CATALOGUE for 1906-7 and

ANNOUNCEMENTS for 1907-8

OF THE

JIVERSITY OF WASHINGTON



SEATTLE

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UNIVERSITY CALENDAR, 1907-1908.

FIRST SEMESTER.

SECOND SEMESTER.

Registration DaysFriday, Jan. 31, and Saiurday, Feb. 1
Recitations Begin
Examinations for Removing ConditionsMarch 9-13
Spring VacationMarch 27, 4 p. m. to April 6, 8:00 a. m.
Junior DayFriday, May 1
Semester Examinations CloseJune 12
Baccalaureate SundayJune 14
Commencement
Alumni Dinner

SUMMER SESSION.

Registration Day	Monday,	June	22
Recitations Begin	Tuesday,	June	23
Summer Session Closes	Friday	, July	31

THE BOARD OF REGENTS.

Hon. JOHN P. HABTMAN, President	Seattle
Term Expires, 1909.	
Hon. A. P. SAWYER	Seattle
Term Expires, 1908.	•
HON. JAMES T. RONALD	Seattle
Term Expires, 1908.	
Hon. FRANK D. NASH	Гасота
Term Expires, 1910.	
Hon. D. L. HUNTINGTON	pokane
Term Expires, 1910.	
Hon. John H. Powell	Seattle
Term Expires, 1911.	
Hon S. G. CosgroveP	omeroy
Term Expires, 1911.	
WILLIAM MARKHAM, Secretary of the Board.	

OFFICERS OF ADMINISTRATION.

President	
	Administration Building.
Dean of the Co	Dilege of Liberal ArtsArthur RAGAN PRIEST Administration Building.
Dean of the C	ollege of EngineeringAlmon Homes Fuller Science Hall.
Dean of the Sc	chool of MinesMilnor Roberts Science Hall.
Dean of the Sc	hool of PharmacyCHARLES WILLIS JOHNSON Administration Building.
Dean of the Se	hool of LawJOHN THOMAS CONDON Administration Building.
Registrar and	Secretary of the Faculty. HERBERT THOMAS CONDON Administration Building.
Head Libraria	n

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, 1886-88; 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., 1833. 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, 1885-; 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 1883; 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-.

* Arranged in groups in the order of seniority of appointment.

ALMON HOMER FULLEE, 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-.

ABTHUR 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-.

HOBACE 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-

FACULTY AND OTHER OFFICERS

CABOLINE HAVEN OBEB, Professor of Spanish.

4528 Twelfth Avenue, N. E.

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-

TREVOB 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, 1897-93; 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; Research Work at British Museum, 1905-06; Professor of English Language and Literature, University of Washington, 1901.

MILNOB 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-.

ARTHUB 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, 1897-88. 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; A. M., Harvard University, 1897; Ph. D., 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 Fsychology and Philosophy, Fairmount College, Kansas, 1900-1902; Professor of Philosophy, University of Washington, 1902-.

*Absent on leave, 1906-7.

FACULTY AND OTHER OFFICERS

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. C., 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, 1898-98; Assistant Instructor in Chemistry, University of Michigan, 1898-01; 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 (1899-1990) 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-.

ROBERT EDOUARD MORITZ, PH. D., Professor of Mathematics and Astronomy. 4705 Twenty-first Avenue, N. E.

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-.

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, 1835-1897; Graduate Student, University of Wisconsin, 1838-1900; Ph. D., 1900. Fellow in Physics, University of Wisconsin, 1839-1900; Professor of Physics and Mathematics, University of New Mexico, 1901-1903; Professor of Physics and Electrical Engineering, New Mexico School of Mines, 1903-04; Professor of Electrical Engineering, University of Washington, 1904-.

HARVEY LANTZ, LL. B., Professor of Law. 4549 Fifteenth Avenue, N. E.

Ph. B., De Pauw University, 1888; A. M., 1891; LL. B. 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, Froudfit & 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-.

FACULTY AND OTHER OFFICERS

EVERETT OWEN EASTWOOD, B. S., Professor of Mechanical Engineer-

ing.

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-.

EDWARD OCTAVIUS SISSON, PH. D., Professor of Pedagogy and Director of the Department of Education.

4333 Ninth Avenue, N. E.

B. Sc., Kansas State Agricultural College, 1886; A. B., University of Chicago, 1893; Student in Berlin University, 1903-4; Ph. D., Harvard University, 1905. Teacher and Principal in Public Schools, 1886-1891; Principal, South Side Academy, Chicago, 1892-7; University Extension Reader in Psychology, University of Chicago, 1894; Director, Bradley Polytechnic Institute, Peoria, Illinois, 1897-1904; Assistant Professor of Education, University of Illinois, 1905-6; Professor of Pedagogy, University of Washington, 1906-.

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

5233 Fifteenth Avenue, N. E.

B. S., University of Wisconsin, 1893; Ph. D., 1904; Graduate of the State Normal School, Milwaukee, Wis., 1889; Frincipal of High Schools, Montello, Wis., 1889-91; Green Bay, Wis., 1893-94; Boscobel, Wis., 1894-96; Instructor in German, University of Wisconsin, 1897-1906; Student, University of Leipzig, Germany, 1901-2; Frofessor of German, University of Washington, 1906-.

GEORGE WINCHESTER, B. S., Acting Professor of Physics.

4229 Brooklyn Avenue.

B. S., University of Chicago. Instructor in Latin, Western Illinois Normal, 1886-7; Principal Chillicothe (Ill.) High School, 1897-1900; Student, University of Chicago, 1900-5; Teacher, University of Chicago, 1905-6; Acting Professor of Physics, University of Washington, 1906-7.

VICTOB MOBTON PLACE, A. B., Director of the Gymnasium.

A. B., Dartmouth College, 1903. Graduate Student, Harvard University, 1904-6; Coach, Ohio Wesleyan Football Team, 1903-5; Passed Massachusetts Bar Examination, 1906; Admitted to Washington Bar, 1906; Director of the Gymnasium, University of Washington, 1906-.

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; Frofessor 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. B., 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, 1900-1905; Principal of High School, Port Townsend, 1897-99; Instructor in Physics and Chemistry, Seattle High School, 1899-1901; Scholar, Yerkes Observatory, University of Chicago, Summer Quarter, 1906; Austin Scholar and Assistant in Astronomy, Harvard University, 1906-7; 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 German. 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 Institue, 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-.

* HENBY KREITZER BENSON, A. M., Assistant Professor of Chemistry.

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.

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

Ph. B., De Pauw University, 1896; Indiana Law School. 1897-99. Instructor in English, State School for the Blind, Jacksonville, Illinois, 1898-7; Instructor in English, High School, Mount Vernon, Illinois, 1899-1900; Instructor in English, High School, Fond du Lac, Wisconsin, 1900-01; Instructor in Rhetoric and Oratory, University of Wisconsin, 1901-04; Assistant Professor of Rhetoric and Oratory, University of Washington, 1904-.

ALLEN ROGERS BENHAM, PH. D., Assistant Professor of English Literature. 5637 Fifteenth Avenue, N. E.

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

*Absent on leave, 1906-7.

FLETCHEE 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., 1805. 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., Assist ant Professor of Zoology. 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, 1893-99; 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 Zoology, University of Washington, 1905-.

لمثلثة

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

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

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

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

FRANK MABION MOBBISON, A. B., Assistant Professor of Mathematics. 4719 Fifteenth Avenue, N. E.

A. B., University of Michigan, 1892; Graduate Student' University of Chicago, 1897-59; 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, 1903-66; Assistant Professor of Mathematics, University of Washington, 1905-.

LOBEN 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-.

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

University Station.

Student, University of Lausanne, 1888-88; A. M., Leland Stanford Jr. University, 1901; Teacher of Modern Languages, Belmont School, California, 1891-93; St. Matthew's Military Academy, California, 1896-99; Assistant in French in Leland Stanford Jr. University, 1901; Teacher of French, High School, Oakland, Cal., 1901-05; Assistant Professor of French, University of Washington, 1905-.

IRVIN WALTER BRANDEL, PH. G., PH. D., Assistant Professor of Pharmacy.

Ph. G., University of Wisconsin, 1899; B. S., 1901; M. S., 1902; Ph. D., 1906. Fellow in Pharmacy, 1901-02; Instructor in Pharmacy, 1902-05; Assistant Professor of Pharmacy, University of Washington, 1905-.

EDWARD EVERETT BUGBEE, S. B., Assistant Professor of Mining Engineering and Metallurgy.

5215 Fifteenth Avenue, N. E.

S. B., Massachusetts Institute of Technology, 1900; Assistant Instructor in Metallurgy, Massachusetts Institute of Technology, 1900-1; In charge of Chlorination Plant, Brookfield Mining Co., North Brookfield, Nova Scotia, summer of 1901; Assistant Instructor in Ore Dressing and Metallurgy, Massachusetts Institute of Technology, 1901-1903; Special Agent for the Mining Industry, U. S. Census, 1903; Assistant Professor of Mining Engineering and Metallurgy, Iowa State College, 1903-1906; Assistant Professor of Mining Engineering and Metallurgy, University of Washington, 1906-.

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ELLIOTT SNELL HALL, PH. D., Acting Assistant Professor of Ohemistry. 4229 Brooklyn Avenue.

A. B., Amherst College, 1896; Ph. D., Johns Hopkins University, 1904; Graduate Student, Johns Hopkins University, 1809-1900; Assistant in Chemistry, Johns Hopkins University, 1903-04; Research Assistant, University of Chicago, 1904-06; Acting Assistant Professor of Chemistry, University of Washington, 1906-07.

EDWIN HAVILAND, JB., A. M., Acting Assistant Professor of Mathematics. 4245 Brooklyn Avenue.

B. S., Swarthmore College, 1885; A. M., Corneli University, 1899; Engaged in Engineering Work, 1885-1893; Instructor in Mathematics and Engineering, Swarthmore College, 1899-1900; Instructor in Mathematics, Cutler School, New York City, 1900-01; Professor of Mathematics and Civil Engineering, Clarkson School of Technology, 1901-04; Graduate Student in Mathematics, Stanford University, 1905-06; Acting Assistant Professor of Mathematics, University of Washington, 1906-07.

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.

CHARLES EVAN FOWLEB, 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 GROVEB 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 HARISBERGEB, 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-.

CLARENCE E. FLEAGER, Lecturer and Consulting Electrical Engineer on Telephones.

B. S. in Electrical Engineering, University of Illinois; Superintendent, Inside Plant, Sunset Telephone Company.

ALFRED W. MARTIN, D. D., Lecturer on Art.

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

B. M. E., Purdue University, 1893; M. E., 1896; Master Mechanic, O. & C. R. R. Co., Portland, Oregon, 1883-8; Instructor in Machine Design, Mechanical Drawing and Descriptive Geometry, University of Nebraska, 1893-7; Expert Machinist, S. P. R. R. Co., Portland, Oregon, 1897-8; with Baldwin Locomotive Works, Great Northern Railway Company, White Pass and Yukon Railroad, and Moran Bros. Company, 1898-1902; Engineer and Director of Shop Work, University of Washington, 1902-.

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, Sloux 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-.

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

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., 1905-05. Instructor in Electrical Engineering, University of Washington, 1905-0.

HENRY LEE BOWLEY, 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, 1904-06; 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 and Mathematics.

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 Washington, 1905; Instructor in Chemistry and Mathematics, 1906-.

CHARLES W. HARRIS, C. E., Instructor in Civil Engineering.

B. S. in Civil Engineering, University of Washington, 1903; C. E., Cornell University, 1905. Draftsman and Inspector, U. S. Engineering Department, Fort Casey, Washington, 1908-04; Student, Cornell University, 1904-05; Practical work in Railroad and Hydraulic Engineering, in Pennsylvania, Washington, and Alaska. 1905-06; Instructor in Civil Engineering, University of Washington, 1906-.

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GEORGE SAMUEL WILSON, B. S., Instructor in Mechanical Engineering. 4212 Tenth Avenue, N. E.

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

CHARLES MONROE STRONG, A. M., Instructor in Spanish.

A. B., University of Missouri, 1897; A. M., 1900; Fellow in German, University of Missouri, 1899-1900; Professor of German, French and Spanish, St. John's Military Academy, Delafield, Wisconsin, 1900-1901; Newspaper work, United States and Cuba, 1902-1906; Instructor in Spanish, University of Washington, 1906-.

SAMUEL THOMAS BEATTIE, Instructor in Shop Work.

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

----- SARAH E. KAHAN, A. B. Assistant in Uhemistry.

A. B., University of Washington, 1906; Assistant in Chemistry, University of Washington, 1906-.

MARGARET MAE MCLACHLAN, PH. G., Assistant in Pharmaceutical Chemistry.

Ph. G., University of Washington, 1906; Assistant in Pharmaceutical Chemistry, University of Washington, 1906-.

UNDERGRADUATE ASSISTANTS.

ARTHUR S. POPE, Botany.

WILLIAM P. THOMPSON, Chemistry.

GODFREY L. A. RUEHLE, Chemistry.

ELMEB SHERRILL, Chemistry.

WALTEB C. WAGNER, Civil and Electrical Engineering.

WALTER B. WHITTLESEY, French.

JOSEPH B. UMPLEBY, Geology.

WILHELMINA E. HAFER, German.

NELLIE M. TALBOT, German.

WILLIAM Q. OSBURN, History.

WILLIAM E. PARKER, History.

FRED H. SUTTON, Mathematics.

HAROLD F. FORSYTH, Surveying.

ANNIE L. FALLIS, Zoology.

LIBRARY STAFF.

WILLIAM ELMEB HENBY, A. M., Head Librarian.

CHABLES WESLEY SMITH, A. B., B. L. S., Assistant Librarian.

EMMA PEARL MCDONNELL, A. B., Catalogue Librarian.

FRANCES SOPHIA COURTENAY JAMES, A. M., Assistant Catalogue Librarian.

AMELIA BLISS, Student Assistant. GEORGE H. FRENGEB, Student Assistant.

MUSICAL STAFF.

CHARLES OSCAR KIMBALL, Musical Director. John Leonard Gibbs, Teacher of Violin. Edmund Myer, Teacher of Voice. Herbert D. Carrington, Teacher of Piano.

FACULTY AND OTHER OFFICERS

REGISTRAR'S OFFICE.

HERBERT THOMAS CONDON, LL. B., Registrar. WILLIAM MARKHAM, Bookkeeper. JAY WHITFIELD, Assistant Registrar. CHARLOTTE WILLIAMS, Telephone Assistant.

OTHER OFFICERS.

WILLIAM B. HAMPSON, M. E., Engineer. ANNIE HOWARD, Dean of Women. JOSEPH A. BERNHARD, Steward University Dining Hall. SYLVIA WOLD, Stenographer. GEORGE LEWIS MOTTER, Superintendent of Grounds. DAVID MCDANIEL, Janitor. J. S. KRAPE, Carpenter.

OFFICERS OF U.S. TIMBER TESTING LABORATORY.

ROLF THELEN, B. S., Government Expert in Charge. HOMEB S. SACKET, B. S., Assistant Engineer.

COMMITTEES OF THE FACULTY.

Accredited Schools-Professors Sisson, Priest and Osborn.

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 sor Johnson. School of Law, Professor Condon.

Alumni Appointments — Professors Sisson, Meany, Magnusson and Major Professors.

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

Athletics-Professors Roberts, Haggett and Lantz.

Catalogue-Professors Landes, Alden and Milliman.

Discipline-Professors Frein, Custis and Eastwood.

Dormitories-Professors Fuller and Boetzkes.

Graduation-Professors Byers, Main and Thomson.

Holidays-Professors Johnson, Sidey and Swift.

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 Morrison, Eastwood and Meisnest.

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 eight hundred fifteen. 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 6,500.

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 have a wholesome influence upon University life.

The state legislature in 1895 enacted a strict law prohibiting the sale of 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 the old site of nine acres in the central part of the city of Seattle. 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.

GENERAL INFORMATION

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 that half its width, where 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 of one hundred and twenty feet in length and eighty feet in width; the women's hall has a floor space eighty 30

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.

WILLIAM ELMEB HENBY, A. M	Librarian
CHABLES WESLEY SMITH, A. B., B. L. SAsst.	Librarian
EMMA PEARL MCDONNELL, A. BCatalogue	Librarian
FRANCIS SOPHIA COURTENAY JAMES, A.M., Asst. Catalogue	Librarian
AMELIA BLISSStudent	Assistant
GEORGE H. FRENGERStudent	Assistant

The library is located in the Administration building and contains 24,962 bound volumes and about 10,000 pamphlets, embracing nearly 35,000 titles. While the library is comparatively small it has a greater working value than is common in college libraries of similar size. Its capacity to serve the demands of the University is greater than its numbers signify. This is to be explained by the fact that the books have largely been ordered recently on the recommendation of the heads of departments, selecting only the best and most usable books. It is also a designated depository for government publications and contains a nearly complete set.

The library receives more than three hundred periodicals, both foreign and American, including the standard magazines and the leading technical journals. It also receives and preserves the leading newspapers of the Pacific Northwest. The library now contains the chief publications from many other states and a few from foreign governments.

SPECIAL COLLECTIONS.

THE FREDERICK JAMES GRANT COLLECTION.

The Frederick James Grant Memorial Library of American History is the most important of the special collections in the library and strongly supplements the main library in that department. New books are being added.

THE BICHABD D. BAKEB LOAN COLLECTION.

Mr. Richard D. Baker has loaned to the University library a collection relating to mineralogy, geology, and chemistry.

WASHINGTON STATE FEDERATION OF WOMEN'S CLUBS' 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.

LIBRARY HOURS.

The library is open every day in the year except Sundays and legal holidays. During the college year it is open Mondays to Fridays from 8:30 a. m. to 5:00 p. m. and from 7:00 p. m. to 10:00 p. m. On Saturdays from 8:30 a. m. to 12 m. and from 1:00 p. m. to 5:00 p. m. During the vacation period it is open at least two hours a day.

ACCESS TO SHELVES.

All members of the University have free access to practically the entire collection of books and periodicals.

LENDING.

Excepting reference books, periodicals, U. S. government publications and books reserved for required reading in the several courses, all books are loaned for home use for a period of two weeks, subject to renewal or recall in case of special demand.

SEATTLE PUBLIC LIBRARY.

Besides our own library facilities members of the University have the privilege of the Seattle Public Library now containing 82,000 volumes. This library is administered in the most modern manner and is housed in commodious new quarters.

THE LIBRARY CENTER OF THE NORTHWEST.

In selecting a place for educational opportunities it must not be overlooked that students here are in the great library center of the Northwest. In this city there are already the greatest book collections within eight hundred miles. Both the University library and the Seattle Public Library are growing rapidly. Seattle as a book center is growing more rapidly than any other city in the territory described.

THE UNIVERSITY LABORATORIES.

Well appointed 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.

ASSAYING.

The assay laboratory is located immediately north of the Administration building. One room contains six stationary wind furnaces, thirteen inches square; one large double muffie, heated by coal and coke; desks for fifty students; eight ore balances and tables for preparing charges, and sampling equipment. An adjoining room contains a Hoskins gasoline pressure tank, five burners to heat muffles and fusion furnaces, a Brown cupel machine, two Denver Fire Clay company's double muffle coal furnaces, a 2-h. p. motor to run a Gates sample grinder and a jaw crusher, a sampling floor, bucking boards, mortars, pans, lockers and suitable tools.

The balance room is supplied with a Keller button balance, sensitive to one two-hundredths 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. The University power plant supplies direct current for electrolytic work. Tanks for cyanide tests, a large hood, two pairs of cornet rolls and a well supplied stock room complete the equipment.

BOTANY.

The botanical laboratories are on the third floor of Science hall. The general laboratory is a room forty-one feet by fortytwo 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

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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 twentyfour 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 undisturbed 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, and the department has several hundred lantern slides on hand.

The herbarium consists of about ten 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. The department will be glad to receive specimens from teachers and others.

THE UNIVERSITY LABORATORIES

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 and forty students (working at one time).

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 rods, 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. Thatcher's calculating instruments are available for the use of advanced students. The blue-print room provides for sun printing from any sized tracing up to twenty-eight 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 and a small Price Electric 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 tension, compression and transverse tests of timber, iron, steel, stone, brick, and concrete. Transverse tests of full sized 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 Materials. It contains a Riehle automatic shot testing machine of one thousand pounds capacity; a tempering oven; a boiler for 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.

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, 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 minerals for descriptive and determinative work, collections of natural crystals, wood models, blowpipe sets, etc.

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

MECHANICAL ENGINEERING.

The mechanical engineering laboratory is conveniently located on the first floor of the power house, adoining the machine shop and engine room. There are available for indicating and testing one one-hundred horse-power Ball engine and one one-hundred fitteen 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, gauges, barometers, thermometers, a pyrometer. Orsat gas apparatus, 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 measuring of water used. A seven horse-power engine, to burn gas or gasoline, is fitted especially for experiment. In connection with the above are used the three horizontal tubular boilers of the power house. A seven horse-power steam turbine has been installed in such manner that it may be run either with steam under full pressure direct from the boiler or with exhaust steam from the laboratory engine, and in either case the turbine itself may exhaust into the atmosphere or vacuum, several sets of nozzles being available for the various conditions.

It is contemplated that the following apparatus will be installed for use in 1907-8: air compressor and air brake outfit, suction gas producer plant, belt testing and oil testing machines, dynamometers and fuel calorimeters.

The wood-working shop is equipped with lathes and benches, band saws, circular saws with boring attachment, planer, wood trimmer, and the necessary accessories.

The machine shop contains modern high speed lathes with turret attachment, planer, shaper, drill press, a universal milling machine, a universal grinding machine, metal shop saw, emery wheels, and a complete equipment for bench and vise work.

The forge shop is equipped with down draft forges with suitable blower and necessary accessories.

The foundry is provided with a cupola of two tons capacity and the necessary accessories.

PHYSICS AND ELECTRICAL ENGINEERING.

The laboratories set apart for the use of the departments consist of: (1) a general laboratory, thirty by seventy feet; (2) an electrical testing room with four piers; (3) a photometry 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 straightline dividing engine with microscopes, so that it may be used as a comparator; (2) Helmholtz resonators and a double siren, chronograph with fork; (3) Boy's radio-micrometer, Dulon and

THE UNIVERSITY LABORATORIES

Petit's absolute expansion of liquids 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. single-phase induction motor, a Bullock 5-h. p. three-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. Northern dynamo.

