle
Sawyer, Nettie A.	A. B.	Seattle
Scholes, Emma D.	A. B.	Tacoma
Scholes, Marion E.	A. B.	Tacoma
Scholes, Josephine T.	A. B.	Tacoma
Sciurus, Bertha B.	A. B.	Tacoma
Shelton, Ella E.	A. B.	Seattle
Sherman, Chas. M.	A. B.	Tacoma
Spencer, George A.	A. B.	Seattle
Stuart, Etta M.	A. B.	Georgetown
Steininger, S. D.	A. B.	Kirkland
Taylor, Laura.	A. B.	Tacoma
Thompson, Kate.	A. B.	Seattle
Thompson, Lois J.	A. B.	Seattle
Tilton, Chas. S.	A. B.	Seattle
Upham, Jennie L.	A. B.	Tacoma
VanMeter, E. Y.	A. B.	Seattle
Varnes, Eleanor B.	A. B.	Tacoma
Wallace, J. Sherman.	A. B.	Seattle
Warner, Arthur B.	A. B.	Tacoma
Wheeler, Marie E.	A. B.	Tacoma

NAME.	COURSE.	HOME ADDRESS.
White, M. Elizabeth	A. B	Tacoma
Whiting, Agnes	A. B	Tacoma
Wiese, Alma	A. B	Seattle
Wilbur, Bessie G	A. B	Tacoma
Wilbur, Lora P	A. B	Tacoma
Wiswell, Thomas W	A. B	Seattle
Wood, Dorcas J	A. B	Tacoma
Wright, Emma S	A. B	Tacoma
Wright, Harriet E	A. B	Tacoma
Young, E. P	A. B	Tacoma

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LAW SCHOOL.

SENIORS.

NAME.	HOME ADDRESS.
Bigelow, George R.	Olympia
Coleman, John	Chehalis
Dunlap, J. W. P	Seattle
Ellsbury, George C.	Centralia
Grass, Robert	Tabor, Ia.
Hastings, Fred W.	Seattle
Hatfield, Floyd A.	North Yakima
Hughes, Howard D.	Seattle
Johnson, Axel Ernest.	Quincy
Kindig, James W.	Sioux City, Ia.
Korstad, Martin.	San Jose, Cal.
Metcalf, John B.	Seattle
Randall, George C.	Seattle
Saboe, John A.	Dawson, Minn.
Sharpe, Raymond G.	Waukesha, Wis.
Wenner, George U.	Ogden, Utah

JUNIORS.

Amon, Delbert L.	
Beam, Frank	Seattle
Brinker, Wm. H., Jr.	Seattle
Crookall, Arthur C.	Seattle
Cunningham, Ardys B. (Sen A. B.)	Waterville
Goodrich, Ray	North Yamhill, Ore.
Grant, Terrence T.	Spokane
Hall, Chas. W. (Sen. A. B.)	Vancouver
Holliday Walter H.	Seattle
Huntoon, Richard	Bellingham
Jones, Herbert P.	Seattle
Judge, Redmond P. (Soph. A. B.)	Ballard
McDonald, George D.	Council Bluffs, Ia.
McLean, Walter G.	Georgetown
Metzler, Hugo	Santa Cruz, Cal.

NAME.	HOME ADDRESS.
Moore, F. H.	Missoula, Mont.
Murphine, Thos. Floyd	Seattle
Oliver, Roland W	Pendleton, Ore.
Popple, Worthen	
Sander, Fred	Ellensburg
Slattery, John R	Bellingham
Wylde, Arthur K	West Seattle

SPECIAL.

Collins, Samuel F	Kirkland
Floyd, Clarence D	Valparaiso, Ind.
Frank, Ray D	Seattle
Friend, George	Seattle
Griffin, Joseph H	Seattle
Hancock, Floyd M	Winlock
Henehan, Vincent P	Seattle
Hurwitz, Abraham	Seattle
Johnston, Jesse	Anderson, Ind.
Moale, Ada M. Semple	Springfield, Ill.
McCall, Charles B	Athol, Idaho
McCall, Frank A	
Manier, William W	Rainier
Moultray, W. E	Bellingham
Musser, Martin	Sunnyside
Pettit, L. Pearl	Everett
Pinkham, Star T	Seattle
Retsloff, Carl O	Seattle
Savage, John Elton	Seattle
Sisco, Winston W	Seattle
Thacker, Gus. L	Centralia
Wells, Hubert M	Seattle
Woodruff, George B	Three Lakes

SUMMER SCHOOL STUDENTS.