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

PSYCHOLOGY.

The psychological laboratory occupies four rooms on the fourth floor of Science hall. The largest room, which is used for the general laboratory, is eighteen by thirty-six feet; two other rooms, each eighteen by eighteen feet, are used for accoustic and visual experimentation. The fourth room contains appar40

atus for the reaction experiment. The equipment of the laboratory includes the following pieces of apparatus: five Koenig forks; an Edelmann's Galton whistle sonometer; two organ pipes; bellows and rubber wind-bag for actuating pipes; Ellis harmonical, and other minor instruments for accoustical work; colored papers; Hering's color-blindness tester, Hering's binocular color-mixer, Hering's color-mixer and campimeter; six electro-motors, ophthaloscope, ophthalmotrope, stereoscopes, pseudoscope; a clock-work kymograph, a Zimmerman ergograph, a Lehman plethysmograph; a Hipp chronoscope and ascessories; materials for experimentation on the cutaneous sensations and taste and smell.

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 3-4-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 drops per minute. The pulp passes over silvered copper plates, through a mercury trap of Black Hills pattern, and, if desired, it may be passed through a Browne hydrometric sizer. The classified product may be directed by launders to one or more of the following: Frue vanner; Overstrom diagonal table; Wilfley slimer: revolving slime table; canvas tables. Ores to be concentrated 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 stream of ore passes through a trommel and is jigged in a three compartment single Hartz jig with screens nine 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.

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.

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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.

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.

BOTANICAL MUSEUM.

The botanical museum consists of the following: (1) An herbarium of dried flowering plants representing 8,000 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.

GEOLOGICAL MUSEUM.

The geological museum is located in Science hall, on the first floor, where it occupies a room fifty by sixty feet. 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 crystalized 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.

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. 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, consist ing 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 entirely local, having been collected along the lower Columbia river.

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 Museum 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,

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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.

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, 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.

The following fixed requirements have been made for the years 1907-8 to 1910-11 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 eight and one-half are specified and required of each student; the remaining six and one-half are elective from the list of optional subjects:

SPECIFIC SUBJECTS.

Algebra, 1½ units. English, 4 units. U. S. History and Civics, 1 unit. Physics, 1 unit. Plane Geometry, 1 unit. Total, 84 units. Astronomy, ½ unit.

OPTIONAL SUBJECTS.

Botany, ½ or 1 unit. Chemistry, 1 unit. Drawing, ½ or 1 unit. Economics, ½ unit. French, 1, 2 or 3 units. *Geology, ½ or 1 unit. German, 1, 2, 3 or 4 units. Greek. 1. 2 or 3 units. History, 1, 2 or 3 units. Latin, 2, 3, or 4 units. *Physical Geography, ½ or 1 unit. *Physiology, ½ or 1 unit. Solid Geometry, ½ unit. Spanish, 1 or 2 units. Trigonometry, ½ unit. Zoology, ½ or 1 unit.

"1 unit accepted only after approval of a definite laboratory course.

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. 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.

Note 3. Among the six and one-half elective units there must

be included certain ones determined by each particular college or school of the University as follows:

COLLEGE OF LIBERAL ARTS.

Classical group: Four units of foreign language, not less than two being Latin.

Modern Language-Literature group: Four units of foreign language.

Philosophical group: Same requirement as any other group.

Mathematico-Physical group. Two units of a foreign language, one unit of chemistry or biology, one-half unit each of solid geometry and physical geography.

Science group: Same as the Mathematico-Physical group.

COLLEGE OF ENGINEERING AND SCHOOL OF MINES.

Two units of a modern foreign language, one unit of chemistry and one-half unit of solid geometry.

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.

SCHOOL OF PHARMACY.

The requirements may be satisfied by entrance similar to that of any other college or school of the University.

SCHOOL OF LAW.

The requirements may be satisfied by entrance similar to that of any of the other colleges or schools, and the completion of one year's work in the College of Liberal Arts.

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.

BOTANY.

As stated in the requirements for admission, botany may be offered as one unit or one-half unit. In the former case it

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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's Plant Life, Bergen's Foundations of Botany, or Bergen's Principles of Botany.

CHEMISTRY.

The equivalent of one year's work in the high school. The text recommended is Hessler and Smith or Newell's Descriptive Chemistry. 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 high school.

DRAWING.

The equivalent of one year's work in mechanical or freehand drawing.

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

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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—De Coverly Papers. Coleridge—Ancient Mariner. GEORGE ELIOT—Silas Marner. IEVING—Life of Goldsmith. LOWELL—Vision of Sir Launfal. Scott—Lady of the Lake, and Ivanhoe. SHAKESPEARE—Merchant of Venice and Macbeth. TENNYSON—Idyls of the King.

The books set for this part of the examination in the years 1909-1911 are:

GROUP 1 (two books to be selected).

SHAKESPEARE—As You Like It; Henry V; Julius Caesar; The Merchant of Venice; Twelfth Night.

GROUP 2 (one book to be selected).

BACON-Essays. BUNYAN-The Pilgrim's Progress, part 1; The Sir Roger de Coverly Papers in the Spectator. FRANKLIN-Autobiography.

GROUP 3 (one book to be selected).

CHAUCER—Prologue; Selections from Spenser's Faerie Queene. POPE—The Rape of the Lock (Parrott). GOLDSMITH—The Deserted Village (Pound). PALGEAVE—Golden Treasury (first series), books 2 and 3, with especial attention to Dryden, Collins, Gray, Cowper and Burns.

GROUP 4 (two books to be selected).

GOLDSMITH—The Vicar of Wakefield. Scott—Ivanhoe, Quentin Durward. HAWTHORNE—The House of Seven Gables. THACK-ERAY—Henry Esmond. GEOBGE ELIOT—Silas Marner. Mrs. GASKELL—Cranford. BLACKMORE—Lorna Doone. DICKENS—A Tale of Two Cities.

GROUP 5 (two books to be selected).

IRVING—Sketch Book. LAMB—Essays of Elia. DE QUINCEY— Joan of Arc and the English Mail Coach. CARLYLE—Heroes and Hero-Worship. EMERSON—Essays (selected). RUSKIN—Sesame and Lilies.

GROUP 6 (two books to be selected).

COLERIDGE—The Ancient Mariner. Scott—The Lady of the Lake. Byron—Mazeppa and the Prisoner of Chillon. PALGRAVE— Golden Treasury (first series), book 4, with special attention to Wordsworth, Keats and Shelley. MACAULAY—Lays of Ancient Rome. POE—Poems. LOWELL—The Vision of Sir Launfal. ABNOLD—Sohrab and Rustum. LONGFELLOW—The Courtship of Miles Standish. TENNYSON—Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur. BEOWNING—Selections.

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—Conciliation With America. MACAULAY— Essay on Milton and Life of Johnson. MILTON—Minor Poems. SHAKESPEARE—Julius Caesar.

The books set for this part of the examination in the years 1909-1911 are: SHAKESPEARE-Macbeth. MILTON-Lycidas, Comus, L'allegro, and Il Penseroso. BURKE-Speech on Conciliation With America, or Washington's Farewell Address, and Webster's First Bunker Hill Oration. MACAULAX-Life of Johnson; or, CARLYLE-Essay on Burns.

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

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.

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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.

GERMAN.

Students entering with two years of high school German should be able to translate simple German prose into good idiomatic English, to translate simple English sentences into German, and to carry on a simple conversation in German based upon the reading. They should have a thorough knowledge of elementary grammar, equivalent to Part I of Jonys-Meissner's or Thomas's German Grammar, and should have read about 300 prges of easy prose, chiefly narrative, including one or two short comedies.

Students who offer more than two years of German for entrance should have had systematic work in German composition and conversation and should read at least one German classic, preferably Schiller's William Tell.

Valuable suggestions concerning methods of teaching and suitable texts to be read each year may be found in the report of the Committee of Twelve" (16c, D. C. Heath & Co.), which ought to be in the hands of every high school teacher of German.

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.

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. 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.

4. 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 subect will make a full year's work in preparation.

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 subects:

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 Caesar 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 (Caesar), Jones' Latin Prose, Daniell's New Latin Composition, Part I, or Riggs-Scott's In Latinum (Caesar). The student should be familiar with the life and times of Caesar, 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 Caesar. 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 Caesar or Cicero at sight, when these authors are completed.

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

MATHEMATICS.

ALGEBRA.

The required work in algebra $(1\frac{1}{2} \text{ units})$ 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 bi-

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nominal 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 unknown; variation, ratio and proportion; imaginary and complex numbers and their geometrical representation.

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. Whatever 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 solids 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 trignometry to problems in surveying, navigation, and other practical problems and it is recommended that where possible the student should 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.

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's or Tarr's Physical Geography are examples of good texts.

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.

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.

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 struc-

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ture 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.

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 a certified record of work as in the case of local students.

Correspondence relating to accredited schools should be addressed to Professor Edward O. Sisson, Chairman of the Committee on Accredited Schools.

LIST OF ACCREDITED SCHOOLS.

The following high schools and academies were on the accredited list March 1, 1907. Graduates of the class of 1907 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.

ABERDEEN—Classical. BALLARD—Classical; Scientific. BELLINGHAM, NORTH—Classical; Scientific. BELLINGHAM, SOUTH—Classical; Scientific. CENTRALIA—Latin; Literary. CHEHALIS—Latin. COLFAX—Elective System. DAVENPORT-Classical.

DAYTON-Classical.

Evererr-Latin; Scientific.

KENT-Classical; Scientific.

LA CONNER-Latin; Scientific.

NOBTH YAKIMA-Classical; Latin; Scientific.

OLYMPIA-Latin; Literary.

PORT TOWNSEND-Classical; Literary.

PUYALLUP-Classical; Scientific.

SEATTLE — Classical; Latin; Modern Language; History; Science; Manual Training (Boys).

✓SNOHOMISH—Elective System.

SPOKANE-Classical; Literary; Scientific; Engineering.

TACOMA-Elective System.

VANCOUVER-All courses.

WALLA WALLA-Classical; Literary; Scientific.

WATEBVILLE-Classical; Scientific .

SCHOOLS RECENTLY ACCREDITED.

AUBURN-Classical.

ELLENSBURG-Classical; Scientific.

MT. VERNON-Classical.

PROSSER-Classical.

SEDRO-WOOLEY-Classical.

SUMNER-Classical.

SUNNYSIDE—Classical.

WENATCHE-Classical.

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;

Admission to the University

science, eight credits; political economy, four credits; history, four 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.

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.

UNIVERSITY LECTURES.

Weend

ADDRESSES AT ASSEMBLY.

Addresses by members of the faculty and by distinguished scholars and men of affairs are given weekly 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 1906-1907:

Sept. 27,	1906.	Music by the University Orchestra.
		Opening Address of the Year
		Governor Albert E. Mead.
Oct. 1,	1906.	Music, Piano SoloMr. John J. Blackmore.
		Addresses by leaders of student enterprises.
Oct. 8,	1906.	Music, Vocal SoloMr. Leslie Martin.
		The Christian Basis of Character
		Mr. Robert E. Speer, of New York.
Oct. 15,	1906.	Music, Piano SoloMiss Edith Livengood.
		Some Theories of Education
		Dr. H. H. Gowen.
Oct. 22,	1906.	Music, Contralto SoloMiss Clara Lewys.
		Problems of the DayHon J. T. Ronald.
Oct. 29,	1906.	Music, Piano SoloMr. Evstafieff Rose.
		The MicrocosmDr. Edward O. Sisson.
Nov. 5,	1906.	Music, Contralto SoloMrs. W. H. Whittlesey.
		The Mission of ArtDr. A. W. Martin.
	•	The Work of University Students in the
		EarthquakeDr. H. R. Fair-
		clough, Leland Stanford, Jr. University.
Nov. 12,	1906.	Music by the University Orchestra.
		The Career of Robert M. LaFollette
		Hon. W. H. Flett.
Nov. 19,	1906.	Music, Vocal SoloMiss Clarice McGlauflin.
		Cuba and the Cubans Prof. C. M. Strong.
Nov. 26,	1906.	Illustrated Lecture, Good Roads
		Hon. S. G. Lancaster, Washington, D. C.

UNIVERSITY LECTURES

Dec.	3,	1906.	Music, Piano SoloMiss V. Bartholomew.
_			The Mind's MaximumHon. Joseph Shippen.
Dec.	10,	1906.	Music, by the Men's Glee Club.
			The Significance of Western Civilization
			Professor Washington Wilson.
Dec.	17,	1906.	Music by the Men's Glee Club.
			Addresses by King County Senators and Rep- resentatives.
Dec.	20,	1905.	Address by President Benjamin Ide Wheeler of the University of California.
Jan.	7.	1907.	Music, Soprano Solo, Miss Suzanne McArdle,
			The Making of a Man
Feb	18	1907	Musical Bally conducted by Professor C. O.
r. 00.	10,	1000	Kimball.
Feb.	25,	1907.	Clarinet SoloMr. Nicholas Oeconomacos.
			Address: The State of Washington and Na- tional Politics
			Hon. Henry McLean, Mt. Vernon, Wash.
Mar.	5,	1907.	Piano SoloMiss Mabel Durham.
			Address: Impressions of an Eastern Trip
			Professor Edmond S. Meany.

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 1906-7 comprised the following:

Concert: The Lulu Tyler Gates Company.

Lecture: Representative Government, Hon. Robert M. La-Follette.

Lecture: Tony's Hardships, Mr. Jacob Riis.

Lecture: Lights and Shadows of Prison Life, Mrs. Maude Ballington Both.

Lecture: John Ruskin's Message to the Twentieth Century, Dr. Newell Dwight Hillis.

Lecture: The Threat of Socialism, Mr. Frank Dixon.

Concert: The Dunbar Male Quartette.

UNIVERSITY OF WASHINGTON

INSTITUTES AND LECTURES.

The various members of the University faculty hold themselves ready to respond to call 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, (Incorporated) is an organization of the entire student body. The powers of government are vested by its constitution in an annually elected Board of Control, upon which three members of the faculty and three alumni also have seats. 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 or all branches of athletics, musical organizations and of contests in gebate 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 Adminisration 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 announcements 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.

ORATOBICAL ASSOCIATION.

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

UNIVERSITY OF WASHINGTON

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 OBGANIZATIONS.

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.

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.

UNIVERSITY ASSOCIATIONS

DEUTSCHER VEREIN.

The Deutscher Verein is an organization of students and instructors interested in the study of the German language and literature and of German life and culture. Meetings are held twice a month, on Wednesday evenings, from seven to eight o'clock. The program consists of lectures, recitations, singing, social entertainments and dramatic performances. All students who have studied German one year or more, particularly those who intend to specialize in German, are invited to membership.

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 vear.

PHARMACEUTICAL ASSOCIATION.

Membership is open to all students of the school of pharmacy. The chief aim of the society is to have practical pharmacists deliver addresses upon subjects that have a bearing upon the practical side of the profession.

POLITICAL SCIENCE CLUB.

This club is composed of students and members of the faculty interested in political science. Meetings are held on the first and third Wednesdays of the month at 7:30 P. M. At these meetings there are papers and addresses on political, social and economic subjects. It is the plan of the club to have one meeting each month devoted to papers prepared by students of the University, and one evening each month given to an address by some person not connected with the University.

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UNIVERSITY OF WASHINGTON

ALUMNI ASSOCIATION.

The officers of the Alumni Association for 1906-7 are as follows:

President	Dr.	А.	C .	Crookall	l,'98
Vice-President	Dr.	H.	L.	Reese,	'99
Secretary]	Ros	e Glass,	'0 4
Treasurer	R	. w	. н	untoon,	'02 .

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 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; Roger S. Green, treasurer; Edmond S. Meany, secretary; Cornelius H. Hanford, Thomas Burke, Samuel Hill, trustees.



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 each student. 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 five 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 stay 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:

ASSAYING.—In assaying there is a laboratory fee of ten dollars for course 1. A deposit of five 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.

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, except in research work, where the fees are determined by the nature of the work done.

CHEMISTRY.—At the beginning of each semester each student in chemistry will be required to make a deposit of ten dollars with the registrar before being assigned to his desk. Of this deposit one-half will be deducted to pay cost of chemicals, gas, water, etc., and the remainder, less breakage, will be returned.

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

PHARMACY.—The total deposit of first year students taking work in pharmacy, chemistry, botany and physiology is twentythree dollars per semester. Second year students have a deposit of twenty dollars per semester. The student pays only the actual cost of drugs and chemicals used, the remainder of the deposit, less breakage, is returned at the end of each semester. The total cost per year seldom exceeds thirty dollars, the amount varying with the care and economy of the student.

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.

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.

SHOP WORK.—A deposit of three dollars is dequired of each student in wood work. A deposit of two dollars is required of each student in iron work.

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.

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 students. For the regular courses, the amount is one dollar for each hour's credit. In research work the amount of the fee is subject to special arrangement, according to the nature of the investigation.

METALLUBGY.—In courses 2, 5 and 6, the laboratory fee is five dollars and the deposit five dollars in each case.

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 also an employment bureau conducted by students to secure work for students who have to make their own expenses. The Registrar has a record of 303 men and 62 women who are paying all or part of their expenses for the school year of 1906-7. 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.

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 year 1906-7 to Harlan Trumbull.

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. This scholarship was awarded for 1906-7 to Merritt McGee.

A prize of one hundred dollars has been offered to students of the department of Chemistry by Mr. Thomas T. Kerl, of Coeur d'Alene, Idaho. This prize will be awarded to the student presenting the best paper on an industrial topic involving the products of the Pacific Northwest. The award is to be made at Easter.

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. In 1905-6 the Battle prize was awarded to Stanley Griffiths, John W. Campbell and Ingraham Hughes. In 1905-6 Hon. Watson Allen offered a prize of seventy-five dollars to the Washington debaters who met the team from the University of Idaho. The Allen prize was awarded to Floyd A. Hatfield, Charles W. Hall and Margaret L. Heyes.

SCHOLARSHIPS AND PRIZES

DECLAMATION.

Hon. Alden J. Blethen offers annually the sum of one hundred dollars for prizes in declamation. The contests, two in number, one in oratorical declamation, and one in narrative and dramatic declamation, are held at the University in May of each year. These contests are open to pupils in attendance at any one of the accredited high schools of the state. The prizes are twenty-five dollars for first place, fifteen dollars for second place and ten dollars for third place in each contest. The holders of the Blethen prizes were awarded in 1905-6 to: 1st, Robert Denny, Everett; 2d, Eva Berry, Colfax; 3d, Bessie Graham, Seattle; 4th, Myrtle Rowell, Ellensburg; 5th, Fred Inkster, Davenport.

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. In 1905-6 this scholarship was awarded to Edward M. Brooks.

LATIN.

A scholarship of sixty dollars has been provided through the generosity of Judge Burke, of Seattle, to be awarded annually to the student in the department of Latin who does the best work in the sophomore year. Candidates must be carrying a full year of college work and the scholarship will be awarded on the basis of both the work in Latin and that in the other subjects of their course. The first award will be made at Commencement in 1907-8.

OBATORY.

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. In 1905-6 the representative from the University of Washington was Martin Musser.

PHABMACY.

Thomas W. Lough, of the class of 1900, has provided a gold medal to be given to the student maintaining the highest rank in

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the freshman class of the School of Pharmacy. This prize is awarded by the professors in the departments of Pharmacy, Chemistry, Botany and Physiology. The medal in 1905-6 was given to Albert H. Dewey.

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.

PHYSICS AND MATHEMATICS.

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. The Moore scholarship in 1905-6 was awarded to Ruby M. Campbell.

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; no student is allowed to carry more than sixteen hours or fewer than twelve hours per week, exclusive of physical culture and shopwork, without official consent granted by the faculty committee on petitions.

Two hours of gymnasium work per week are required of all students throughout the first and second years. Eight credits in physical culture are required of all candidates for a degree. This does not apply to any student entering as a junior or senior. The Deans and Physical Director together have authority to allow a student to substitute for gymnasium work when it seems advisable, the proper corresponding amount of scholastic work. Substitutions to be valid must be signed by the Dean concerned and the Physical Director, and must be filed in the Registrars's office.

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.

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.

The work of the senior year must be done in residence.
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 in March.

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' degree are not less than one year.

In the College of Liberal Arts are given the degrees of Bachelor of Arts (A. B.), Bachelor of Science (B. S.) 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.).

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

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.

UNIVERSITY REGULATIONS

SYSTEM OF GRADES.

The following is the system of grades:

A	
B·+	
В	
В—	
C	(Conditioned)60-69
D	(Failed)Below 60

Grade C is changed to D if not removed by the student during his next semester in residence.

SCHOLARSHIP STANDING.

(a) If a student, during his first semester of residence, does not pass in one-fourth of his hours, he is dropped from the University.

(b) If a student, during his subsequent residence, does not pass in one-half of his hours, he is dropped from the University.

(c) A student must pass in three-fourths of his hours to keep off probation.

(d) A student on probation two semesters in succession must pass in all his hours.

ORGANIZATION OF THE UNIVERSITY.

THE UNIVERSITY OF WASHINGTON EMBRACES:

THE COLLEGE OF LIBERAL ARTS. THE COLLEGE OF ENGINEEBING. 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.

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

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

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

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

HOBACE 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.

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

*FREDERICK ARTHUE OSBORN, Ph. B., Professor of Physics and Director of the Physics Laboratories.

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

DAVID THOMSON, A. B. Professor of Latin.

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

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

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

EDWARD O. SISSON, Ph. D., Professor of Pedagogy and Director of the Department of Education.

FREDERICK W. MEISNEST, Ph. D., Professor of German.

VICTOR MORTON PLACE, A. B., Director of the Gymnasium.

GEORGE WINCHESTER, Ph. B., Acting Professor of Physics.

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

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

OTTILLIE GERTBUDE BOETZKES, A. M., Assistant Professor of German.

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

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

* Absent on leave, 1906-7.

- 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 Zoology.
- 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. Peter Le Fort, A. M., Assistant Professor of French.
- EDWARD EVERETT BUGBEE, B. S., Assistant Professor of Mining.
- ELLIOTT SNELL HALL, Ph. D., Acting Assistant Professor of Chemistry.
- EDWARD HAVILAND, JR., A. M. Acting Assistant Professor of Mathematics.
- GEORGE NELSON SALISBURY, B. S., Lecturer in Meteorology.
- IDA KATHERINE GREENLEE, A. B., Instructor in English.
- HENRY LOUIS BRAKEL, A. M., Instructor in Physics.
- LAVINA RUDBERG, B. S., Instructor in Physical Culture for Women.
- JAMES H. HANCE, A. B., Instructor in Chemistry and Mathematics.
- CHARLES M. STRONG, A. M., Instructor in Spanish.
- SABAH E. KAHAN, A. B., Instructor in Chemistry.
- FBANK A. BEAM, A. B., Assistant in Mathematics.

UNDERGRADUATE ASSISTANTS.

- ABTHUE S. POPE, Botany.
- WILLIAM P. THOMPSON, Chemistry.
- GODFREY L. A. RUEHLE, Chemistry.
- WALTER B. WHITTLESEY, French.
- J. BERTRAM UMPLEBY, Geology.
- WILHELMINA E. HAFER, German.
- NELLIE M. TALBOT, German.
- WILLIAM Q. OSBURN, History.
- WILLIAM E. PARKER, History.
- FRED W. SUTTON, Mathematics.
- ANNIE L. FALLIS, Zoology.

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 requirements for graduation from the College of Liberal Arts is the satisfactory completion of certain prescribed subjects together with a major, a minor, and sufficient free electives to make up a total of one hundred and twenty-eight credits.

PRESCRIBED SUBJECTS.

The prescribed subjects are the following:

	CI	edits
English Composition	••	8
English Literature	••	8
Foreign Language	••	16
Mathematics	•••	4
Science	••	8
Philosophy	••	8
Economics	••	4
Modern European History		4
Physical Culture	••	8

A credit is used to represent one recitation a week for a period of one sem ester. A subject requiring four hours a week for one semester represents four credits; if it requires four hours a week for one year, it represents eight credits.

MAJORS AND MINORS.

Not later than the beginning of his junior year a student is required to select some department to which he will devote his first attention. This department will be known as his major department, and its head will be his major adviser. He will be expected to elect as a minor certain other related subjects. The grouping of majors and minors under the different courses has been definitely determined.

Course.	ICLASSICAL.*		II	-Modern	LANGUAG	E AND LITER	ATURE.
Major 24 hrs.	Greek.	Latin.	French.	Spanish.	German.	Rhetoric.	English Literature.
Minor 16 hrs.	Latin, Modern Lan- guage.	Greek, Modern Lan- guage.	Italian, Spanish, German, Greek, Latin.	French, Italian, German, Latin.	French, English Litera- ture, Latin.	English Literature, Philosophy, Political Science, History.	Rhetoric, Philosophy and Psychology, Education, European History, 5th and 6th year of Latin, 3d and 4th year of any other language.

TABLE OF MAJORS AND MINORS.

TIL-	PHI	OSOP	HICAL.
TTT'		0001	monu.

Philosophy.	Psychology.	Education.	Political and Social Science.	History.
Education, Political Science, European History, Rhetoric and Argumentation. English Literature, Mathematics, Physics.	Education, Political Science, Mathematics, Physics, Chemistry, Zoology.	Philosophy and Psychology, Political Science, History, Zoology. Any subject to be taught by the student.	Philosophy and Psychology, Education, History, Rhetoric and Argumentation, English Literature, Botany, Zoology.	Philosophy and Psychology, Education, Political Science, Rhetoric, English Literature.

IV.—MATHEMATICO- PHYSICAL.			vsci	ENTIFIC.	
Mathematics.	Physics.	Chemistry.	Botany.	Zoology.	Geology.
Physics, Astronomy, Philosophy, Chemistry, Botany, Zoology, Geology,	Mathematics, Astronomy, Chemistry. Botany, Zoology, Geology.	Botany, Zoology, Geology, Mathematics, Physics.	Chemistry, Zoology, Geology, Psychology, Physics.	Chemistry, Botany, Geology. Psychology,	Chemistry, Botany, Zoology, Mechanical Drawing, Surveying. Mathematics, Physics.

*Those who do not present Greek for entrance must finish Greek 4, if Greek is not chosen as a Major or Minor in the classical group.

NOTE 1. The minor shall not be distributed over more than two subjects, and no prescribed work shall count toward a minor.

NOTE 2. Not more than 40 hours' credit in a major subject may count toward a Bachelor's degree, and not more than 24 hours in any other one subject.

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1	I.	п.	III.	IV.	v.
	CLASSICAL.	MODERN LANGUAGE AND LITERATURE.	PHILOSOPHICAL.	MATHEMATICO- PHYSICAL.	SCIENTIFIC.
	Freshman.	Freshman.	Freshman.	Freshman.	Freshman.
	Latin	Foreign language16 English	Foreign language 8 English	Foreign language 8 English	Foreign language 8 English 8 Science 8
	Sophomore.	Sophomore.	Sophomore.	Sophomore.	
	Latin	Foreign language 8 English literature 8 Political economy 8 Philosophy 8 Physical culture 2	Foreign language 8 English literature 8 Philosophy 8 Political economy 4 Physical culture 2 Elective 4	Foreign language 8 Mathematics 8 Physics 8 English literature 8 Physical culture 2	
	Junior.	Junior.	Junior.	Junior.	
	Philosophy	Science Major Minor Elective	Major Minor Elective	Political economy. 4 History	-
	Senior.	Senior.	Senior.	Senior.	
	Major Elective	Major Elective	Major Minor Elective	Major Minor Elective	

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

COLLEGE OF LIBERAL ARTS

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PRESCRIBED SCIENTIFIC COURSE.

For the students who wish to specialize in the sciences even more than is possible in the Scientific Course leading to the A. B. degree, the following course leading to the B. S. degree is offered.

Freshman.	
English	4
Mathematics	4
Chemistry	8
German or French	8
Botany	8
Physical culture	2
Junior.	
Political economy	8
Physics	8
Comparative anatomy	8
Bacteriology	8

Sophomore.	
English literature	8
German or French	8
Organic chemistry	8
Zoology	8
Physical culture	2

Senior,

Psychology	8
Physiology	8
Elective	16

COLLEGE OF LIBERAL ARTS

DEPARTMENTS OF INSTRUCTION.

ASTRONOMY.

ROBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD,* Assistant Professor.

The department as now organized provides courses for two classes of students: First, for those who desire a knowledge of astronomy as a part of a liberal education; second, for those engineering students who need a practical knowledge of astronomy in preparation for professional work.

1, 2. GENERAL ASTRONOMY. Throughout the year, two recitations and two laboratory and observation periods per week. A study of the fundamental facts, principles and laws of the planetary and stellar universe by the laboratory method. This course may be chosen as the required science for freshmen in the liberal arts courses.

Assistant Professor Gould.

3. ASTRONOMY FOR ENGINEERS. Two hours. First Semester. M., W., Float. A study of spherical trigonometry and its applications to spherical astronomy, together with a preliminary study of such fundamental facts and principles as relate to the various determinations of azimuth, latitude, longitude and time.

Assistant Professor Gould.

4. PRACTICAL ASTEONOMY FOR ENGINEERS. Two hours. Second Semester. M., W., Float. Determination of azimuth, latitude, longitude, and time, by means of the sextant and the engineer's transit.

Assistant Professor Gould.

*Absent on leave, 1906-7.

BOTANY.

THEODORE CHBISTIAN FRYE, Professor.

-----Instructor.

The courses 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. ELEMENTARY BOTANY. M., Th., 9:45. This course is planned for those who do not offer a year of botany for entrance. It includes the study of a few types of the lower plants; types of ferns and flowering plants with a view to their structure and physiology; variations in parts and the reasons why; analysis of a few plants; elements of plant physiology. Laboratory T. Th., or W., F. Professor Frye.

3, 4. CRYPTOGAMIC BOTANY. Tu., F., 9:45. This course is outlined for those who offer one year of botany for entrance, or who have taken botany 1 and 2. It is a study of types of plants from the lowest up, with a view to tracing the evolution of the plant kingdom. The work is mainly in the algae, fungi, and bryophytes, but the ferns and flowering plants are taken up with reference to seed formation. Laboratory, T., Th.

Professor Frye.

5, 6. FIELD BOTANY. M., W., 11:35. The collection of plants; how to prepare them for herbaria; the analysis of plants. In the first semester the work will be on the lower plants, chiefly the liverworts and mosses. The second semester's work will be chiefly on the ferns and flowering plants. This course is open to students entering the second semester. Laboratory, W., F.

Professor Frye.

7, 8. BACTERIOLOGY. M., W., 11:35. A course in general bacteriology, with special emphasis on pathogenic forms. How to find bacteria, cultivate them, recognize them, and a study of their action. Laboratory M., W.

Instructor.

9. PLANT PHYSIOLOGY. First Semester. T., F., Float. 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, 1 and 2.

Instructor.

10. PLANT HISTOLOGY. Second Semester. F., 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.

Instructor.

11. PHARMACY BOTANY. First Semester. Two hours. F., 10:40. Structure of roots, stems, rhizomes, leaves, barks. Types are studied with a view to locating the elements; later the dry drugs are studied for the recognition of kinds of cells in them. Laboratory, 9:00-12, Sat.

Professor Frye.

12. PHARMACY BOTANY. Second Semester. W., 10:40. Variations in stems, leaves, roots, parts of flowers, seeds, fruits. Study of types of the various families of phanerogams, and the analysis of plants in the spring with a view to fixing the chief characters of the families. Laboratory, M., T., Th., 9:50-12:30. *Professor Frue.*

13. BOTANICAL LECTURES. One hour. Second Semester. Th., Float. A course of lectures of a popular nature 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.

CHEMISTRY.

HORACE BYERS, Professor. HENRY KREITZER BENSON,* and ELLIOTT SNELL HALL, Assistant Professors.

JAMES H. HANCE and SABAH E. KAHAN, Instructors.

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., Th., 11:35. This course consists of illustrated lectures supplmented 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry. Laboratory work at 1:30. Sections A.: M., Th.; B.: Tu., Th.; C.: W., F.; D.: Tu., F.; E.: W., Th.; F.: W., F.

Professor Byers, Assistant Professor Benson and Mr. Thompson.

1, 2. GENERAL CHEMISTRY. Tu., W., Th., 11:35. Many students come from accredited high schools in which chemistry is not offered. To meet the needs of these students a course is offered consisting of three lectures or quizzes and six hours laboratory work per week. Text books: Smith's General Chemistry and Laboratory manual. Laboratory sections as in 1a, 2a.

Assistant Professor Hall and Miss Kahan.

3, 4. ORGANIC CHEMISTRY. M., W., F., 8:50. 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.

*Absent on leave, 1906-7

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. Tu., Th., 9:45. Lectures o: the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations of the subjct matter of the lectures. Two lectures and six laboratory hours per week.

Professor Byers.

5b. ELEMENTARY QUALITATIVE ANALYSIS. Two hours; first Semester; Tu., Th., 9:45. Chemistry, 1, 2, is followed by a course in Qualitative Analysis. The course consists of two lectures and six laboratory _____ per week. Text book: Byers and Knight. Assistant Professor Hall.

6. QUANTITATIVE ANALYSIS. Second Semester. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week, M., W., F. afternoons and S. morning. Prerequisite, 2a or 5b.

Assistant Professor Hall.

7. INDUSTBIAL CHEMISTEY. Second Semester. M., W., F., 10:40. A course designed primarily for engineering students. It will take up subjects of importance along engineering lines and discuss them with respect to manufacture and applications. About one-half of the time is spent in a discussion of the manufacture and applications of iron and steel. This treatment 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 three hours of laboratory work F. 1:30.

Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. M., W., 11:35. 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.

1.5, 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.

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16. PROSPECTOR'S COURSE. Tu., W., Th., 8:00. 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.

Assistant Professor Benson.

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. During the year 1906-7 the History of Chemistry has been systematically studied.

EDUCATION.

EDWARD OCTAVIUS SISSON, Professor. FLETCHER HARPER SWIFT, Assistant Professor.

The Department of Education offers its work both to students who are preparing to teach and to others who desire to be acquainted with the main facts and principles of education as a social process in which all intelligent persons are concerned. To the general student courses 1, 4, 5, 6 and 14 are particularly recommended.

Students are not regularly admitted to the Department before the junior year. Philosophy 1-2 or its equivalent is prerequisite to all courses; some knowledge of sociology and biology is very desirable, and is required of students doing major work in education.

NORMAL DIPLOMA.

The Normal Diploma of the University, equivalent to a life certificate to teach in the schools of the state without further examination, is granted upon the following conditions

1. Attainment of a bachelor's degree equivalent to that of the College of Liberal Arts of the University of Washington.

2. Completion of eight hours in the Department of Education, including course 3 or 4, History of Education, four hours; and four hours in either of the following courses, 1, 10, 17-18.

3. Completion of the teachers' course in the student's major subject.

4. Evidence of such general scholarship and personal qualities as give promise of success and credit in the profession of teaching. Recommendation to teach particular subjects will be granted to those who have made appropriate special preparation.

SUBJECTS.

1. PRINCIPLES OF EDUCATION. First Semester, 8:50. Chief topics: The nature and development of the child as the basis for the methods and processes of education; ideals of individual and social character as determining the aim of education; physical, intellectual and moral training; the special task and methods of the school and the teacher, as compared with other agencies such as the home, the calling, the church, social intercourse; the branches of study, their values and method; discipline, organization and administration. Professor Sisson.

4. HISTORY OF EDUCATION. Second Semester, 8:50. This course seeks to present education as a process of conscious social evolution. To this end type studies are made of the most important systems and conceptions of education out of which modern educational theory and practice have arisen. Lectures; text, Monroe's History of Education. Assistant Professor Swift.

5, 6. PHILOSOPHY OF EDUCATION. Two hours. Tu., F., Float. This course aims, first, to answer the questions of the origin, nature and ultimate purpose of education as a permanent factor in individual and social evolution; second, to formulate the principles underlying such evolution; and third, to develop ability to do philosophic thinking upon educational problems. The work consists of lectures, recitations, discussions and collateral reading. Text: First semester, Horne's Philosophy of Education; second semester, to be selected. Assistant Professor Swift.

7, 8. GENERAL METHOD. Two hours. Tu., F., 9:45. This course is designed only for those who intend to teach. It aims to show the processes involved in acquiring knowledge and to present the general principles upon which any sound method of instruction and acquisition must be based. The work consists of lectures, recitations, collateral readings and discussions. Text: Thorndike's Principles of Teaching.

Assistant Professor Swift.

College of Liberal Arts

9. COMPARATIVE STUDY OF SCHOOL SYSTEMS. First Semester. Two hours. M., W., 10:40. Attention is given mainly to the United States, Canada, Germany, England, France; students are encouraged to study some limited field intensively. Emphasis is placed upon secondary schools. Prerequisite, four hours in Education.

Professor Sisson.

10. THE HIGH SCHOOL. Second Semester, M., W., 10:40. Outline of historical development; aim and function in school system; peculiar characteristics of high school age—early adolescence; the course of study; election and prescription; discipline; student activities; social life; training for vocation and leadership; a study of typical high schools; organization and administration. Professor Sisson.

11, 12. SCHOOL ORGANIZATION AND SUPERVISION. Two hours M., 1:30-3:30 p. m. Types of school systems; state and local administration; school boards; powers and functions of supervising officers; appointment of teachers. Open to advanced students who have had experience in teaching.

Professor Sisson and Assistant Professor Swift.

13. EDUCATIONAL CLASSICS. First Semester. Two hours. Tu., F. 10:40. The work of this course consists of a comparative study of the educational writings of eminent educators, ancient and modern. Among those to be studied are the following: Plato, Aristotle, Cicero, Quintilian, Comenius, Erasmus, Ascham, Milton, Montaigne, Bacon, Locke, Rousseau, Pestalozzi, Herbart, Froebel, Spencer.

Assistant Professor Swift.

14. SOCIAL ASPECT OF EDUCATION. Two hours. Second Semester. W., 1:30-3:30. The essentially social nature of the human being; education a process of socialization; the agencies of education socially viewed; family, school, church, community, calling, state; the peculiar relation of the state to education; social elements in the curriculum and in the school; society's concern and activity in the school. Prerequisites, four hours in Education. *Professor Sisson.*

15, 16. JOUENAL CLUB. Two hours. Tu., 1:30 to 3:30 p.m. The work consists of reports and discussions based on the reading of current educational literature. The aims of the course are, first, to present the most prominent problems in education; second, to develop a scientific and critical attitude in dealing with the same; third, to familiarize students with the best current educational literature.

Assistant Professor Swift.

17, 18. OBSERVATION AND PRACTICE. Time and credit to be arranged. Visiting schools; reports and conferences. Teaching under the direction of the Department and the principals and teachers of schools. Only a small number of students can be registered in this course, and all should register at the beginning of the year.

Professor Sisson and Assistant Professor Swift.

19. DEVELOPMENT AND OBGANIZATION OF HIGHER EDUCATION. For advanced students. First Semester. Time and credit to be arranged.

Professor Sisson.

20. THE EDUCATIONAL SYSTEM OF HERBERT. For advanced students. Second Semester. Time and credit to be arranged.

Professor Sisson.

21,22. School Law. 9:45, Monday and Wednesday.

Assistant Professor Swift.

23, 24. HISTORY OF SCHOOL SUPPORT IN THE UNITED STATES. Tu., Th., 11:35.

Assistant Professor Swift.

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COLLEGE OF LIBERAL ARTS

TEACHERS' COURSES.

Courses 5-6 and 14 were given in 1906-7 on Saturday morning and Friday afternoon, respectively. The Department wishes to offer for these special courses such work as is desired by those interested; hence the following announcement is only tentative, and either course will be replaced by another if the majority of applicants should request it.

For 1907-8: 9 or 20, as announced above, Friday, 4-5 p. m.; at Central School Building, Seattle.

Professor Sisson

7. As announced above, Saturdays, 8:50 a. m., at the University.

Assistant Professor Swift.

OPEN LECTURES.

A series of open lectures on educational topics is conducted by the Department. The lectures take place on Wednesday afternoons at 4 o'clock. The series for 1907-8 will be announced by circulars and in the press. The course for 1906-7 was as follows:

PROFESSOR F. M. PADELFORD, English Universities.

SUPERINTENDENT F. B. COOPEE, Seattle, The Spirit of School Administration.

DR. F. H. SWIFT, Medieval Universities (Illustrated).

SUPERINTENDENT A. H. YODER, Tacoma, The Attitude of Modern Education Toward the Child.

- PRESIDENT T. F. KANE, The Administrative Side of Education.
- DEPUTY STATE SUPERINTENDENT H. B. DEWEY, "The Work of the State Board of Education."
 - PROFESSOR E. S. MEANY, Early School Conditions in Washington.

ENGLISH LANGUAGE AND LITERATURE.

FREDERICK MORGAN PADELFORD, Professor. Allen Rogers Benham, Assistant Professor. Ida Katherine Greenlee, Instructor.

SUBJECTS.

1, 2. HISTORY OF ENGLISH LITERATURE. Section A, Float; Section B, 8:50; Section C, 9:45; Section D, 8:00; Section E, 10:40; Section F, 11:35. Portions of Spenser, Shakespeare, Milton, Addison, Pope, Gray, Burns, Cowper, Wordsworth, Lamb, Carlyle, Ruskin, Arnold, Newman, and Stevenson are read and discussed. The study of literature is accompanied with practise in English composition.

Professor Padelford, Assistant Professor Benham and Instructor.

3 THE GEORGIAN POETS. Section A, 10:40; Section B, 11:35; A critical study of the nature and romantic movements as illustrated in the poetry of Keats, Byron, Shelley and Wordsworth. First Semester. Prerequisite, 2.

Professor Padelford.

4. THE VICTORIAN POETS. Section A, 10:40; Section B, 11:35. The first half of the semester is devoted to Browning, the second half to the Pre-Raphaelite Movement, quite as much attention being given to the painting as to the poetry. Second semester. Prerequisite, 2. Professor Padelford.

5, 6. PRINCIPLES OF LITERARY CRITICISM. 9:45. An inductive course, designed to furnish sound principles for literary criticism. Literature of a wide range discussed, and the relation of literature to the other arts defined. Prerequisite, two courses in literature. Professor Padelford.

7, 8. ADVANCED MIDDLE ENGLISH. 11:35. Readings in Langland and Chaucer, the first semester; in Mallory and the English Ballads, the second. The course is designed as a continuation of the linguistic and literary studies begun in 11 and 12. Prerequisites, 1, 2, 11, 12.

Assistant Professor Benham.

9, 10. COLLEGE ENTRANCE REQUIREMENTS. 8:50. A normal course designed especially for those advanced students who wish to prepare to teach English in the high schol. 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. Section A, 8:50; Section B, 10:40. 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 a.. students majoring in the Department.

Assistant Professor Benham and Instructor

- 13, 14. Identical with Rhetoric 3, 4.
- 15, 16. Identical with Rhetoric 5, 6.
- 17, 18. Identical with Rhetoric 7, 8.

TEACHERS' COURSE. A course of lectures designed to meet the needs of those teachers who apply for work, is given on Saturday mornings throughout the year.

FRENCH.

PIERRE JOSEPH FREIN, Professor. PETEB 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: Onehalf 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, 8:00; Section B, 8:50; Section C, 9:45; Section D, 10:40. Fraser and Squair's French Grammar, Part I; Erckmann—Chatrian, L'Histoire d'un Paysan; Labiche et Martin, Voyage de M. Perrichon; Chateaubriand, Attala. Emphasis is laid upon the acquirement of a correct pronunciation, and a systematic drill in composition is given. No credit if offered for entrance.

Assistant Professor Le Fort and Instructor.

1a. Second Semester. Float. Repetition of course 1. One section only.

2a, 3a. 8:50. Beginning in September and continuing throughout the year. Open to those who have had only one semester of French in the University, and to those who have had one year of French in the high school. Those who have studied French one year in the University or three semesters in the high school may enter the class at the beginning of the second semester.

Instructor.

3, 4. NINETEENTH CENTURY READING AND SYNTAX. Section A, 8:50; Section B, 9:45; Section C, 11:35. Two hours per week are devoted to the syntax of the present day, and two hours per week are spent in translating masterpieces of the literature of the entire century.