NAME.	HOME ADDRESS.
Aldrich, J. M.	Moscow, Idaho
Allen, Florence L.	Denver, Colo.
Anderson, Katharine	Stanwood
Anderson, L. Bliss	Seattle
Anderson, Malcolm C.	Seattle
Balch, Edith J.	Seattle
Bardon, Peter J.	Everett
Barnes, Lucy R.	Seattle
Bascom, A. Laura	Dickey, Idaho
Bascom, Georgia	Dickey, Idaho
Baumbach, August H.	Tacoma
Beach, Bessie K.	Seattle
Beare, J Herman	Spokane
Bliss, Amelia	Seattle
Blodgett, Eleanor	Seattle
Bode, Charlotte J.	South Bend
Boetzkes, Ottilie G.	Seattle
Borie, Fanchon	Pendleton, Ore.
Boyd, Charles H.	Goldendale
Broadhead, Annie M.	Normal, Ill.
Brode, Bessie K.	
Brownell, Mary F.	Walla Walla
Burke, Gordon	Tacoma
Burke, Jessie C.	Tacoma
Busch, Sheridan S.	Toppenish
Bush, Louie P.	Seattle
Bussard, Birdie	Lynden
Byers, Horace G.	Seattle
Campbell, Annie L.	Seattle
Caskin, Ivanilla M.	Puyallup
Churchill, Elsa T.	Seattle
Clarahan, Elizabeth	Seattle
Clements, Caroline	Seattle
Conklin, R. E.	Eureka, Ill.
Cook, H. M.	Aberdeen

NAME.	HOME ADDRESS.
Cornwall, Emory	Seattle
Covey, Alma B	Seattle
Curtis, James D	Seattle
Curtis, Geneva B	Seattle
Dalgity, Annie D	Seattle
Davis, Cora W	Spokane
Davis, Reba	Spokane
Dearle, Percy	Everett
Dickinson, Robert L	Seattle
Dingly, H. H	
Dodge, Sara V	Tacoma
Douglas, Maude A	Seattle
Dowling, Mary	Seattle
Ede, Curtis H	St. John, Wash.
Erford, J. F. Roy	Seattle
Fahnestock, John	Seattle
Farmer, William O	Kirkland
Flower, Helen M	Bellingham
Gardner, Alice	Everett
Getchell, Edna M	Seattle
Glover, Cora W	North Yakima
Gow, Alice M	Seattle
Grimm, August	Sumner
Haberer, Emanual J	Seattle
Hafer, Wilhelmina E	Olivet, Mich.
Hall, Elizabeth C	North Yakima
Hanna, Ina M	Seattle
Hannah, Wm. J	Colfax
Harmling, Emma J	Vashon
Harrington, Alma B	Seattle
Harrington, Walter L	Waterville
Harrison, Josephine	Denver, Colo.
Hodge, James W	Moscow, Idaho
Hoeppner, Josephine	Clarkston
Houghton, Mabel	Tacoma
Hughes, Florence M	Seattle

NAME.	HOME ADDRESS.
Jacobsen, Clara	Seattle
James, Sidney T	Seattle
Jeffrey, Clara	Hancock, Mich.
Johnson, Winifred	Seattle
Joyce, Mabel A	Seattle
Kellogg, Alice	Puyallup
Kellogg, Jessie	Seattle
Kible, Byron R	Enumclaw
Kilgour, Bertha	
Kindig Ellen	Seattle
Kingston, Eloise	Seattle
Kingsbury, John A	Seattle
Kittredge, Alice F	Seattle
Korstad, Thomas	Bellingham
Lambuth, Benjamin L	Seattle
Lapp, Elizabeth	Kansas City, Mo.
Leeman, Verna L	Seattle
Lindsay, Sadie	Tacoma
Link, Gertrude. J	Tacoma
Lopp, Ellen G	Seattle
Lutz, Ralph H	Seattle
McArdle, Joseph	Seattle
McAusland, Ruth	Seattle
McCarney, Margaret	Seattle
McCarthy, William G	Seattle
McDouall, Margaret	Medical Lake, Wash.
McGill, Marie	Seattle
McGuire, Etta	Moscow, Idaho
McKeever, Maude	Sultan
MacMillan, Marie G	Chicago, Ill.
Macy, Katherine H	Grinnell, Iowa
Magill, Hazel E	Aberdeen
Mahoney, Elizabeth	Seattle
Marston, C. May	Frement
Martin, Walter F	Everett
Maxwell Harriet	Tacoma
Maxwell, Lucy	Almira, Wash.