The work in syntax is based upon Fraser and Squair's French Grammar, part II. The texts read in 1906-7 were Sand, La Mare an Diable; De Vigny, Le Cachet Rouge; Hugo, Hernani; Balvac, Cinq Scenes de la Comedie Humaine; Rostand, Cyrano de Bergerac. No credit if offered for entrance. Prerequisite, 2 or 2a. Assistant Professor Le Fort and Instructor.

5, 6. FRENCH CONVERSATION. 10:40. This course is intended for students who wish to familiarize themselves with spoken French more than is possible in courses destined primarily for the study of literature. It is evident that preparation for class work in this course is not as valuable as actual drill in conversation; hence only a small amount of preparation will be required, and only two credits will be given for the four hours of class work. *Assistant Professor Le Fort.*

7, 8. CLASSICAL FRENCH. Three hours. M., Tu., Th., 9:45. The student is given a general knowledge of the literature of the entire classical period, but the reading is selected from the works of only a few of the most noted writers. The texts to be read are: Corneille, Le Cid Horace, Polyeucte; Moliere, Le Bourgeois Gentilhomme, Les Precieuses Ridicules, Le Tartuffe; Racine, Andromaque, Athalie; Boileau, L'Art Poetique; La Fontaine, Fables. Prerequisite, 4 or an equivalent. Professor Frein.

9, 10. ADVANCED PROSE COMPOSITION. One hour. F., 9:45, Systematic review of French syntax, and the translation into idiomatic French of moderately difficult English prose. Cameron's French Composition. Prerequisite, 4. Professor Frein.

11, 12. LYRIC POETRY. Two hours, M. W., 11:35. An introduction to French versification, structure of the verse, hiatus, rhyme; variations in the stanzas, and in the forms of the lyric poems. 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

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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 13, 14; it will be given in 1907-8.]

13, 14. THE FRENCH DRAMA. Two hours. M., W., 11:35. 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 7, 8, but it may not precede it. Professor Frein.

[Given in alternate years with Course 11, 12; it will not be given in 1907-8.]

15, 16. HISTORY OF THE FRENCH LITERATURE OF THE NINE-TEENTH CENTURY. Two hours. T., Th., 11:35. 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, 8. Professor Frein.

[Given in alternate years with Course 17, 18; it will not be given in 1907-8.]

17, 18. HISTORY OF FRENCH LITERATURE FROM THE RENAIS-SANCE TO THE ROMANTIC MOVEMENT. Two hours. T., Th., 11:35. Lectures in French, and assigned reading from the important authors. Prerequisite, 8.

Professor Frein.

[Given in alternate years with Course 15, 16; it will be given in 1907-8.]

19, 20. OLD FRENCH READING. Two hours. T., F., 10:40. 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.

21. TEACHERS' COURSE.— Two hours. First semester, F. 2-4. Study of phonetics, and review of grammar from the teacher's standpoint. Discussion of books, magazines and courses of study. Professor Frein.

College of Liberal Arts

GEOLOGY.

HENRY LANDES, Professor. EDWARD EVERETT BUGBEE, Assistant Professor. GEORGE NELSON SALISBURY, Lecturer in Meteorology.

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 county 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. Section A: M., Tu., Th., 9:45; Section B: M., Tu., Th., 11:35. A year's course treating of the principal facts and general principles of the science. Lectures and recitations. Occasional field trips on Saturday. Laboratory, one afternoon, M., Tu., Th., or F., 1:30.

Professor Landes and Assistant Professor Bugbee.

1a. GENERAL GEOLOGY. First Semester. M., W., F., 10:40. A semester's course for engineering students. Lectures and recitations. Laboratory work, Th., 1:15.

Professor Landes.

3, 4. MINERALOGY. Three hours. Tu., F., 10:40. Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. Laboratory work, W., 1:30.

Assistant Professor Bugbee.

5. METEOROLOGY. First Semester. M., W., F., 8:50. 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., 8:50. 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., Th., F., 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. Instructor.

8. ECONOMIC GEOLOGY. Second Semester. Float. A study of the origin and extent of metalliferous 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., 8:50. The elements or 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. *Instructor*.

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.

College of Liberal Arts

GERMAN.

FREDERICK WILLIAM MEISNEST, Professor. OTTILIE GERTBUDE BOETZKES, Assistant Professor. Instructor.

Students who have not studied German before entering the University will ordinarily not find it advantageous to choose German as their major study. Those taking courses 3, 4 in their freshman year should devote at least ofur hours each semester during the remaining three years to the study of German. Courses 13, 14 and 21 are required of all students who expect to teach German and desire the recommendation of the department.

SUBJECTS.

1, 2. FIRST YEAR. Sections at 8:50, 11:35 and Float. Pronunciation, grammar and easy readings with practice in speaking and writing. For beginners.

Assistant Professor Boetzkes and Assistants.

1a. FIRST YEAR. Second Semester. 10:40. Course 1 repeated. Instructor.

2a. ADVANCED FIRST YEAR GERMAN. 10:40. For students who nave had course 1a or one year in the high school.

Instructor.

3, 4. SECOND YEAR. Sections at 8:50, 9:45, 10:40, 11:35 and Float. Modern prose, narrative and dramatic, and at least one drama by Schiller or Lessing. Review of grammar. elementary syntax and composition. For students who have had courses 1, 2 or two years of high school German.

Professor Meisnest and Assistant Professor Boetzkes.

5. SCHILLER. First Semester. 10:40. Introductory study of his life and selected works. Wallenstein, Die Braut von Messina, Maria Stuart. Open to students who have had four years of high school German. Assistant Professor Boetzkes.

6. GOETHE. Second Semester. 10:40. Introductory study of his life and selected works. Egmont, Hermann und Dorothea and Iphigenie. Assistant Professor Boetzkes.

7, 8. MODERN GERMAN DRAMAS. Two hours. Tu., F., 9:45. Selections from Grillparzer, Hebbel and Ludwig. A rapid reading course.

Instructor.

9, 10. MODEEN GERMAN NOVELS. Two hours. Selections from Freytag, Scheffel and Sudermann. A rapid reading course. (Omitted in 1907-8.)

Instructor.

11,12. SCIENTIFIC GERMAN. Two hours. M., Th., 9:45. A rapid reading course for students specializing in the general sciences.

Instructor.

13, 14. GERMAN CONVERSATION, COMPOSITION AND SYNTAX. TWO hours, M., Th., 9:45.

Professor Meisnest.

15. GERMAN LYEICS AND BALLADS. First Semester, 10:40. Reading and interpretation of the best and most characteristic German lyrics and ballads of Goethe, Schiller, Heine, Uhland, Geibel and others.

Professor Meisnest.

16. HISTORY OF GERMAN LITERATURE. Second Semester, 10:40. Selected readings, reports and lectures. A general survey for students specializing in German.

Professor Meisnest.

17. LESSING. First Semester, 10:40. Introductory study of his life and selected works. Emilia Galotti, Nathan der Weise, and Hamburgische Dramaturgie or Laokoon. (Omitted in 1907-8.)

Professor Meisnest.

18. GOETHE'S FAUST. Second Semester, 10:40. Reading, interpretation and discussion of Parts I and II, with collateral reading in Faust literature. (Omitted in 1907-8.)

Professor Meisnest.

19. STORM AND STRESS PERIOD. Two hours, Tu., Th., Float. Assigned readings, reports and lectures.

Professor Meisnest.

20. ROMANTIC SCHOOL. Two hours, Tu., Th., Float. Assigned readings, reports and lectures. (Omitted in 1907-8.) *Professor Meisnest.*

21. TEACHERS' COURSE. Two hours. Second Semester. W., 1:30 to 3:30. A critical study of the methods of teaching German, review of grammar from the standpoint of the teacher, elementary phonetics, discussion of text books and course of study for high schools, and practice teaching.

Professor Meisnest.

23, 24. MIDDLE HIGH GERMAN. Two hours, W., F., 8:00. Grammar and selected readings. Nibelungenlied, Kudrun, Walther von der Vogelweide.

Professor Meisnest.

24. OLD HIGH GERMAN. Two hours. First Semester. W., F., 8:00. Grammar and selected readings. (Omitted in 1907-8.) Professor Meisnest.

25. GOTHIC. Two hours. Second Semester. W., F., 8:00. Grammar and selected readings. (Omitted in 1907-8.)

Professor Meisnest.

GREEK.

ABTHUE 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. 8:50. For beginners.. No credit allowed if presented for entrance. This course will not count toward a minor in the classical group.

Professor Haggett.

2. ELEMENTARY GREEK. Second Semester. 8:50. Continuation of course 1. Xenophon's Anabasis, Book I; Greek composition. No credit allowed if presented for entrance. This course will not count toward a minor in the classical group.

Professor Haggett.

3. XENOPHON. First semester. 10:40. Continuation of course 2; Xenophon's Anabasis, Books II-IV.; Greek composition. No credit allowed if presented for entrance.

Assistant Professor Sidey.

4. INTRODUCTORY COURSE ON EPIC POFTRY. Second Semester. 10:40. Homer's Iliad, Books I-III., with special reference to Homeric grammar and prosody. No credit allowed if presented for entrance. Assistant Professor Sidey.

5. INTERMEDIATE COURSE ON EPIC POETRY. First Semester. 9:45. Selections from Homer's Odyssey; study of the prehistoric age of Greece and the history of epic poetry. Prerequisite, 4. Professor Haggett. 6. (a) INTEODUCTORY COURSE ON HISTORICAL PROSE. Second Semester. 9:45. 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 LYBIC 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 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. 10:40. 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 HISTOBICAL PROSE. Second Semester. 10:40. 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 his-

toriography; 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. 10:40.

(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. 10:40. 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., 8:00. 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., 8:00.

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

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

Professor Haggett.

15. LITERATURE OF THE ALEXANDRIAN PERIOD. Two hours. First Semester. W., F., 8:00. 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. 8:00. Selections from Plutarch and Lucian; lectures and collateral reading on the history and literature of the Graeco-Roman period. For graduate students.

Professor Haggett.

17. ADVANCED READING COURSE. First Semester. Time to be arranged. Rapil reading of the entire work (or a considererable 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., Th., Float. (1) Public and private life; (2) mythology and religion; (3) art and archaeology. Open to all students.

Assistant Professor Sidey.

20. GREEK HISTORY. First Semester. Tu., F., Float. The history of Greece from the earliest times to the Roman subjugation. Assistant Professor Sidey.

HISTORY.

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

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.

1. MEDIEVAL EUROPE. First Semester. 11:35. Beginning with the barbarian invasions, the rise and development of European nations and their institutions are considered till the fifteenth century. Instructor.

2. MODERN EUROPE. Both Semesters. Sections, 8:50, 9:45, 11:35. Beginning with the Rennaissance, the historical development of Europe is studied from the continental point of view.

This course is required of all Liberal Arts students except those who have offered for entrance a half unit on the same field, in which case the European history requirement may be otherwise satisfied by direction of class adviser.

Associate Professor Alden and Instructor.

3, 4. THE ENGLISH PEOPLE AND INSTITUTIONS. 9:45. From the Anglo Saxon Invasion to the present time.

Associate Professor Alden.

5. GREECE. Two hours. First Semester. 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. For 1907-8 see course 20, Department of Greek. 6. ROME. Two hours. Second Semester. 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. For 1907-8 see course 12, Department of Latin.

7. THE AMERICAN COLONIES, THE REVOLUTION AND THE CON-STITUTION. First Semester. 9:45. Discussion of the period from 1492 to 1829. Lectures, collateral reading, reports.

Professor Meany.

8. ERA OF SLAVERY, CIVIL WAR AND RECONSTRUCTION. Second Semester. 9:45. Discussion of the period from 1829 to 1889. Lectures, collateral reading and reports.

Professor Meany.

9. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. First Semester. 10:40. A study of the causes as seen in conditions of the old regime, the forces that produced the Revolutionary excesses and made Napoleon's career possible, and the forces that brought about his overthrow. Lectures, class discussions and library work. Open to Seniors, Juniors, and others who have had 2 or 4. Associate Professor Alden.

10. EUROPE SINCE 1814. Second Semester. 10:40. Continuation of 9. 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. Associate Professor Alden.

11, 12. NORTHWESTERN HISTORY. Two hours. M., W., 11:35. From the earliest voyages to the settlement and organization of the territories. Lectures. Theses on assigned topics.

Professor Meany.

13. SPAIN IN AMERICA. First Semester. 10:40. 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.
14. DEVELOPMENT OF THE PACIFIC. Second Semester. 10:40. 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.

15. 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 3, 4. May be taken concurrently with 4.

Associate Professor Alden.

16. MAKERS OF THE NATION. Two hours. First Semester. T., F., 11:35. Lectures on the lives of Washington, Franklin, Jefferson, Jackson, Clay, Webster, Lincoln, Grant, Lee and others. *Professor Meany.*

ITALIAN.

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

SUBJECTS.

1, 2. ELEMENTARY. Float. The first year in Italian corresponds to the same course 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 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. Two hours. M., W., 10:40. Selections from Dante's La Divina Commedia. Open only to those who have completed Italian 1, 2.

Professor Frein.

College of Liberal Arts

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 A; 8:00. B; Float. 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 A; 8:00; B; Float. Book XXI will be read and some attention paid to the causes, the course and the result 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. CATULLUS AND HORACE. First Semester. 9:45. Selections from the lyrics of Catullus and Horace with lectures on Latin

lyric poetry and practice in reading the principal metres employed by these two poets. Prerequisites, 1 and 2.

Professor Thomson.

4. PLAUTUS AND TERENCE. Second Semester. 9:45. The Captivi and the Menaechmi 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. 8:50. 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. Prerequisites, 3 and 4.

Professor Thomson.

6. EPISTOLARY LITERATURE. Second Semester. 8:50. 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.

Professor Thomson.

5a. ROMAN SATIRE. First Semester. The Satires and Epistles of Horace with lectures on the development of Roman Satire. The relation of Horace's Epistles to his Satires will be discussed and some account taken of his modern imitators. Open to Juniors and Seniors. Prerequisites, 3 and 4. Not given in 1907-8.

Professor Thomson.

6a. ROMAN SATIRE. Second Semester. The Satires of Juvenal and Persius. This course is a continuation of the preceding. Not given in 1907-8.

Professor Thomson.

7. TEACHERS' COURSE. Two hours. First Semester. M., W., 11:35. 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 Caesar, Cicero, and Vergil, and second, to train him in the best method of teaching these authors and preparatory Latin generally. Courses 7, 8 are designed to attain the first of these ends and Courses 9, 10 the second. Course 7 will consist of the reading of selected portions of Caesar's Bellum Civile, Suetonius' Life of Julius Caesar and the Viri Romae, 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., 11:35. 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 Romae; 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., 11:35. Lectures on the teaching of preparatory Latin and discussion of matters connected therewith. Practice in the writing of Latin. Portions of Caesar, Cicero and Vergil will be read in class and the members will take turns in teaching under the supervision of the instructor. Prerequisites, 5 and 6, or may be taken along with these.

Assistant Professor Sidey.

10. TEACHERS' COURSE. Two hours. Second Semester. Tu., F., 11:35. 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.

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11. ROMAN ANTIQUITIES. Two hours. Second Semester. M., Th., 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.

Assistant Professor Sidey.

12. ROMAN HISTORY. Two hours. Second Semester. Tu., F., Float. The history of Rome from the foundation of the city to the fall of the Western Empire, with particular attention to the development of Roman political institutions.

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. 9:45. Three of Cicero's Orations with exercises in Latin Syntax and Prose Composition.

Assistant Professor Sidey.

B. VERGIL.. First Semester. 11:35. 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. 9:45. A continuation of Course A.

Assistant Professor Sidey.

D. VERGIL. Second Semester. 11:35. 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.

COLLEGE OF LIBERAL ARTS

MATHEMATICS.

ROBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD^{*} and FRANK MARION MORRISON, Assistant Professors. EDWIN HAVILAND, JR., Acting Assistant Professor.

Instructors.

Students who desire a thoro course in mathematics should complete courses 1, 2, 3, 4, 5 and 6 by the end of the sophomore year. After that they should take courses 7 and 8 and if possible also courses 9 and 10. Course 1-8 are the necessary preparation for a study of higher mathematics. After these are completed courses 9 and 10, 12 and 13, 14 and 15 may be taken in any order, tho preferably 9 and 10 before the others.

Students expecting to major in mathematics, should take physics as the required science in the freshman year, and also German or French, preferably German, tho a reading knowledge of both these languages is highly desirable. Furthermore students in mathematics will do well to take a course in descriptive geometry and drawing and mechanics in the engineering college, a year's work in chemistry and a year's work in astronomy.

Students who expect to become teachers of mathematics in the high schools should take at least courses 1-8 inclusive, together with courses 16 and 17, which courses are especially designed for teachers.

Courses marked (E) are primarily for engineering students, tho course 11 is extremely helpful to students of mathematics as well as to all advanced students of applied science.

SUBJECTS.

1. PLANE TRIGONOMETRY. First or Second Semester. First Semester, six sections: one at 8:50, two at 9:45, two at Float. Second Semester, six sections: one at 8:50, two at 9:45, one at 10:40, one at 11:35, one at Float.

This course is required of all freshmen in the college of Liberal Arts. It presupposes the completion of all entrance requirements in Mathematics. Students conditioned in entrance algebra should

defer this requirement until such condition has been removed. Students who wish to continue mathematics should take this course at the Float hour and follow it with course 2 in the second semester. Taylor's Plane and Spherical Trigonometry, Crockett's 5 place tables.

Professor Moritz, Assistant Professor Morrison, and Instructors.

2. COLLEGE ALGEBRA. Second Semester, Float. 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, combinations 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. C. Smith's Treatise on Algebra. *Professor Moritz*.

1a. (E) PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. Six sections: two at 8:50, two at 9:45, one at 10:40, one at 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. Crockett's Trigonometry, Crockett's 5 place tables, C. Smith's Treatise on Algebra. Assistant Professor Gould and Instructor.

2a. (E) ANALYTICAL GEOMETRY AND HIGHER ALGEBRA. Second Semester. Six sections: two at 8:50, two at 9:45, one at 10:40, one at 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. Candy's Analytical Geometry. C. Smith's Treatise on Algebra.

Assistant Professor and Instructors.

3, 4. SOLID GEOMETRY. Two hours. Tu., Th., 8:00.

The usual theorems and constructions, with exercises and application to mensuration. Required of engineering students who do not offer solid geometry for admission. Open to all students who have completed plane geometry. Should be taken during the first or second year by students who are preparing to become teachers of mathematics. Well's Solid Geometry.

Instructor.

5. ANALYTICAL GEOMETRY. First Semester. 8:50. For Liberal Arts students. Cartesian and polar coordinates; curves and their equations; the straight line; transformation of coordinates; the circle; conic sections and the equation of the second degree; Cartesian coordinates in space; the plane; the straight line in space; the sphere, the cylinder and the cone; the quadratic surfaces and the equation of the second degree in three variables. Smith and Gale's Anlytic Geometry.

Assistant Professor Morrison.

5a. (E) ANALYTICAL GEOMETRY FOR ENGINEERS. Two hours. First semester. Three sections: Tu., F., 10:40; Tu., Th., 11:35; M., W., 10:40. Continuation of 2a. Study of the conic sections, and the elements of solid analytics. Must be preceded by 1a and 2a. Candy's Analytical Geometry.

Assistant Professor Morrison.

5b. (E) DIFFERENTIAL CALCULUS FOR ENGINEERS. First Semester. Three sections: two at 11:35 and one at Float. Open to students who have completed 1a, 2a, 3, 4 and are taking 5a. This course considers the subject with reference to the needs of engineers. Granville's Calculus.

Assistant Professor Gould and Instructor.

6. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. 8:50. An elementary course, covering the fundamental principles and their applications both of the differential and integral calculus. Open to students who have completed 1, 2 and 5. Osborne's Differential and Integral Calculus.

Assistant Professor Morrison.

6a. (E) INTEGRAL CALCULUS FOR ENGINEERS. First Semester. Three sections: two at 11:35, and one at Float. Must be preceded by 5b. The integral calculus treated with reference to its application to the various branches of engineering. Granville's Calculus. Assistant Professor Gould.

7. ADVANCED CALCULUS I. First Semester. 8:50. Open'to students who have completed 6 or 6a. Partial and total differentiation; change of variables, orthogonal transformations; elimination; partial integration; line, space and surface integrals; Green's theorem; parametric derivation; curve tracing. W. B. Smith's Infinitesimal Analysis. Professor Moritz.

8. ADVANCED CALCULUS II. Second Semester. 8:50. Continution of 7. Definite integrals; elliptic integrals; applications to the theory of probability; elements of the theory of functions of complex variable. Byerly's Integral Calculus.

Professor Moritz.

9. DIFFERENTIAL EQUATIONS. First Semester. Solution of ordinary and partial differential equations with applications to geometry and physics. Must be preceded by 6a or 7.

Assistant Professor.

10. THEORY OF ALGEBRAIC EQUATIONS. Second Semester. Open to students who have completed 1, 2, 5 and 6. Burnside and Panton's Theory of Equations, both volumes.

Assistant Professor.

11. LEAST SQUARES. Two hours. First Semester. W., F., 8:50. Primarily for engineering students, but open to all students who have completed the differential calculus. A study of the best methods for the adjustment of observations, and the determination of probable errors, with numerous applications to actual problems. Merriman's Least Squares.

Assistant Professor Gould.

12. MODERN ANALYTICAL GEOMETRY I. First Semester. 8:00. Trilinear coordinates, methods of abridged notation applied to the right line, to circles and to the general conic. Salmon's Conic Sections. Assistant Professor Morrison. 13. MODERN ANALYTICAL GEOMETRY. Second Semester. 8:00. Continuation of 12. Method of reciprocal polars, harmonic and anharmonic proprieties, the method of projection, invariants and covariants of conics, the method of infinitesimals. Salmon's Conics, with reference readings.

Assistant Professor Morrison.

14. MODERN HIGHER ALCEBRA I. First Semester. 10:40. The theory of determinants, symmetric functions, the theory of resultants and discriminants. Salmon's Modern Higher Algebra, with reference readings. *Professor Moritz.*

15. MODERN HIGHER ALGEBRA II. Second Semester. 10:40. The theory of invariants and covariants. Salmon's Modern Higher Algebra, with reference readings.

Professor Moritz.

16. TEACHERS' COURSE I. HISTORY OF MATHEMATICS. Two hours. First Semester. M., Th., Float. Open to students who have completed 6 or 6a. A brief course in the history of mathematics. Assistant Professor Gould.

17. TEACHERS' COURSE II. TEACHING OF MATHEMATICS. Two hours. Second Semester. M., Th., Float. Open to students who have completed 6 or 6a. The course deals with such questions as: the educational value of mathematics; a study of curricula in foreign schools; the course of mathematics in the high schools; a discussion of the various methods of presenting the several high school branches of mathematics; correlation of algebra and geometry; methods of reviews and examinations and grading of papers; discussion of text books; collection of bibliographies on topics of interest; etc. Assistant Professor Gould.

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.

PHILOSOPHY.

WILLIAM SAVERY, Professor. HEBMAN 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 ideas 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 PSYCHOLOGY, LOGIC AND ETHICS. TU., Th., Float. Laboratory M., Tu., or F., 1:30 to 4:30.

(a) PSYCHOLOGY. A study of the facts and laws of consciousness and their relation to the body. Text: James' Psychology, Briefer Course.

(b) 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: Fowler's Elements of Deductive and Inductive Logic.

(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. Prerequisite, sophomore or higher standing.

Professor Savery and Assistant Professor Stevens

3, 4. HISTORY OF PHILOSOPHY. 8:50. 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 philosophies studied. Lectures and recitations. No prerequisites in philosophy. Prerequisite, sophomore or higher standing.

Professor Savery and Assistant Professor Stevens

5, 6. METAPHYSICS. 9:45. A study of the theory of knowledge and the nature of reality—including 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, 1, 2 or 3, 4.

Professor Savery.

7, 8. GENERAL PSYCHOLOGY. Three hours. Tu., W., F., 10:40. 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, 1, 2.

Assistant Professor Stevens.

9, 10. EXPERIMENTAL PSYCHOLOGY. One, two or three hours, according to the amount of laboratory work done. Tu., Th., F., 1:30 to 4:30. 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. Qualitative experiments upon sensation, affection, attention, action, perception, and association of ideas will constitute the bulk of the work. Titchener's Manual, Qualitative, Pt. I, will be used as text book. 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. RESEARCH. Original research in psychology may be undertaken by students who are fitted for it. Credits will be determined by the amount of work done.

Assistant Professor Stevens.

13, 14. SEMINARY IN THE HISTORY OF PHILOSOPHY. Two or three hours credit. One evening a week. This course is primarily for graduate or other advanced students, and will follow the seminary plan of instruction. The study will be critical and constructive as well as historical.

In 1906-7, the Idealistic movement from Fichte to Hegel was studied, and Hegel's Smaller Logic read in the second semester.

In 1907-8, Schopenhauer's "The World as Will an Idea" will be studied during the first semester; and Lotze's "Metaphysics" during the second semester.

Professor Savery.

TEACHER'S COURSE IN PSYCHOLOGY. Laboratory work in psychology may be taken on Friday afternooon and Saturday morning. The laboratory work should be accompanied by the reading of James' Psychology, Briefer Course. This reading could be done at home during the week. Credit 2 hours.

Assistant Professor Stevens.

RELIGION.

21, 22. COMPARATIVE RELIGION. Two hours. M., W., 10:40. 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 Brahamism, Buddhism, Confucianism, Zoroastrianism and Christianity. Lectures and readings in the sacred writings of the religions studied. Elective for sophomores, juniors and seniors. Omitted in 1907-8.

Professor Savery.

23, 24. STUDY OF RELIGION. Two hours, M., W., 10:40. A study of religious experience, its content, types, value and truth. The course falls into two divisions:

(1) Psychological study of religious facts, such as: the religious impulses and emotions, sense of sin, conversion, feeling of 'being saved', saintliness, mysticism, and effects of religion on other aspects of life. In this part James' "The Varieties of Religious Experience" will be read and discussed.

(2) Philosophical study of the truth of the most important religious doctrines, the goodness of the Universe, the personality of God, and immortality. In this part McTaggart's "Some Dogmas of Religion" will be used as text for study and criticism. Lectures and discussions. No Prerequisites.

Professor Savery.

PHYSICAL CULTURE.

VICTOR MORTON PLACE, Director.

LAVINA C. RUDBERG, Instructor in Women's Department. H. B. CONIBEAR, Student Trainer of all Teams and Coach of Track Teams and Crews.

Two years of work are required in this department for which the student receives eight credits. Three hours of work a week for two years are required in the Colleges of Liberal Arts, Engineering and School of Mines, and the same amount is required of first year classes in the Schools of Law and Pharmacy.

The department aims primarily to give those students who are healthy and able bodied the proper kind and amount of work requisite to good health and to prescribe the proper work for those less fortunate which will aid in the correction of their infirmities. This work is divided as follews: (a) General gymnastic and outdoor work; (b) Special work for the remedying of scoliosis, flat-foot, weak chest, round shoulders, etc.; (c) Exercises for poise and grace.

The University of Washington has an ideal location for outdoor work. The climate is so mild that outdoor work is possible all the year round and it is the policy of the department to urge all who can to do this kind of work. The campus has a frontage on Lakes Union and Washington and no university in the country 124

has a better location for boating. The Associated Students have recently built a boat house on Lake Washington which serves a double purpose, that of store house for individual canoes and headquarters for the varsity crews. Great stress is placed upon cross country running as a means of body upbuilding and many of the students adopt this method.

For men who are representing the University on the athletic field, or who are trying for any of the University teams or crews, credit is given as for gymnasium work for the time that they are in training, and when not in training the regular gymnasium work will be required of those who come under the rule for required work.

There is a splendid opportunity for women to play tennis, and courts are reserved for them. Women are also allowed to work out their credits by cross country running and rowing. All women engaging in rowing must know how to swim.

During the winter months classes in wrestling and boxing will be organized for those men who desire that kind of work.

Instruction is given in both theory and practice of physical education. The theoretical instruction is offered to those students who do their major work in the department of Zoology. Anthropometry as applied to the laws of growth and development in children and to the variations in measurements that can be produced by systematic exercise: lectures and demonstrations on personal hygiene and school hygiene and sanitation; and the application of exercise to such conditions as curvature of the spine. mal-nutrition, intestinal disorders, etc., will be offered. With the co-operation of other departments these courses are designed to give a training that will enable a graduate to install and supervise a system of physical training in public schools and colleges. Students taking this course will be given an opportunity for practical experience in instruction by appointment as class leaders in floor work and as assistants in physical examinations. A certificate of graduation from the department of Physical Culture will be granted all those who combine the theoretical work with the practical, provided that he has acquired the necessary 128 credits required for graduation from the College of Liberal Arts, and provided that he has done his major work in the department of Zoology as stated above.

All women will be required to wear black bloomers and blouse

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while working in the gymnasium. The men must wear suits satisfactory to the Physical Director.

SCHEDULE.

PHYSICAL CULTURE.

PLACE.

Section A. Three days, preferably, Tu., Th., F., 3:30.
Section B. Three days, preferably, M., W., F., 3:30.
Section C. Three days, preferably, Tu., Th., F., 4:30.
Section D. Three days, preferably, M., W., F., 4:30.

RUDBERG.

Advanced Floor Work: Section A. Tu., Th., F., 3:30. Advanced Floor Work: Section B. Tu., Th., F., 4:30. Elementary Floor Work: Section C. M., W., F., 3:30. Elementary Floor Work: Section D. M., W., F., 4:30. Rowing for Women: M., W., F., 1:30.

CONNIBEAR.

Cross country running for men, any three days per week at either 3:30 or 4:30.

PHYSICS.

FREDERICK ARTHUR OSBORN,* Professor. GEORGE WINCHESTER, Acting Professor. HENRY LOUIS BRAKEL, Instructor.

The instruction in this department is designed to meet the needs of three different classes of students. First, those who desire some work in physics as a part of a liberal education; second, those who intend to prepare themselves for teaching physics; and third, those who pursue it as a preparation for engineering.

1. Students who wish physics as a part of a liberal education are advised to elect from the following courses in the order given, 1, 2, 9, 4, 5.

2. Students who major in physics or are preparing to teach it, should elect from the courses in the order given, 1, 2, 4, 5, 6, 7, 8, 3, 9, 10.

A student may begin his University work in physics either semester but he should have had or be taking Mathematics 1.

*Absent on leave, 1906-7.

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, 2.

SUBJECTS.

1. MECHANICS, SOUND AND HEAT. First Semester. Tu., Th., F., 9:45. Laboratory one period each week. Tu., or Th., 1:30. Professor Osborn and Mr. Brakel.

2. ELECTRICITY AND LIGHT. Second Semester. Tu., Th., F., 9:45. A continuation of course 1.

1a. MECHANICS, SOUND AND LIGHT. First Semester. 8:50. Laboratory, Section A, W., F.,; Section B, Tu., Th.,; Section C, M., S.

Professor Osborn and Mr. Brakel.

2a. ELECTRICITY AND LIGHT. Second Semester. 8:50. Laboratory, Section A, W.; Section B, Tu.; Section C, M. A continuation of course 1a.

3. LIGHT. PRESTON. Second Semester. Hours to be arranged. Three class periods and one laboratory period. Prerequisites, 1, 2, and calculus.

Professor Osborn.

4a. ELECTRICAL MEASUREMENTS. First Semester. M., 10:40. One class period and one, two, or three laboratory periods. Prerequisites, 1, 2. *Mr. Brakel.*

5a. PRIMARY AND SECONDARY BATTERIES. First Semester. Th., Float. One class period and one or two laboratory periods. Prerequisites, 1, 2. *Mr. Brakel.*

6. ELECTRO-CHEMISTRY AND THEORIES OF E. M. F. Second Semester. Hours to be arranged. Two lectures and an optional laboratory period. Prerequisites, 5, and eight hours of Chemistry. *Mr. Brakel.*

7. HEAT. PRESTON. Second Semester. Hours to be arranged. Three class periods and one laboratory period. Prerequisites, 1, 2. Professor Osborn.

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8. SOUND AND VIBRATORY PHENOMENA. First Semester. Hours to be arranged. Two lectures and two laboratory periods. Prerequisites, 1, 2, Calculus, and Math. 9.

Professor Osborn.

9. HISTORY OF PHYSICS. Second Semester. Tu., Float. Prerequisites, 1, 2.

Professor Osborn.

10. TEACHERS' COURSE. Second Semester. Two hours. Designed for those who are intending to teach physics in high schools. It will consider methods of teaching physics, organization and equipment of laboratories. A review of some of the literature of physics, and a discussion of texts will be given. Prerequisites, 12 hours of University physics and special permission.

Professor Osborn and Mr. Brakel.

16, 17. DYNAMO ELECTRIC MACHINERY. Both Semesters. W., F., Prerequisites, 1, 2, 4.

Professor Magnusson.

18, 19. ALTERNATING CURBENTS. Both Semesters. M., W., F. Prerequisites, 1, 2, 4, 16, 17 and 8.

Professor Magnusson.

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

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

Students conditioned in physics for admission to the University may take it up in the summer session, or will be given an opportunity to work off the condition under a tutor appointed by the department and paid by the student.

POLITICAL AND SOCIAL SCIENCE.

J. Allen Smith, Professor. VANDERVEER CUSTIS, Assistant Professor.

1a. THE ELEMENTS OF ECONOMICS. First Semester. 9:45. An introductory study of the principles governing the production and distribution of wealth, with special reference to some of the more important 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. 11:35. This course is arranged primarily for students in the College of Liberal Arts.

Professor Smith.

2. THE MONOPOLY PROBLEM. Second Semester. 11:35. 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.*

3. THE ECONOMIC HISTORY OF THE UNITED STATES. First Semester. 10:40. 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.

4. THE PRINCIPLES AND METHODS OF TAXATION. Two hours. Second Semester. M., Th., 10:40. 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. MONEY AND BANKING. First Semester. 10:40. 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*

6. THE PRINCIPLES OF ECONOMICS. Second Semester. Saturday at 9:50. This course is devoted to an examination of the laws underlying economic conditions and is intended to prepare the student for a consideration, from the economic point of view, of the important industrial problems of the day, such as trusts, railroads and the labor movement. The work will consist entirely of lectures and class room discussions, no outside reading being required except in the case of students who wish to receive university credits. Those taking this course should allow two hours for each meeting. Assistant Professor Custis.

7. PRINCIPLES OF SOCIOLOGY. First Semester. 8:50. 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 important social institutions, such as the family, the religious organization, and the political organization. Assistant Professor Custis.

8. SOCIAL PROBLEMS. Second Semester. 8:50. 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. Prerequisites, Economics 1a, 1b or 7. Assistant Professor Custis.

10. THE DISTRIBUTION OF WEALTH. Second Semester. 9:45. 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.

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12. LABOR. Two hours. Second Semester. M., W., 10:40. 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.

13, 14. CONSTITUTIONAL GOVERNMENT. Float. A discussion of the political theories of the last two centuries with special reference to their influence upon the constitutional development of the United States.

Professor Smith.

16. MUNICIPAL GOVERNMENT. Two hours. Second Semester. Tu., F., 10:40. 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.

18. PUBLIC INTERNATIONAL LAW. Two hours. Second Semester. W., F., 9:45. The history and development of Public International Law with special reference to American diplomacy. *Professor Condon.*

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RHETORIC AND ORATORY.

ABTHUE 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 and Second Semesters. Six sections, one each recitation period. Short daily and weekly themes together with a study of the principles of Rhetoric. Text: Part I of Genung's "Working Principles of Rhetoric." Each student will meet the instructor for private consultation at least once every week. Required of freshmen in the College of Liberal Arts. Students who can give evidence, by examination, of superior training in English Composition may omit course 1.

Assistant Professor Milliman and Miss Greenlee.

2. ENGLISH COMPOSITION. First and Second Semesters. Open to students who have completed course 1. Six sections, one at each recitation period. Daily and fortnightly themes, with private conferences. Part II of Genung's "Working Principles of Rhetoric," and specified readings from modern English prose. Required of freshmen in the College of Liberal Arts.

Assistant Professor Milliman and Miss Greenlee.

1a. ENGLISH COMPOSITION. First and Second Semesters. Sections at 8:50, 9:45, 10:40, Float. This course is designed to so fit the student in the use of good English as to enable him to express his thots smoothly and correctly. Toward this end he will be expected to prepare both daily and weekly themes. Each student will meet the instructor once a week for private consultation on his theme work. Genung's "Working Principles of Rhetoric" will be used as the guide in all kinds of construction

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English, especially in the art of letter writing and other business forms. Required of all freshmen in the College of Engineering and the School of Mines.

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. Tu., F., 9:45. 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.

9. ADVANCED ARGUMENTATION. First Semester. Afternoons. Practice in briefing selected masterpieces of argumentation. Each student will also present an original brief and argument on some topics of his own selection. Text: "Principles of Argumentation," revised edition. Prerequisite, 2.

Professor Priest.

10. DEBATING. Second Semester. Afternoons. Practice in preparation and delivery of debates. Prerequisites 2, 9 and 13. Professor Priest.

13. ORAL EXPRESSION. Each Semester. 11:35. 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.

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15, 16. DRAMATIC READINGS.. Two hours. M., F., 10:40. 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. Topics and critiques on various phases of contemporary dramatic art. Prerequisite, 13.

Assistant Professor Daggy.

17. ENGLISH ORATORY. First Semester. 8:00. A study of the relation of representative orators to the development of the political and social institutions of England from the sixteenth century to the present day. The principal orations of Eliot, Wentworth, Walpole, Chatham, Burke, Mansfield, Fox, Erskine, Pitt, Cobden, Bright, and Gladstone are read and analyzed. Each member of the class is required to write an original oration.

Assistant Professor Daggy.

18. AMERICAN ORATORY. Second Semester. 8:00. A study of the orations of Otis, Henry, Hamilton, Webster, Hayne, Calhoun, Sumner, Phillips, Beecher, Curtis, Grady, and other representative orators. Each member of the class is required to revise the oration written the preceding semester, and to deliver the revised form before the class.

Assistant Professor Daggy.

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

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SPANISH.

CABOLINE HAVEN OBER, Professor. CHARLES MUNBOE STRONG, Instructor.

In this department considerable time is given to colloquial Spanish. The close relations of the United States with Central and South America, and the various 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, 8:00; Section B, 8:50; Section C, 9:45. Lessons in Spanish on everyday topics, training of the ear and tongue. Essentials of Spanish grammar; readings from modern Spanish authors.

Professor Ober and Mr. Strong.

1a. ELEMENTARY. Second Semester. 10:40. The same work as in course 1, offered for the benefit of students entering the Uuiversity at this time.

Mr. Strong.

2a. ELEMENTARY. First Semester. 10:40. Continuation of Course 1a.

Mr. Strong.

3, 4. PRACTICAL. 10:40. Business correspondence, commercial terms and conversation, readings selected chiefly from Spanish newspapers and magazine articles of the day. Prerequisite, 2. *Professor Ober.*

5, 6. LITERABY. Float. Knapp's Spanish Readings. Spanish poetry. Ford's Spanish Anthology. Essays written on literary subjects. Prerequisite, 4 or 6.

Mr. Strong.

COLLEGE OF LIBERAL ARTS

7, 8. ADVANCED. 11:35. 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., F., 9:45. 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. M., Th., 9:45. Prerequisite, 4 or 6.

Professor Ober.

13, 14. *Don QUIJOTE. Two hours. M., Th., 9:45. Open only to advanced students.

Professor Ober.

15, 16. ADVANCED PROSE COMPOSITION. One hour. Tu., Float. Prerequisite, 4 or 6.

Professor Ober.

*Spanish 11, 12 and Spanish 13, 14 cannot both be given in 1907-1908. The choice will depend upon the preparation of the students applying.

ZOOLOGY.

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

In this department the more elementary courses are designed with special 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 thorough 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., Th., 11:35. A general review of zoological science, involving a study of the structure, 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.*

3, 4. VERTEBRATE ANATOMY. M., Th., 8:50. The comparative structure of the vertebrate organs studied by dissection of six backboned animals, and the evolution of the various systems traced from the lowest fishes up to man. Prerequisite, 1 and 2 or their equivalent. Laboratory, T., Th., 1:30.

Assistant Professor Prentiss.

5. HISTOLOGY. First Semester. Tu., F., 10:40. The investigation of the microscopic structure of animal tissues from the derivative standpoint, dealing more particularly with the epithelial and nervous elements. Laboratory, Tu., Th., or W., F. Prerequisite, 1 and 2.

Professor Kincaid.

6. VERTEBRATE EMBRYOLOGY. Second Semester. Tu. F., 10:40. 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.

7. GENERAL PHYSIOLOGY. M., W., 10:40. The structure of animal tissues and organs with reference to human anatomy; the general functions of the organs and the chemical processes of the body determined by experiment. Laboratory, T., Th., 9:50, or M., W., 1:30.

Assistant Professor Prentiss.

8. EXPERIMENTAL PHYSIOLOGY. M., W., 10:40. The special physiology of the circulatory, respiratory and nervous systems. A course preparatory to medical work or the teaching of physiology. Prerequisite, 7. Laboratory, M., W., 1:30.

Assistant Professor Prentiss.

9. HUMAN OSTEOLOGY. Second Semester. T., Th., 8:00. The skeleton of man studied in detail from the standpoint of comparative anatomy. Preparatory to a medical course. Laboratory, T., Th., 1:30.

Assistant Professor Prentiss.

10. ENTOMOLOGY. Second Semester. M., Th., 9:45. The structure, classification and natural history of insects. This course involves the collection, preservation and identification of the insects found in the local fauna. Five hours laboratory work.

Professor Kincaid.

11. ETHNOLOGY. First Semester. M., W. A discussion of biological problems related to the general theory of organic evolution, including variation, mutation, selection and heredity. Prerequisite, 1 or its equivalent.

Professor Kincaid.

12. EVOLUTION. Second Semester. M., W. A discussion of biological problems related to the general theory of organic evolution, including variation, mutation, selection and heredity. Prerequisite, 1 or its equivalent.

Professor Kincaid.

13, 14. 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.

15, 16. 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 credits to be arranged.

Professor Kincaid and Assistant Professor Prentiss.

COLLEGE OF ENGINEERING.

FACULTY.

THOMAS FRANKLIN KANE, Ph.D., President.

ALMON HOMEB FULLEB, C. E., Professor of Civil Engineering, Dean.

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

JOHN THOMAS CONDON, LL.M., Professor of Law.

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

- MILNOR ROBERTS, A.B., Professor of Mining Engineering and Metallurgy.
- *FREDERICK ARTHUR OSBORN, Ph.B., Professor of Physics and Director of the Physics Laboratories.
- ROBERT EDULARD MORITZ, Ph.D., Professor of Mathematics and Astronomy.
- CARL EDWARD MAGNUSSON, Ph.D., E.E., Professor of Electrical Engineering.
- EVERETT OWEN EASTWOOD, B.S., M.A., Professor of Mechanical Engineering.
- GEORGE WINCHESTER, B.S., Acting Professor of Physics.
- VICTOR M. PLACE, A.B., Professor of Physical Culture.

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

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

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

- FRANK MABION MOBBISON, A.B., Assistant Professor of Mathematics.
- LOREN DOUGLAS MILLIMAN, A.B., Assistant Professor of Rhetoric.
- EDWARD EVERETT BUGBEE, S.B., Assistant Professor of Mining Engineering.
- ELLIOT SNELL HAIL, Ph.D., Acting Assistant Professor of Chemistry.
- CHARLES EVAN FOWLER, M. Am. Soc. C. E., Lecturer on Engineering Contracts and Specifications.

*Absent on leave, 1906-7.