NAME.	HOME ADDRESS.
Metsker, Chas. W	Seattle
Mitchell, James B	Tacoma
Mossman, Bertha B	Rosslyn
Mulhollan, Henry W	Seattle
Nash, Preston H	Seattle
Neal, Alice	Pulaski, Pa.
Oakley, Mary E	Ballard
Oliphant, John C	Alfalfa
O'Mera, Mary G	Seattle
Orcutt, Elsie A	The Dalles, Ore.
Ovitt, Goldie	Tukwila, Wash.
Peterson, Roxy	Dunlap, Iowa
Plumb, Frank H	Georgetown
Pollock, Adelaide L	Seattle
Pope, Arthur S	Kent
Ray, Dora Belle	Van Asselt
Reeves, DeGaris	Vancouver
Rohn, Minnie M	Brighton, Mich.
Rouse, Louise E	Pullman
Ryan, Kalida	L...Seattle
Scatcherd, Eleanor F	Seattle
Scholes, Josephine T	Tacoma
Scholes, Marion C	Tacoma
Scott, Alice	Newcastle, Wyo.
Sears, Ellen E	Snohomish
Shaw, Nellie D	Spokane
Sherrick, Florence L	Seattle
Sinclair, Margarita	Seattle
Small, Wallace F	Everett
Smith, Mary E	Terre Haute, Ind.
Stafford, Charles F	Cle-Elum
Staup, Minnie G	Seattle
Streator, Gertrude I	Oberlin, Ohio
Sutherland, Catherine B	Seattle
Swales, George O	Seattle

NAME.	HOME ADDRESS.
Taylor, Mervin W	Prosser
Terpening, A. Roy	Roy, Wash.
Tierney, Ray L	Seattle
Treen, Lewis A., Jr	Seattle
Trumbull, Harlan L	Seattle
Ullery, Ira Lee	Port Angeles
Van Slatte, Eloise	Hillyard
Waite, Genevieve	Seattle
Walsh, Anna G	Republic
Wilbur, Lora P	Tacoma
Williams, Charlotte F	Olympia
Willis, Agnes	Seattle
Wilson, S. Bertha	Spokane
Wise, Etta	Prosser
Woodbury, Vida	Seattle
Zook, Carl S	Normal, Ill.

SHORT COURSE MINING STUDENTS.

NAME,	HOME ADDRESS.
Abstein, Henry T.	Idaho
Allen, John B., Jr.	Seattle
Becher, Samuel P.	Washington
Cready, Jacob H.	Alaska
Fluhart, Selden S.	Seattle
Goldsworthy, Joseph.	Alaska
Hanson, John A.	Idaho
Hegner, Rudolph E.	California
Leslie, Albert	Seattle
Lewis, John N.	Cambridge, Idaho
McGough, Robt.	Seattle
McIntire, Albert W.	Everett
Medley, Nathan A.	Alaska
Newell, John.	Silverton, Wash.
Nolte, Ferdinand F.	Black Diamond
Owre, Jesse C.	Oregon
Ralph, Edward W.	Butte, Mont.
Reed, Pauline B.	Alaska
Roper, J. Merrick.	Seattle
Scotness, Arthur	Seattle
Strandness, Ole.	Sumpter, Ore.
Thomas, Harry J.	Seattle
Thorne, Fred W.	Alaska

1904-05

SUMMARY OF ENROLLMENT.

BY SCHOOLS.

Graduate School	25
College of Liberal Arts	661
College of Engineering	161
School of Mines	87
School of Pharmacy	50
School of Law	61
	1045
Less counted twice	10
Net total	1035

BY CLASSES.

Graduate Classes	25
Seniors	89
Juniors	125
Sophomores	138
Freshmen	328
Unclassified Liberal Arts	76
Unclassified Engineering and Mining	59 } 135
Unclassified Pharmacy and Law	48
Friday and Saturday Special Teachers Courses	157
	1045
Less counted twice	10
Net total	1035
Summer Session of 1905	159

Summer

Men 556 Men
479 Women
1035

Men 55
Women 104
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