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

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- JAMES DELMAGE Ross, Lecturer and Consulting Electrical Engineer on Central Stations.
- JOHN HABISBERGER, Lecturer and Consulting Electrical Engineer on Power Transmission.
- CLARENCE E. FLEAGER, Lecturer and Consulting Electrical Engineer on Telephones.
- WILLIAM BOUSE HAMPSON, M.E., Director of Shop Work.
- IDA KATHEBINE GREENLEE, A.B., Instructor in English.
- HENRY LOUIS BRAKEL, A.B., Instructor in Physics.
- FRANK EDWARD JOHNSON, E.E., Instructor in Electrical Engineering.
- HENRY LEE BOWLEY, B.S., Instructor in Civil Engineering.
- JAMES H. HANCE, A.B., Instructor in Chemistry and Mathematics. CHARLES W. HARBIS, C.E., Instructor in Civil Engineering.
- GEORGE SAMUEL WILSON, B.S., Instructor in Mechanical Engineering.
- WALTER C. WAGNER, Assistant in Descriptive Geometry.
- RUPERT C. SNOKE, Assistant in Descriptive Geometry.
- HABOLD F. FORSYTHE, 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 electrical 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 pages 33 to 42.

ADMISSION.

 The requirements for admission to the Freshman class of the

 College of Engineering are:

 English
 4

 Algebra
 1½

 Plane Geometry
 1

 Solid Geometry
 1/2

 Physics
 1

 Chemistry
 1

 Modern Language
 2

 History
 1

 Civil Government
 1½

 Elective
 21½

 Total
 15

For more specific information concerning the preparation necessary to meet the above requirements and list of electives, see page 47 and following.

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.

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- COLLEGE OF ENGINEERING

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 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 clvil, electrical, mechanical 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 148, and following:

Course in Civil Engineering.

First Semester-

Second Semester-

FRESHMAN YEAR.

Hours	3.	Hours	
Plane Trigonometry and Higher Algebra, 1a	2 2	Analytic Geometry and Higher Algebra, 2a	222
-		- · · · -	
16+	-4	16+	4

SOPHOMORE YEAR.

TT - -----

nours.	Hours.
Analytic Geometry, 5a 2	Industrial Chemistry, 7 4
Differential Calculus, 5b 4	Calculus, 6a 4
Physics, 1a 6	Physics, 2a 5
City Surveying, 8b 8	Topographic Surveying, 3c 3
Descriptive Geometry, 2b 2	Physical Culture, 4 2
Physical Culture, 8 2	-
	16+2
17+2	

JUNIOR YEAR.

rs. Hours
Mechanics, 5b 5
Hydraulics, 6a 4
Railroads, 4b 4
Masonry Construction, 8 4
17

SENIOR YEAR.

Hours

Hours	3. Hours.
Bridges, 7a 4	Bridges, 7b 4
Astronomy, 8 2	Astronomy, 4 2
Least Squares, 11 2	Geodesy, 3d 2
Hydraulics, 6b, 6c 5	Contracts and Specifications, 11. 1
Roads and Pavements, 9 2	Elective 8
Structural Materials, 10a 2	Thesis 8
-	-
17	15

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College of Engineering

Course in Electrical Engineering.

First Semester-

Second Semester-

FRESHMAN YEAR.

Hours	Hours
Plane Trigonometry and Higher Algebra, 1a,	Analytic Geometry and Higher Algebra, 2a
	-
16+4	16+4

SOPHOMORE YEAR.

Hours.

÷.

Analytic Geometry, 5a	2	Calculus, 6a 4	
Differential Calculus, 5b	4	Industrial Chemistry, 7 4	
Physics, 1a	6	Physics, 2a, 5	
Machine Design, 5a	8	Machine Design, 5b 2	
Kinematics, 10	2	Elements of Steam Engineering,	
Shop, 3a	2	6	
Physical Culture, 3	2	Shop, 4a	2
		Physical Culture, 4	2
:	17+4		

JUNIOB YEAR.

Hours.	Hours
Mechanics, 5a 4	Mechanics, 5b 5
Political Science, 1a 4	Hydraulics, 6a 4
Dynamo Machinery, 1a 2	Dynamo Machinery, 1b, 1c 6
Electrical Measurements, 4a 4	Electrical Measurements and
Primary and Secondary Batteries,	Photometry, 4b
5a, or 2	_
Experimental Engineering, 13 2	17
16	

SENIOR YEAR.

Но	ours.	Ho	ou
Alternating Currents, 6a, 6c Electric Railways, 2 Telephones, 9a Commercial Testing, 7 Steam Turbines, 26 Dynamo Design, 10a	5 2 2 3 2 1	Alternating Currents, 6b, 6d Central Stations, 8a Power Transmission, 8b Elective Thesis	52224
Hydraulics, 6b	1 ·	1	15
	-		

6

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Hours.

17+4

Hours.
Course in Mechanical Engineering.

First Semester-

Second Semester-

FRESHMAN YEAR.

	Hours.	
etry and Higher		Analy

Plane Trigonometry and Higher		Analytic Geometry and Higher	4	
Chemistry 1a 4		Chemistry, 2a.	4	
Mechanical Drawing, 1		Descriptive Geometry, 2a	4	
English Composition, 1		Plane Surveying, 3a	4	
Shop, 1a	2	Shop, 1b		2
Physical Culture, 1	2	Physical Culture, 2	!	2
-			-	
16-+	4	1	6+	4

SOPHOMORE YEAR.

Hou	rs.	Ho	ars.
Analytic Geometry, 5a 2		Calculus, 6a	4
Differential Calculus, 5b 4		Industrial Chemistry, 7	4
Physics, 1a 6		Physics, 2a	5
Machine Design, 5a 8		Machine Design, 5b	2
Kinematics, 10 2		Elements Steam Engineering, 6.	2`
Shop, 3a	2	Shop, 4a	2
Physical Culture, 8	2	Physical Culture, 4	2
		-	-

17+4

JUNIOB YEAR.

Hours	3. Hours.
Mechanics, 5a 4	Mechanics, 5b 5
Political Science, 1a 4	Hydraulics, 6a 4
Dynamo Machinery, 1a 2	Dynamo Machinery, 1b, 1d 3'
Electrical Measurements, 4a 2	Valve Gears, 8 2
Engines and Boilers, 7a 2	Engine and Boiler Design, 7b 2
Experimental Engineering, 18a 2	
Shop, 4b	2 16

16+2

SENIOR YEAR.

Hours.

Hydraulics, 6b 1	Gas Engines, 15.
Machine Design, 5c 2	Machine Design
Experimental Engineering, 18b 2	Experimental E
Graphic Statics, 12 8	Heating and Ve
Thermodynamics, 11	Elective
Steam Turbines, 26 2	Contracts and S
Elective 2	Thesis
Structural Materials, 10a 2	

Hours.

as Engines, 15 2	2
lachine Design, 5d 2	2
xperimental Engineering, 13c 2	2
eating and Ventilating, 16 2	2
lective 2	Į
ontracts and Specifications, 11 1	L
hesis	l
	•
16	5

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17+4

Hours.

Course in Chemical Engineering.

First Semester—

FRESHMAN YEAR.

Hours.

H	ours	

Second Semester-

Plane Trigonometry and Higher		Analytic Geometry and		
Algebra, 1a 4		Higher Algebra, 2a	4	
Chemistry. 1a 4		Chemistry, 2a	4	
Mechanical Drawing, 1 4		Descriptive Geometry, 2a	4	
English Composition, 1 4		Plane Surveying, 8a	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	Calculus. 6a 4
Differential Calculus, 5b 4	Physics, 2a 5
Physics, 1a 6	Quantitative Analysis, 6 4
Quantitative Analysis, 5 2	Industrial Chemistry 4
Geology, 1a 4	Physical Culture, 4 2
Physical Culture, 8 2	_
-	17+2
18+2	

JUNIOR YEAR.

Hours.	Hours.
Mechanics, 5a 4	Mechanics, 5b
Metallurgy, 1 4	Metallurgy, 2 4
Mineralogy, 3 3	Mineralogy, 4 3
_	-
15	16

SENIOR YEAR.

Hours	Hours
Hydraulics, 6a	Hydraulics, 6b
Experimental Engineering, 18a 2 Engines and Boilers, 7a	Electro Chemistry 4
	16

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DEPARTMENTS OF INSTRUCTION.

CIVIL ENGINEERING.

ALMON HOMEB FULLER, Professor. CHARLES EVAN FOWLER, Lecturer. HENRY LEE BOWLBY, Instructor. CHARLES W. HARBIS, Instructor.

SUBJECTS.

1. MECHANICAL DRAWING. First Semester. Section A, Tu., F., 9:45; B, M., W., 10:40; C, M., Th., 9:45; D, M., W., 10:40; E, Tu., F., 9:45; F, Tu., F., 10:40. Drawing periods: Sections A and B, W., F., 1:30-3:30; C and D, Tu., Th., 1:30-3:30; E and F, M., 1:30-3:30, S., 8:50-10:40. 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.

Mr. Harris and Mr. Wagner.

2a. DESCRIPTIVE GEOMETRY. Second Semester. Section A, Tu., F., 9:45; B, M., W., 10:40; C, M., Th., 9:45; D, Tu., F., 10:40; E, Tu., F., 10:40; F, M., W., 10:40. Drawing periods, Sections A and B, W., F., 1:30-3:30; C and F, Tu., Th., 1:30-3:30; D and E, M., 1:30-3:30, S., 8:50-10:40. 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.

Mr. Harris, Mr. Wagner and Mr. Snoke.

2b. DESCRIPTIVE GEOMETRY. Two hours. First Semester. Tu., 10:40; W., 10:40-12:30. Shades, shadows and linear perspective. Prerequisite, 2a.

Mr. Bowlby.

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3a. PLANE SUBVEYING. Second Semester. Section A, M., Th., Float. B, Tu., F., Float; C, Tu., F., 9:45; D, M., W., 10:40; E, M., Th., Float; F, Tu., F., 10:40. Field work; Sections A and B, S., 8:30-12:30; C and F, M., 1:30-5:30; D and E, Th., 1:30-5:30. 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.

Mr. Bowlby, Mr. Forsyth and Instructor.

3b. CITY AND MINE SURVEYING. Three hours. First Semester. Section A, F., 9:50; B, Tu., 9:50; Field work, section A, M., 1:30-5:30; B, Th., 1:30-5:30. Study of the precision necessary to be ebtained; survey of a convenient portion of the city, and field and office work of laying out a new addition. Mining survey methods. Pen topography. Prerequisite, 3a.

Mr. Bowlby.

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3c. TOPOGRAPHIC SURVEYING. Three hours. Second Semester. Section A, T., 11:40; B, W., 11:40; Field work, section A, M., 1:30-5:30; B, Th., 1:30-5:30. Colored topography; base line measurements; transit triangulation; plane table and stadia work; maps. Prerequisite, 3b.

Mr. Bowlby.

3d. ELEMENTS OF GEODESY. Two hours. Second Semester. W., 8:50, Th., 1:30-4:30. General study of the figure of the earth and of the methods and instruments used in precise surveys over large areas; field work. Prerequisites, 3c, Mathematics 11, preceded or accompanied by Astronomy 1, 2.

Mr. Bowlby.

4a. RAILBOAD LOCATION. First Semester. Tu., Th., 11:35 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. 9:45. 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, 8:50; B, 8:50; C, 11:35. 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 and Instructor.

5b. MECHANICS. Five hours. Second Semester. Section A, 8:50; B, 8:50; C, 11:35. Computations, Section A, M., 1:30-4:30; B and C, F., 1:30-4:30. Continuation of 5a, and Mechanics of Materials. Lectures, recitations and solution of problems.

Professor Fuller and Instructor.

6a. THEORETIC HYDRAULICS. Second Semester. Section A, Tu., Th., F., Float; Section B, Tu., Th., F., 8:30; Laboratory, section A, W., 1:30-4:30; S., 9:00-12:00. Hydrostatic pressure; depth and stability of flotation, center of pressure, steady flow of water through pipes and orifices, over weirs and in open channels; energy, impulse and reaction of a jet. Preceded or accompanied by 5b.

Mr. Harris.

6b. HYDRAULIC MOTORS. One hour. First Semester, Section A, M., 1:30-4:30; Section B, S., 9:00-12:00. Theory of impulse wheels and reaction turbines; a practical test of an existing plant; design of a reaction turbine. Prerequisite, 6a.

Mr. Harris.

6c. HYDRAULIC ENGINEERING. First Semester. Float. The design and construction of water supply, sewerage and irrigation systems. Lectures, recitations and the design of an imaginary system.

Mr. Harris.

7a, 7b. BRIDGES. T., F., 10:40, and W., F., 1:30-4:30. 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 and construction of water supply, sewerage and irrigation of a plate girder railroad bridge. Prerequisites, 2b, 5b.

Professor Fuller.

7c, 7d. HIGHER STRUCTURES. Two hours. Draw-bridges, cantilever bridges, suspension bridges, metallic and reinforced concrete arches; stresses and deflections. Lectures, recitations and graphic determinations. Must be preceded or accompanitd by 7a, 7b. *Professor Fuller.*

8. MASONEY CONSTRUCTION. Second Semester. M., W., 11:35, Tu., Th., 1:30-4:30. 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. Prerequisites, 2b, preceded or accompanied by 5b.

Mr. Harris.

9. ROADS AND PAVEMENTS. TWO HOURS. First Semester. M., Th., 9:45. Fundamental principles of the location, construction and maintenance of country roads and city streets. Lectures, recitations and assigned readings. 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. Tu., Th., 1:30-4:30. Prerequisite, 5b.

Professor Fuller.

11. CONTRACTS AND SPECIFICATIONS. One hour. Second Semester. Th., 11:30. Lectures on the law of contracts and a study of engineering specifications.

Professor Condon and Mr. Fowler.

ELECTRICAL ENGINEERING.

CARL EDWARD MAGNUSSON, Professor. ELBERT GROVER ALLEN, JAMES DELMAGE ROSS, JOHN HARISBERGER, and CLABENCE E. FLEAGER, Lecturers. FRANK EDWARD JOHNSON, Instructor.

1a, 1b. DYNAMO ELECTRIC MACHINERY. Two hours. Section A, Tu., Th., 8:00; Section B, Tu., Th., 11:35. 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 quantitative problems taken from modern commercial machines. Prerequisites, Physics, 1a, 2a.

Professor Magnusson and Mr. Johnson.

1c. DYNAMO TESTING. First Semester. Section A, M., 1:30-4:30; Section B, W., 1:30-4:30. Second Semester: Section A, W., F., 1:30-5:30; Section B, M., Th., 1:30-5:30. Experimental study of direct current machinery.

Mr. Johnson.

1d. SHORT COURSE IN DYNAMO TESTING. One hour. Second Semester. W., F., 10:40. Electrical equipment, roadbed, rolling stock, construction and operation of direct current, single phase and poly-phase systems.

Professor Magnusson.

2. ELECTRIC RAILWAYS. Two hours. First Semester. W., F., 10:40. 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. Three hours. Second Semester. Tu., Th., 9:45; S., 9:00-12:30. Outline of industrial applications. Prerequisite, Physics, 1a, 2a.

Professor Magnusson.

4a. ELECTRICAL MEASUREMENTS.. First Semester. M., 10:40.
Laboratory work, Section A, W., 1:30-5:30, Sat. 8-12, Section B, M., F., 1:30-5:30. Second Semester, Section A, Th.,1:30-4:30;
Section B, W., 1:30-4:30. Prerequisites, Physics, 1a, 2a. Mr. Brakel.

4b. ELECTBICAL MEASUREMENTS AND PHOTOMETRY. Two hours. Second Semester. W., 10:40. Laboratory work, Section A, F., 8:50-11:35; Section B, M., 9:45-12:30. Prerequisite, 4a. Mr. Johnson.

4c. ELECTRIC MEASUREMENTS. Two hours. First Semester. F., 8:00; Tu., 1:30-4:30. Abridgment of course 4a for Mechanical Engineers. *Mr. Brakel.*

5a. PRIMARY AND SECONDARY BATTERIES. Two hours. First Semester. W., 10:40. Laboratory, Section B, 9:45-12:30. Prerequisites, Physics, 1a, 2a. Mr. Brakel.

6a, 6b. ALTERNATING CURRENTS. Three hours. Throughout the year. M., W., F., 8:50. Theory and applications of alternating currents, power measurements, alternators, transformers, induction motors, synchronous motors, rotary converters and accessory apparatus. Prerequisites, 1a, 1b, 1c, 4a.

Professor Magnusson.

6c, 6d. ALTEBNATING CURBENT TESTING. Two hours. M., W., 1:30-5:30. Experimental study of alternating current machinery. *Professor Magnusson*.

7. COMMERCIAL TESTING. Three hours. First Semester. Section A, Th., 1:30-5:30; S., 8:00-12:30. Section B, Tu., F., 1:30-5:30. 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. Second Semester. M., Th., Float. Location, design and operation of central stations. Electric lighting systems.

Professor Magnusson and Mr. Ross.

8b. POWER TRANSMISSION. Two hours. Second Semester. W., F., 8:00. Design, construction and operation of electric transmission system.

Professor Magnusson and Mr. Harisberger.

9a. TELEPHONES. Two hours. First Semester. Theory, construction and operation of telephones. General central station telephone practice.

Mr. Johnson and Mr. Fleager.

9b. TELEPHONES AND TELEGRAPHS. Two hours. Second Semester. Tu., F., Float. Details of central station apparatus. Testing and locating faults. Multiplex and wireless telegraphs. Prerequisite, 9a.

Mr. Johnson.

10a. DESIGN OF ELECTRICAL APPARATUS. One hour. First Semester. M., 9:45-12:30. Complete design of one direct current dynamo.

Professor Magnusson.

10b. DESIGN OF ELECTRICAL APPARATUS. Two hours. Second Semester. M., 9:45-12:30; Tu., 10:40-12:30. Design of a switchboard, or a transformer, or an a. c. generator or motor. Prerequisite, 10a.

Professon Magnusson.

The special lectures in courses 2, 8a, 8b, 9a, 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. Geoege Samuel Wilson, Instructor. William Bouse Hampson, Director of Shop Work. Samuel Thomas Beattie, Instructor in Shop Work.

1a. CARPENTEY AND WOOD-TURNING. One four-hour exercise each week in the first semester. Section A, Tu., 1:30-5:30; B, M., 1:30-5:30; C, S., 8:30-12:30; D, W., 1:30-5:30; E, F., 1:30-5:30; F, Th., 1:30-5:30. The student will receive training in the use and care of wood-working tools. Instruction and practice will be given in sawing, planing, chiseling, champfering, grooving, framing, tenoning, mortising, dovetailing, splicing, gluing. Exercises in turning include consideration of speeds, use of gouges, chisels, nosing tools, side tools, parting tools, and calipers.

Mr. Beattie.

1b. PATTEEN MAKING AND CABINET WORK. One four hour exercise each week of the second semester. Same schedule as 1a. The pattern making includes the construction of core boxes and such patterns as pipe fitting, valves, pulleys and machine parts. This is followed by a series of exercises in cabinet-work embracing the application to more difficult and advanced work of the principles previously given. Mining engineers are given practice in framing of mine timbers, working from drawings and blue prints.

Mr. Beattie.

3a. FORCE AND FOUNDEY. One four-hour exercise each week of the first semester. Section A, S., 8:30-12:30; B, M., 1:30-5:30; C, Tu., 1:30-5:30; D, Th., 1:30-5:30; E, F., 1:30-5:30. The student is given systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. In the foundry the student is given work in iron and brass; bench and floor moulding, coremaking, and is instructed with the view toward proficiency in management of the cupola.

Mr. Hampson.

4a. MACHINE WORK. One four hour exercise each week of the second semester. Same schedule as 3a. The course begins with exercises in chipping, filing and scraping. These are followed by work on the lathe in both iron and brass including straight and taper turning, centering, chucking, screw cutting, boring, drilling and tapping, knurling and polishing. A few exercises on other machines are given.

Mr. Hampson.

4b. MACHINE WORK. One four-hour exercise each week of the first semester. W., 1:30-5:30. Continuation of 4a, including more difficult work on the lathe, and the use of the milling machine, grinder, planer and shaper.

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. In general explanation and instruction will be given the class collectively before each exercise embodying new work or new principles. This will be supplemented by individual instruction.

5a. ELEMENTS OF MACHINE DESIGN. Three hours. First Semester. W., 10:40. 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, M., 9:45-12:30, W., 1:30-4:30.

Mr. Wilson.

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, W., F., 1:30-4:30.

Mr. Wilson.

5c. DESIGN OF SPECIAL MACHINERY. Two hours. First Semester. Special problems in the design of hoisting and pumping

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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., 9:45-12:30 and W., 1:30-5:30.

Mr. Wilson.

5d. ADVANCED MACHINE DESIGN. Two hours. Second Semester. Special problems in the design of machine tools, and automatic machinery will be given, suited to the abilities and inclination toward specialization of the students. Prerequisites, 5c, 10, Mech. 5b. Laboratory work, M., W., 1:30-4:30.

Mr. Wilson.

6. ELEMENTS OF STEAM ENGINEERING. Two hours. Second Semester. Tu., F., 9:45. 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. First Semester. Tu., F., 10:40. 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.

Professor Eastwood.

7b. DESIGN OF ENGINES AND BOILEES. Two hours. Second 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, 7a, 10, and Mech. 5b. Laboratory work, Th., F., 1:30-4:30.

Professor Eastwood.

8. VALVE GEARS. Two hours. First Semester. F., 10:40, T., 9:45-12:30. A course in the theory and practice of designing the various kinds of valve gears for steam engines. Prerequisite, 6 or 7a.

Mr. Wilson.

10. KINEMATICS. Two hours. First Semester. Tu., Th., 8:00. A study of the operation of machines involving the transmission of forces and the production of determinate motions. Preceded or accompanied by Mach. Des. 5a. Laboratory work, M., 1:30-4:30. *Mr. Wilson.*

11. THERMODYNAMICS. Two hours. First Semester. Tu., F., Float. A consideration of the fundamental principles underlying the transformation of heat into work, with reference to the steam engine, the gas engine and hot air engine, including the discussion of the properties of gases and vapors and the operation of refrigerating machinery; a study of the use and efficiency of the simple, compound, and multiple expansion 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. First Semester. Th., 11:35. 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., 8:50-11:35 and M., 1:30-4:30.

Professor Eastwood.

13a. EXPERIMENTAL ENGINEERING. Two hours. First Semester. Th., Float and Th., 1:30-4:30. Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine are made. One complete engine and boiler test with report is required. Prerequisites, 6, or 7a; Physics, 1a 2a.

Mr. Wilson.

13b. EXPERIMENTAL ENGINEERING. Two hours. First Semester. W., Float. 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, F., 1:30-5:30. *Mr. Wilson.*

13c. EXPERIMENTAL ENGINEERING. Two hours. Second Sem ester. Tu., Th., 1:30-4:30. 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.

Professor Eastwood and Mr. Wilson.

15. GAS ENGINES. Two hours. Second Semester. M., Th., 9:45. A study of the development of gas engineering including the different types of gas engines, and gas producers and methods of testing. Prerequisite, 7a.

Mr. Wilson.

16. HEATING AND VENTILATING. Two hours. Second Semester. Tu., F., 9:45. 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. Second Semester. M., W., 10:40. Mechanical engineering as related to the machinery and maintenance of railways. Prerequisites, 10, and 15.

Mr. Wilson.

25. POWER PLANTS. Two hours. Second Semester. Tu., F., 10:40. A study of the design of power plants involving their lo cation, buildings, prime movers, power transmission, etc.

Professor Eastwood.

26. STEAM TURBINES. Two hours. First Semester. Tu., F., 9:45. The theory, construction and design of steam turbines. Professor Eastwood.

CHEMICAL ENGINEERING.

HOBACE BYERS, Professor. HENRY KREITZER BENSON^{*}, Assistant Professor. ELLIOTT SNELL HALL, Acting Assistant Professor. SABAH E. KAHAN, Instructor.

SUBJECTS.

1a, 2a. ENGINEERING CHEMISTRY. Tu., W., Th., 11:35. 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry. Laboratory work, 1:30-3:30. Section A, M., Th.; B, Tu., Th.; C, W., F.; D, Tu., F.; E, W., Th.; F, W., F. Professor Byers and Assistant Professor Benson.

1, 2. GENERAL CHEMISTEY. Tu., W., Th., 11:35. Many students come from accredited High Schools in which chemistry is not offered. To meet the needs of these students a course is offered consisting of three lectures or quizzes and six hours laboratory work per week. Text books: Smith's General Chemistry and Laboratory Manual. Laboratory sections as in 1a, 2a.

Assistant Professor Hall and Miss Kahan.

3, 4. OBGANIC CHEMISTEY. M., W., 8:50. 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 textbook in followed as a lecture syllabus. Holleman. Laboratory work based on Gatterman. Prerequisite, 1, 2.

Professor Byers.

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. Tu., 9:45. 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.

Assistant Professor Hall.

5b. ELEMENTARY QUALITATIVE ANALYSIS. Two hours. First Semester. Tu., Th., 9:45. A continuation of 1, 2, to be accepted in lieu of 1a and 2a. The course consists of two lectures and six laboratory hours per week. Text book: Byers and Knight.

Assistant Professor Hall.

6. QUANTITATIVE ANALYSIS. Second Semester. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week.

Assistant Professor Hall.

7. INDUSTRIAL CHEMISTRY. Second Semester. M., W., F., 10:40. 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., 1:30. Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. M., W., 11:35. 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. 8:00. 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 subjects chosen. The work in the first semester will be essentially the same for all students.

Professor Byers.

MATHEMATICS.

ROBERT EDULARD MORITZ, Professor. JAMES EDWARD GOULD^{*} AND FRANK MARION MORRISON, Assistant Professors.

EDWIN HAVILAND, JR., Acting Assistant Professor.

1a. PLANE TRIGONOMETEY AND HIGHER ALGEBRA. First Semester. Section A, 8:50; B, 9:45; C, 10:40; D, Float; E, 8:50; F, 9:45. 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 Professor Gould and Instructor.

2a. ANALYTIC GEOMETRY AND HIGHER ALGEBRA. Second Semester. Section A, 8:50; B, 9:45; C, 10:40; D, Float; E, 8:50; F, 9:45. Must be preceded by 1a. The fundamental conceptions and theorems in plane analytic 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 analytic geometry, viz: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations, etc.

Assistant Professor and Instructor.

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^{*}Absent on leave, 1906-7.

5a. ANALYTIC GEOMETRY. Two hours. First Semester. Section A, Tu., Th., 11:35; B, Tu., F., 10:40; C, M., W., 10:40. 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 Morrison.

5b. DIFFERENTIAL CALCULUS. First Semester. Section A, Float; B, 11:35; C, 11:35. A study of the infinitesimal calculus, with special reference to the needs of engineers. Prerequisites, 1a and 2a.

Assistant Professor Gould.

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Section A, Float; B, 11:35; C, 11:35. Continuation of Course 5b. Assistant Professor Gould and Instructor.

11. METHOD OF LEAST SQUARES. Two hours. First Semester. W., F., 8:50. An exposition of the theory of errors with numerical applications. Prerequisites, 6a or 7.

Assistant Professor Gould.

ASTRONOMY.

ROBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD,* Assistant Professor.

1. GENERAL ASTRONOMY. Two hours. First Semester. M., Th., 8:50. Brief outline of the fundamental facts in regard to the solar system and the stellar universe. The observatory is used for illustrative purposes.

Professor Gould.

2. PRACTICAL ASTEONOMY AND SPHEBICAL TRIGONOMETRY. Two hours. Second Semester. M., Th., 8:50. Solution of spherical triangles. Determination of time, latitude, and azimuth by means of the sextant and the engineer's transit.

Professor Gould.

^{*}Absent on leave, 1906-7.

PHYSICS.

FREDERICK ABTHUE OSBORN,* Professor. GEORGE WINCHESTER, Acting Professor of Physics. HENRY LOUIS BRAKEL, Instructor.

1a. MECHANICS, SOUND AND HEAT. Six hours. First Semester. 8:50. Laboratory work: Section A, W., F., 1:30-4:30; B, Tu., Th., 1:30-4:30; C, M., 1:30-4:30; Sat., 9:00-12:00.

Professor Osborn and Mr. Brakel.

2a. ELECTRICITY AND LIGHT. Five hours. Second Semester. 8:50. Laboratory work, Section A, W., 1:30-4:30; B, Tu., 1:30-4:30; C, 1:30-4:30.

Professor Osborn and Mr. Brakel.

GEOLOGY.

HENRY LANDES, Professor. EDWARD EVERETT BUGBEE, Assistant Professor.

1a. GENERAL GEOLOGY. First Semester. M., W., F., 10:40. A semester's course for engineering students. Lectures and recitations. Laboratory work, Th., 1:30-4:30.

Professor Landes.

3, 4. MINERALOGY. Three hours. Tu., F., 10:40. Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. Laboratory work, W., 1:30-4:30.

Assistant Professor Bugbee.

*Absent on leave 1906-7.

COLLEGE OF ENGINEERING

METALLURGY.

MILNOR ROBERTS, Professor. EDWARD EVERETT BUGBEE, Assistant Professor.

1. FIRE ASSAVING. First Semester. F., 11:35. Laboratory work, M., W., F., 1:30-4:30; S., 8:50.

Assistant Professor Bugbee.

2. GENERAL METALLURGY. Second Semester. M., Tu., Th., 9:45. Laboratory work, M., 1:30.

Professor Roberts.

3. WET ASSAVING. First Semester. M., W., 10:40 and Th., 1:30.

Assistant Professor Bugbee.

4. METALLUBGICAL ANALYSIS. Second Semester. W., 10:40, Th., 1:30. Assistant Professor Bugbee.

POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, Assistant Professor.

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester. 9:45.

RHETORIC.

LOREN DOUGLAS MILLIMAN, Assistant Professor. Ida Katherine Greenlee, Instructor.

1. ENGLISH COMPOSITION. Section A, 10:40; B, Float; C, 8:50; D, 9:45; E, 10:40; F, Float.

PHYSICAL CULTURE.

VICTOR MORTON PLACE, Professor.

APPARATUS AND FLOOR WORK. Sections A, and F, W., F., 4:30; B and C, Tu., Th., 4:30; D, Tu., Th., 4:30; E, M., W., 4:30.

SCHOOL OF MINES.

FACULTY.

THOMAS FRANKLIN KANE, Ph.D., President.

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

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

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

JOHN THOMAS CONDON, L.L.M., Professor of Law.

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

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

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

- ROBERT EDOUARD MORITZ, Ph.D., Professor of Mathematics and Astronomy.
- CARL EDWARD MAGNUSSON, Ph.D., E.E., Professor of Electrical Engineering.
- EVERETT OWEN EASTWOOD, B.S., C.E., Professor of Mechanical Engineering.
- VICTOB MOBTON PLACE, A.B., Professor of Physical Culture.

GEORGE WINCHESTER, B.S., Acting Professor of Physics.

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

*HENBY KREITZEB BENSON, A.M., Assistant Professor of Chemistry.

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.

Edward Everett Bugbee, S.B., Assistant Professor of Mining.

ELLIOT SNELL HALL, Ph.D., Acting Assistant Professor of Chemistry.

GEORGE JAMME, Lecturer on Coal Mining.

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

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

*Absent on leave, 1906-7.

CHABLES M. HARBIS, C.E., Instructor in Civil Engineering.

GEOBGE SAMUEL WILSON, B.S., Instructor in Mechanical Engineering.

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

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

HENRY LEE BOWLEY, B.S., Instructor in Civil Engineering.

SAMUEL THOMAS BEATTIE, Instructor in Shop Work.

ADMISSION.

The requirements for admission to the Freshman class of the School of Mines are:

English	. 4
Algebra	. 1½
Plane Geometry	. 1
Solid Geometry	1/2
Physics	. 1
Chemistry	. 1
Modern Language	. 2
History	. 1
Civil Government	. 1/2
Elective	. 21/2
- Totel	.15

For more specific information concerning the preparations necessary to meet the above requirements and for list of electives see page 47 and following.

Students may be admitted:

(1) By presenting a certificate of graduation from an accredited school (for list see page 57), 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 vacation in actual work in a mine, mill or smelter. 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 mining for ascertaining the value of various minerals, the following scale of prices has been adopted:

Gold	\$1 50	Tin	\$5	00
Gold and silver	1 50	Coal, proximate analysis	6	00
Silver	1 00	Silica	2	50
Lead (fire assay)	1 00	Calcium	8	00
Lead (wet method)	2 00	Sulphur	8	00
Lead and silver	1 50	Iron	8	00
Copper	2 50	Blowpipe determination of min-	•	
Gold, silver and copper	3 50	nerals in specimens	1	00

A reduction from the above prices is made for several ores of similar composition. Qualitative and quantitative analysis, complete stamp-battery amalgamation, concentration, cyanide and chlorination tests—prices on application.

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SCHOOL OF MINES

COURSES OF THE SCHOOL OF MINES.

I. Course in Mining.

First Semester—

Second Semester-

Math. 2a (Anal. Geom., Higher

Algebra..... 4 Chemistry, 2a (Gen. Inorg.)..... 4 Civil Eng., 2a (Descr. Geom.) 4 Civil Eng., 8a (Plane Surv.) 4

FRESHMAN YEAR.

Math. 1a (Plane Trig., Higher	Hours.
Algebra)	4

Algebra) 4		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., 8a (Plane Surv.)	4
Mech. Eng., 1a (Woodwork)	2	Mech. Eng., 1b (Mine Timber)	
Physical Culture, 1	2	Physical Culture, 2	

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SOPHOMORE YEAR.

Hours.	Hours.
Geology, 8 (Mineralogy) 8	Geology, 4 (Mineralogy)
Math., 5a (Anal. Geom.) 8	Math., 6a (Calculus) 4
Math., 5b (Diff. Calculus) 8	Chem., 6 (Quant. Anal.) 4
Physics, 1a 5	Physics, 2a 5
Civil Eng., 8b (Mine Surv) 8	Physical Culture, 4 2
Physical Culture, 3 2	
_	16+2
17+2	

JUNIOR YEAR.

Hours.	Hours.
Metallurgy, 1 (Fire Assaying) 4	Metallurgy, 2 (Gen. Met.) 4
Geology, 1a 4	Civil Eng., 3c (Topog. Surv.) 2
Civil Eng., 5a (Mechanics) 4	Civil Eng., 5b (Mechanics) 5
Political Science, 1a 4	Civil Eng., 6a (Hydraulics) 4
Mech. Eng., 8a (Forge, Foundry) 2	Mech. Eng., 5b (Machine Design) 1
-	Mech. Eng., 4a (Machine Work). 2
16+2	_

16+2

SENIOR YEAR.

Hours.	Hours
Mining, 1 (Ore Dressing) 4	Mining, 2 (Mining) 4
Mining, 5 (Field Work) 1	Mining, 4 (Mining Law) 1
Metallurgy, 8 (Gold and Silver) 8	Mining, 7 (Mine Examination)., 1
Metallurgy, 5 (Wet Assaying) 3	Mining, 8 (Thesis) 2
Metallurgy, 7 (Metal Problems) 1	Geology, 8 (Economic)
Geology, 7 (Petrography) 4	Geology, 11 (Field Work) 1
	Elective (Engineering)
. 16	

169

Hours.

2

2

16+4

16

II. Course in Geology and Mining.

First Lemester-	Second Semester—
FRESHMAN	YEAR.
Hours.	Hours.
Math., la (Plane Trig., Higher Algebra)	Math., 2a (Anal. Geom., Higher Algebra)4 Chemistry, 2a (Gen. Inorg.)4 Civil Eng., 2a (Descr. Geom.)4 Civil Eng., 3a (Plane Surv.)4 Mech. Eng., 1b (Mine Timber)2
Physical Culture, 1 2	Physical Culture, 2 2
· · · · · ·	· · · · · · · · · · · · · · · · · · ·
16+4	16+4

SOPHOMORE YEAR.

Hour	8.	H	ours.
Geology, 8 (Mineralogy)		Geology, 4 (Mineralogy)	. 3
Math., 5a (Anal. Geom.) 8		Math., 6a (Calculus)	. 4
Math., 5b (Diff. Calculus) 8		Chem., 6 (Quant. Anal.)	. 4
Physics, 1a		Physics, 2a.	. 5
Civil Eng., 8b (Mine Surv.) 3		Physical Culture, 4	. 2
Physical Culture, 8	2		
- · · -			16+2
	-		•

17+2

JUNIOR YEAR.

Hour: Metallurgy, 1 (Fire Assaying) 4 Geology, 1a	8.	Hours. Metallurgy, 2 (Gen. Met.)	•
Mech. Eng., 8a (Forge, Foundry)	2	Mech. Eng., 4a (Machine Shop). 2	2
-		-	
16+	2	16+2	:

SENIOR YEAR.

Hours.

Hours.	Hours.
Mining, 1 (Ore Dressing) 4	Mining, 2 (Mining) 4
Mining, 5 (Field Work) 1	Mining, 7 (Mine Examination) 1
Metallurgy, 5 (Wet Assaying) 8	Geology, 8 (Economic) 4
Geology, 7 (Petrography) 4	Geology, 11 (Field Work) 2
Elective (Science) 4	Zoology, 12 (Evolution) 2
	Elective (Science) 3
16	·

16

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SCHOOL OF MINES

III. SHORT COURSE FOR MINING MEN.

From January 6th to April 4th 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. Instruction is given by lectures, laboratory exercises and visits to mines and plants in operation. The past experience and future aims of each student are taken into consideration, and the character of his work arranged accordingly. 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. Deposits are made to cover the actual cost of supplies drawn by each student, the balance of the deposit being 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.

2. GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. Professor Roberts.

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. Assistant Professor Bugbee.

4. FIRE ASSAVING. 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.

Assistant Professor Bugbee.

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 one afternoon.

Professor Roberts.

6. MINING LAW. A series of lectures on mining laws of the United States and Alaska. Once a week.

Professor Condon.

7. ADVANCED MINERALOGY. A continuation of descriptive mineralogy with much practice and determinative work. Prerequisite, 3.

8. QUANTITATIVE ANALYSIS. Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. Two afternoons a week. Prerequisite, 1.

9. WET ASSAVING. Assaying of bullion for fineness; assaying of copper by various methods; amalgamation assay. Prerequisite, 1. To be taken with 7.

SCHOOL OF MINES

DEPARTMENTS OF INSTRUCTION.

MINING ENGINEERING AND METALLURGY.

MILNOB ROBERTS, Professor. Edward Everett Bugbee, Assistant Professor. George Jamme and Theodore Kirkland Wilkinson, Lecturers.

MINING ENGINEERING.

1. ORE DRESSING. First Semester. Two lectures and two laboratory periods. M., W., 11:35; Tu., 1:30-5:30. Lectures on crushing, sampling, concentrating, amalgamating and the arrangement of mills. Mill practice in breaking by hand and machinery, crushing by stamps, rolls and roller mills, screen sizing, classifying, magnetic separation, concentration by jig, vanner, Overstrom table, Wilfley slimer, canvas and revolving slime tables, and the testing of ores by mill runs checked by sampling and assaying. Prerequisites: Metallurgy 2, Mechanical Engineering 5b. Professor Roberts.

2. MINING. Second Semester. Three lectures and one laboratory period. M., Tu., W., 10:40; Th., 1:30-4:00. Lectures on sinking, tunneling, stoping, timbering, systems of mining, power generation, air compression, hoisting, transportation, drilling, explosives and cost keeping. Practice in machine drilling, blasting, ventilation, air compression and the planning of systems of mining and timbering.

Professor Roberts.

3. MILLING. First Semester. Two hours. One lecture and one laboratory period. Tu., 10:40; W., 1:30-3:30. Lectures and laboratroy work on the details of a particular branch of ore dressing; for example, the concentration of fine sands and slimes. To be preceded or accompanied by Mining 1.

Professor Roberts.

4. COAL MINING. Second Semester. Two hours. Two lectures, Tu., F., 10:40. Lighting, ventilation, haulage and all phases of the mining and preparation of coal for the market.

Assistant Professor Bugbee

5. FIELD WORK. First Semester. One hour. One laboratory period (or its equivalent in total time required) and monthly seminar. Tu., 9:45. Individual visits to a mine, mill, smelter or engineering work, to be followed by a report on field notes and sketches; or, the preparation of drawings and reports from notes taken during the preceding summer.

Professor Roberts and Assistant Professor Bugbee.

6. MINING LAW. Second Semester. One hour. Th., 11:35. Lectures with required reading on the mining laws of the United States and especially those of Washington and Alaska.

Dean Condon.

7. MINE EXAMINATION. Second Semester. One hour. Ten days during the Easter holidays. The examination of a mine or mining district, to be made by the senior class in connection with Mining 2. Field notebooks to be checked daily.

Professor Roberts and Assistant Professor Bugbee.

8. THESIS. Second Semester. Two hours. W., 8:50. Subjects to be assigned. Weekly consultation.

Professor Roberts and Assistant Professor Bugbee.

METALLURGY.

1. FIRE ASSAVING. First Semester. One lecture and three laboratory periods. Th., 10:40; M., W., 1:30-5:30; S., 8:00-1:00. The testing of reagents, the crushing, sampling, and assaying of ores, furnace and mill products for lead, silver, gold, copper and tin; also, the assay of base and dore bullion. Prerequisites, Chemistry 6.

Assistant Professor Bugbee.

2. GENERAL METALLURGY. Second Semester. Three lectures and one laboratory period. M., Tu., Th., 9:45; M., 1:30-4:30. Lectures and laboratory experiments on the properties of metals and alloys, fuels, refractory materials, furnaces and the extraction of the common metals (except iron) from their ores; the lat-

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SCHOOL OF MINES

ter half of the course confined to the smelting and refining of copper, lead, gold and silver. Required visits to smelters. Prerequisites, Geology 4, Chemistry 6, Metallurgy 1.

Professor Roberts and Mr. Wilkinson.

3. GOLD AND SILVER. First Semester. Three hours. M., W., 10:40; Th., 1:30-4:30. A continuation of Metallurgy 2. Devoted especially to the lixiviation and amalgamation of gold and silver ores, Prerequisites, Metallurgy 1 and 2.

Assistant Professor Bugbee.

4. METALLOGRAPHY. Second Semester. Two hours. W., 10:40; Tu., 1:30-3:30. The constitution and microstructure of metals and alloys with special reference to iron and steel. Prerequisites, Chemistry 7 and Metallurgy 2.

Assistant Professor Bugbee.

5. WET ASSAVING. First Semester. Three hours. W., 8:50; M., W., F., 1:30-4:30. The technical methods for the determination of copper, lead, zinc, etc., in ores and furnace products. Prerequisite, Chemistry 6.

Professor Roberts and Asssistant Professor Bugbee.

6. METALLUBGICAL ANALYSIS. Second Semester. Three hours. M., 8:50; W., Th., F., 1:30-4:30. Laboratory practice in typical methods of analysis of coals, slags and industrial products, etc. Prerequisites, Chemistry 6 and Metallurgy 5.

Professor Roberts and Asssistant Professor Bugbee.

7. METALLURGICAL PROBLEMS. First Semester. One hour. Th., 8:50, 9:45. Physical Chemistry for the metallurgist, slag calculations, etc. Prerequisites, Mathematics 1a, ?a; Physics, 1a. 2a; Chemistry 6; and Metallurgy 2.

Assistant Professor Bugbee.

CIVIL ENGINEERING.

ALMON HOMER FULLEB, Professor. CHARLES EVAN FOWLEB, Lecturer. HENRY LEE BOWLBY, Instructor. CHARLES W. HARRIS, Instructor.

SUBJECTS.

1. MECHANICAL DRAWING. First Semester. Section C, M., Th., 9:45. Drawing periods, Tu., Th., 1:30-3:30. 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.

Mr. Harris and Instructor.

2a. DESCRIPTIVE GEOMETRY. Second Semester. Section O, M., Th., 9:45. Drawing periods, Tu., Th., 1:30-3:30. 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.

Mr. Harris, Mr. Wagner and Mr. Snoke.

3a. PLANE SURVEYING. Second Semester. Section C, Tu., F., 9:45. Field work, 1:30-5:30. 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.

Mr. Bowlby and Mr. Forsyth.

3b. CITY AND MINE SURVEYING. Three hours. First Semester, until Christmas recess. Section C, Tu., 9:45. Field work, Th., 1:30-5:30. Study of the precision necessary to be obtained; survey 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. Prerequisite, 3a. **Mr.** Bowlby 3c. TOPOGRAPHIC SURVEYING. Second Semester. Section C, F., 9:45. Field work, Tu., 1:30-5:30. Two hours. Mining students enter this course after Easter recess, omitting the work in colored topography. Base line measurements; transit triangulation; plane table and stadia work; maps. Laboratory work. Tu., Th., 1:30.

Mr. Bowlby

5a. MECHANICS. First Semester. Section B, 8:50. Statics and dynamics. Special attention is paid to practical applications. Original problems form a prominent feature. Prerequisites, Mathematics 6a and Physics 1a and 2a.

Professor Fuller.

5b. MECHANICS. Five hours. Second Semester. Section B, 8:50. Computations, F., 1:30-4:30. Continuation of 5a and Mechanics of Materials. Lectures, recitations and solution of problems.

Professor Fuller.

6a. THEORETIC HYDRAULICS. Second Semester. Section A, Tu., Th.; Section B, Tu., Th., F., 8:30; Laboratory, Section A, W., 1:30-1:30; S., 9:00-12:00. Pressure; depth and stability of flotation, center of pressure, steady water through pipes and orfices, over weirs and in open channels; energy, impulse and reaction of a jet. Preceded or accompanied by 5b. Laboratory work.

Mr. Harris.

ELECTRICAL ENGINEERING.

CARL EDWARD MAGNUSSON, Professor.

3. INDUSTRIAL ELECTRICITY. Three hours. Second Semester. Tu., Th., 9:45; S., 9:00-12:30. Outline of industrial application. Prerequisite, Physics, 1a, 2a.

Professor Magnusson.

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MECHANICAL ENGINEERING.

EVERETT OWEN EASTWOOD, Professor. Geoege Samuel Wilson, Instructor. William Bouse Hampson, Director of Shop Work. Samuel Thomas Beattle, Instructor in Shop Work.

SUBJECTS.

1a. CARPENTEY AND WOOD TURNING. One four-hour exercise each week of the first semester. Section A, Tu., 1:30-5:30; B, M., 1:30-5:30; C, S., 8:30-12:30; D, W., 1:30-5:30; E, F., 1:30-5:30; F, Th., 1:30-5:30. The student will receive training in the use and care of wood-working tools. Instruction and practice will be given in sawing, planing, chiseling, champfering, grooving, framing, tenoning, mortising, dovetailing, splicing and gluing. Exercises in turning include consideration of speeds, and use of gourges, chisels, nosing tools, side tools, parting tools, and calipers.

Mr. Beattie.

1b. PATTEEN MAKING AND CABINET WORK. One four-hour exercise each week of the second semester. Same schedule as 1a. The pattern making includes the construction of core boxes and such patterns as pipe fitting, valves, pulleys and machine parts. This is followed by a series of exercises in cabinet work embracing the application of the principles previously given to more difficult and advanced work.

Mr. Beattie.

3a. FORGE AND FOUNDRY. One four-hour exercise each week of the first semester. Section A, S., 8:30-12:30; B, M., 1:30-5:30; C, Tu., 1:30-5:30; D, Th., 1:30-5:30; E, F., 1:30-5:30. The student is given systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting welding iron and steel, and making and tempering machine tools. In the foundry the student is given work in iron and brass; bench and floor moulding, coremaking, and is instructed with the view toward proficiency in management of the cupola. Mr. Hampson.

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4a. MACHINE WORK. One four-hour exercise each week of the second semester. Same schedule as 3a. The course begins with exercises in chipping, filing and scraping. These are followed by work on the lathe in both iron and brass including straight and taper turning, centering, chucking, screw cutting, boring, drilling and tapping, knurling and polishing. A few exercises on the other machines are given.

Mr. Hampson.

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: W., F., 1:30-4:30. Until Easter recess for mining students.

Mr. Wilson.

MATHEMATICS.

ROBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD^{*} AND FRANK MARION MORBISON, Assistant Professors.

EDWIN HAVILAND, JR., Acting Assistant Professor.

SUBJECTS.

1a. PLANE TRIGONOMETRY AND HIGHEB ALGEBRA. First Semester. Section C, 10:40. 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 Professor Gould and Instructor.

2a. ANALYTIC GEOMETRY AND HIGHER ALCEBRA. Second Semester. Section O, 10:40. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from

^{*}Absent on leave, 1906-7.

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 theerems in the theory of equations; etc. Prerequisite, 1a.

· Assistant Professor.

5a. ANALYTIC GEOMETRY. Two hours. First Semester. Section A, Tu., Th., 11:35; B, Tu., F., 10:40; C, M., W., 10:40. Applieation 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 Morrison.

5b. DIFFERENTIAL CALCULUS. First Semester. Section A, Float; B, 11:35; C, 11:35. A study of the infinitesimal calculus, with special reference to the needs of engineers. Prerequisites, 1a and 2a.

Assistant Professor Gould.

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Section A, Float; Section B, 11:35; Section C, 11:35. Continuation of Course 5b.

Assistant Professor Gould.

SCHOOL OF MINES

CHEMISTRY.

HOBACE BYERS, Professor. HENBY KREITZEB BENSON,* Assistant Professor. ELLIOTT SNELL HALL, Acting Assistant Professor.

SUBJECTS.

1a, 2a. ENGINEEBING CHEMISTRY. Tu., W., Th., 11:35. 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry. Laboratory work at 1:30. Section A, M., Th.; B, Tu., Th.; C, W., F.; D, Tu., F.; E, W., Th.; F, W., F.

Professor Byers and Assistant Professor Benson.

6. QUANTITATIVE ANALYSIS. Second Semester. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory periods per week, M., W., F., afternoons and S. morning. Prerequisite, 2a or 5b. Professor Byers.

GEOLOGY.

HENBY LANDES, Professor. EDWARD EVERETT BUGBEE, Assistant Professor.

1a. GENERAL GEOLOGY. First Semester. M., W., F., 10:40. A semester's course for engineering students. Lectures and recitations. Laboratory Tu., 1:30-4:30. Professor Landes.

3, 4. MINERALOGY. Three hours. Tu., F., 10:40. Principles of crystallography; blowpipe methods of testing minerals; descriptive and determinative mineralogy. Lectures and recitations. Laboratory, W., 1:30-4:30.

Assistant Professor Bugbee.

*Absent on leave, 1906-7.
7. PETROGRAPHY. First Semester. Tu., Th., F., 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. Assistant Professor

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 distribution. Lectures and recitations. Laboratory hours to be arranged. Assistant Professor

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

Professor Landes.

ZOOLOGY.

TREVOR KINCAID, Professor.

1, 2. ELEMENTS OF ZOOLOGY. Tu., Th., 11:35. 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., 1:30.

12. PROBLEMS IN EVOLUTION. Two hours. Second Semester. A discussion of fundamental biological problems, including natural selection, utility and heredity, together with reviews of important contemporary articles.

SCHOOL OF MINES

RHETORIC.

LOREN DOUGLAS MILLIMAN, Assistant Professor.

1. ENGLISH COMPOSITION. First Semester. 8:50.

POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, Assistant Professor.

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester. 9:45.

PHYSICAL CULTURE.

VICTOB MOBTON PLACE, Professor.

APPARATUS AND FLOOR WORK. Section A, Tu., Th., F., 3:30; B, M., W., F., 3:30; C, Tu., Th., F., 4:30; D, M., W., F., 4:30.

SCHOOL OF PHARMACY.

FACULTY

THOMAS FRANKLIN KANE, Ph.D., President.

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

VICTOB MOBTON PLACE, A.B., Professor of Physical Culture.

GEORGE WINCHESTER, B.S., Acting Professor of Physics.

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

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

*HENBY 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. PETEB LE FORT, A.M., Assistant Professor of French.

- FRANK MARION MORRISON, A.B., Assistant Professor of Mathematics.
- IEVIN WALTEE BRANDEL, Ph.G., Ph.D., 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.

MARGARET MCLACHLAN, Ph.G., Assistant in Pharmaceutical Chemistry.

LESLIE BURTRAND DUSTIN, Ph.G., Fellow and Assistant in Pharmacy.

*Absent on leave, 1906-7.

SCHOOL OF PHARMACY

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 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.

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 gives excellent training for the study of medicine. (2) A four year course which includes the professional training of the two year work and leads to a regular collegiate degree. Students taking the four year course will be granted the professional degree of Pharmaceutical Graduate (Ph. G.) upon the completion of the work of the two year course and the degree of Bachelor of Science (B.S.) upon the completion of the four year course.

The four year course is outlined to meet the needs of several classes of students. Those students who wish to extend the work of the two year course will find opportunity in the third and fourth year for specializing in pharmaceutical chemistry thus becoming proficient in the chemistry of alkaloids, volatile oils and other plant principles, the testing of foods and drugs for adulterations both chemically and by the use of the microscope, also opportunity for training in modern foreign language, English, mathematics and physics. Students with the four year degree are not only well prepared to take up the regular practice of pharmacy but may also fill positions as technical and manufacturing chemists.

Students who desire a thorough scientific training as a prerequisite for the study of medicine will be allowed to arrange the

work of the third and fourth year so as to include zoology, physiology, bacteriology and comparative anatomy. The work of the first two years includes courses in general chemistry, organic chemistry, qualitative and quantitative analysis, physiological chemistry, toxicology and materia medica, which, if not taken before entering upon the study of medicine must be pursued after entering a medical school.

The attention of students preparing for medicine is particularly called to the courses in pharmacy, pharmaceutical preparations and the study of the United States pharmacopoeia. The physician who is constantly prescribing pharmacopoeial preparations should have a thorough knowledge of the methods and chemistry involved in these preparations so as to avoid chemical and pharmaceutical incompatibilities in prescription mixtures. Work of this kind is all the more important as a pre-medical training because of the fact that the curriculum of a course in medicine is too crowded to allow a thorough study of such subjects. Many of the best Eastern schools of medicine are receiving our graduates and giving them advanced credit for duplicate courses. While this may not save the student any time in obtaining the medical degree it allows opportunity to follow up special lines of study in the college of medicine. In addition to this special training for medical studies the student obtains the general training afforded by modern foreign language, English, mathematics, physics and other elective liberal arts courses.

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

SCHOOL OF PHARMACY

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.

The Washington State Pharmaceutical Association at their annual meeting in 1906 passed the following resolution: "It is the desire of the Washington State Pharmaceutical Association that the State Board of Pharmacy, at a time designated by said Board, require, if found to be consistent with the Pharmacy Law, graduation from one of our state pharmacy schools or any school belonging to the American Conference or Pharmaceutical Faculties, as a prerequisite of all candidates for examination as a registered pharmacist. Provided, however, this does not apply to registered pharmacists of other states who were registered before the date of this enactment.

ENTRANCE REQUIREMENTS

CANDIDATES FOR DEGREES.

To be admitted clear to either the two or four year course of the school of pharmacy 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 eight and one-half are specified and required of all students; the remaining six and one-half may be selected from the list of optional subjects except that two must be a foreign language.

Specific Subjects.

English, 4 units. Algebra, 1½ units. Plane Geometry, 1 unit. Physics, 1 unit. U. S. History and Civics, 1 unit. Total, 8½ units.

Optional Subjects.

Greek, 1. 2 or three units. Latin, 2, 8 or 4 units. German, 1, 2, 8 or 4 units. French, 1, 2 or 8 units. Spanish. 1 or 2 units. Solid Geometry. ¼ unit. Trigonometry. ¼ unit. History, 1, 2 or 8 units. *Physical Geography, ¼ or 1 unit. *Physical Geography, ¼ or 1 unit. *Geology, ¼ or 1 unit. Botany, ¼ or 1 unit. Chemistry, 1 unit. Drawing, ¼ or 1 unit. Drawing, ¼ or 1 unit. Economics, ¼ unit.

*1 unit accepted only after approval of a definite laboratory course.

NOTE.—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.

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Students from 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 case of local students.

It will be of assistance to students from non-accredited schools seeking admission by examination to bring with them a certified statement of their studies.

STUDENTS NOT CANDIDATES FOR DEGREES.

Students over nineteen years of age, who have not the regular High School entrance requirements, but can give satisfactory 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 the heading of Certificate Graduates. Students desiring to enter under the above conditions should write to the Dean, giving detailed statement of their previous school training, and making mention of any practical experience in pharmacy they may have received. Such students may become candidates for a degree upon clearing all entrance conditions.

DEGREES.

1. The degree of Pharmaceutical Graduate (Ph.G.) will be granted to any student 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 whe 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 honer 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.

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 IN THE SCHOOL OF PHARMACY.

Two Year Course.

Second Semester-

WIRGT VRAR

Hours.	Hours.
2	Pharmaceutical Botany, 12 4
4	Pharmacy, 1a 2
5	Organic Chemistry, 2 5
5	Chemistry, 2b 5
2	Physical Culture 2
	Hours. 2 4 5 5 5 2

SECOND YEAR.

Pharmacy, 1 4	Pharmacy, 3 4
Chemistry, 6 4	Pharmacy, 2 4
Materia Medica, 1 4	Materia Medica, 2 4
Physiological Chemistry, 17 4	Toxicology, 18 4

Four Year Course.

First Semester

First Semester-

FIRST YEAR.

Hours.

E	lours.	E	lou
Pharmaceutical Botany, 11	. 2	Pharmaceutical Botany, 12	. 4
Physiology, 7	. 4	Pharmacy, 1a	2
General Chemistry, 1	. 5	Organic Chemistry, 2	5
Chemistry, 1b	. 5	Chemistry, 2b	5
Physical Culture	. 2	Physical Culture	2

SECOND YEAR.

Hours.	· Ho	urs.
4	Pharmacy, 3	4
4	Pharmacy, 2	4
4	Mathematics, 1	4
4	Language	4
2	Physical Culture	2
	Hours. 4 4 4 4 4 4 4 2	Hours. Ho 4 Pharmaoy, 3. Ho 4 Pharmaoy, 2.

THIRD YEAR.

Hours. Hours. Materia Medica, 1..... 4 Materia Medica, 2 4 Physiological Chemistry, 17...... 4 Toxicology, 18...... 4 Pharmacy, 6 (or other science) 4 Pharmacy, 7 (or other science).. 4 Language 4 Language..... 4

FOURTH /YEAR.

Hours.

	/41.0.		1 0u	1
Physics, 1	4	Physics, 2	4	ł
Pharmacy, 4 (or other science)	4	Pharmacy, 5 (or other science)	4	ł
Elective	8	Elective	8	;

Hours

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Second Semester-

SCHOOL OF PHARMACY

DEPARTMENTS OF INSTRUCTION.

PHARMACY.

CHARLES WILLIS JOHNSON, Professor. IBVIN WALTER BRANDEL, Assistant Professor.

1a. LABORATORY TECHNIQUE. Second Semester. F., 9:30 The principles and practice of pharmaceutical and chemical operations such as comminution, expression, decantation, filtration, maceration, percolation, diffusion, dialysis, crystallization and precipitation. The laboratory work will include glass blowing and the preparation and study of various kinds of apparatus together with their calibration and practical application. Laboratory Sat. 9:00-12:00. Assistant Professor Brandel.

1. THEORY AND PRACTICE OF PHARMACY. First Semester. M., Tu., Float. Lectures and recitations on the chemical 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, F., 9:50-12:30.

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 physicians prescriptions will be given with special reference to the study of physical, chemical and therapeutical incompatibilities. Four laboratory periods. W., Th., F., 1:30-4:30; Sat., 9:00-12:00.

Assistant Professor Brandel.

3. U. S. PHARMACOFOEIA. 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 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.

Assistant Professor Brandel.

MATERIA MEDICA AND PHARMACOGNOSY.

1. MATEBIA MEDICA AND PHARMACOGNOSY. First Semester. 8:00. 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. 8:00. 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.

SCHOOL OF PHARMACY

CHEMISTRY.

CHARLES WILLIS JOHNSON AND HORACE BYERS, Professors. HENRY KREITZER BENSON AND IRVIN WALTER BRANDEL, Assistant Professors.

1. PHARMACEUTICAL CHEMISTRY. Five hours. First Semester. M., Tu., W., Th., F., 8:50. 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. PHARMACEUTICAL CHEMISTRY. Five hours. Second Semester. M., Tu., W., Th. F., 8:50. 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, QUALI-TATIVE ANALYSIS AND ORGANIC PREPARATIONS. Five hours. M., Tu., W., Th., F., 1:30-4:30. 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.

Nore: 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 Miss McLachlan.

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5. ADVANCED QUALITATIVE ANALYSIS. First Semester. Lectures on the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations on the subject matter of the lectures. Two lectures and six laboratory periods per week.

Professor Byers.

6. PHARMACEUTICAL CHEMISTRY. First Semester. A course in quantitative analysis especially designed for pharmacy students. The course includes the principles of gravimetric and volumetric analysis and their application to the testing of pharmaceuticals. Twelve laboratory hours and one recitation per week. W., Th., F., 1:30-4:30; Sat., 9:00-12:00.

Assistant Professor Brandel.

7. INDUSTRIAL CHEMISTRY. Second Semester. Laboratory work. Assistant Professor Benson.

8. PHYSICAL CHEMISTRY. First Semester. Prerequisites, 5 and 6, and Physics 1 and 2. Assistant Professor Benson.

9. ELECTRO CHEMISTRY. Second Semester. Prerequisite, 9. Assistant Professor Benson.

10. INDEGANIC PREPARATIONS. Second Semester. Special methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles. Twelve laboratory periods 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 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. M.. Tu.. Lectures and laboratory work on Carbohydrates, Fats. 9:50. Proteids, Gastric Juice, Blood Tests and Analysis of Urine, including the microscopic examination of urinary sediments. Assigned reading. Laboratory work, M., Tu., 1:30-4:30.

Professor Johnson.

TOXICOLOGY. Second Semester. M., Th., 9:50. Lectures 18. 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. Laboratory M., Th., 1:30-4:30.

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 studies in cell forms and contents and a general knowledge of classification, with special emphasis on the flowering plants.

11. PHABMACY BOTANY. First Semester. Two hours. F., Structure of roots, stems, rhizomes, leaves, barks. Types 9:50. are studied with a view to locating the elements; later the dry drugs are studied for the recognition of kinds of cells in them. Laboratory, 9:00-12:00 Saturday.

Second Semester. W., 10:45. Var-12. PHARMACY BOTANY. iations in stems, leaves, roots, parts of flowers, seeds, fruits. Study of types of the various families of phanerogams, and the analysis of plants in the spring with a view to fixing the chief characters of the families. Laboratory, M., Tu., Th., 9:50-12:30.

PHYSIOLOGY.

ASSISTANT PROFESSOR PRENTISS.

7. GENERAL PHYSIOLOGY. First Semester. M., W., 10:40. The structure of animal tissues and organs with reference to human anatomy. The general functions of the organs, and the chemical processes of the body determined by experiment. Laboratory, Tu., Th., 9:50-12:30.

8. EXPERIMENTAL PHYSIOLOGY. Second Semester. M., W., 10:40. The special physiology of the circulatory, respiratory and nervous organs. A course preparatory to medical work. Prerequisite, course 7. Laboratory, M., W., 1:30.

MATHEMATICS.

ROBERT EDOUARD MORITZ, Professor.

FRANK MABION MOBBISON, Assistant Professor.

1. PLANE TRIGONOMETRY. First or Second Semester. Six sections.

PHYSICS.

FREDERICK ARTHUR OSBORN, Professor. HENBY LOUIS BRAKEL, Instructor.

1. MECHANICS, SOUND AND HEAT. First Semester. W., Th., F., 9:45. Laboratory work, Tu., or Th., 1:30.

2. ELECTRICITY AND LIGHT. Second Semester. W., Th., F., 9:45. Laboratory work, Tu., or Th., 1:30.

A student may begin his university work in physics either the first or second semester, but he should have had or be taking Mathematics 1.

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.

FREDERICK WILLIAM MEISNEST, Professor.

OTTILIE GEBTRUDE BOETZKES, Assistant Professor.

1, 2. ELEMENTARY. Section A, 8:50; Section B, 11:35; Section C, Float. Grammar and easy reading, with practice in speaking and writing.

SCHOOL OF PHARMACY

FRENCH.

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

1, 2. ELEMENTARY. Section A, 8:00; Section B, 8:50; Section C, 9:45. Frazer and Squair's Grammar.

RHETORIC.

LOREN DOUGLAS MILLIMAN, Assistant Professor. IDA KATHERINE GREENLEE, Instructor.

1a. ENGLISH COMPOSITION. First Semester. Section A, 10:40; section C, 8:50; section B, 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.

PHYSICAL CULTURE.

PROFESSOR PLACE AND MISS RUDBERG.

1, 2. FLOOB AND APPARATUS WORK. Section A, M., W., F., 4:30. For men. Regular freshman course.

Professor Place.

3, 4. FLOOR AND APPARATUS WORK. Section A, Tu., Th., F., 4;30; section B., Tu., Th., 4:00. For men. Regular sophomore course.

Professor Place.

1a, 2a. FLOOR WORK. Section A, M., W., F., 4:30; section B, M., W., 4:00. For women. Regular freshman course.

Miss Rudberg.

3a, 4a. FLOOR WORK. Tu., Th., F., 4:30. For women. Regular sophomore work.

Miss Rudberg.

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.

ARTHUB 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.

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

PURPOSE.

The purpose of the School of Law is to prepare students for the practice of 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 reserved 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.

SCHOOL OF LAW

DATES OF REGISTRATION AND EXAMINATION.

REGISTRATION. Monday and Tuesday, September 16 and 17, 1906.

EXAMINATIONS. Examinations upon Monday, September 16, are for entrance to Law School and upon Tuesday, September 17, 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. 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 each of the various systems of legal education, to the end that the students 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 most are, in which no safe generalization can be made, the inductive method is pursued by means of a study of the cases. 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 oper-

ation 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. One, 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.

SCHOOL OF LAW

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 lawyers, 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, 2d edition, Vol. II., first semester, and Vol. III. 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: Huffcut's Cases on Negotiable Instruments, supplemented by a study of the Washington Negotiable Instrument Act, and the Washington Cases. Two hours per week; first semester.

Professor Lantz.

PARTNEBSHIP. 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.

SUBETYSHIP. 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; first semester.

Dean Condon.

SCHOOL OF LAW

MUNICIPAL CORPORATIONS. A study of the Washington Constitution, Statutes and Cases upon this subject, supplemented by Lectures. Two hours 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 semeseter.

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 later cases. One hour per week; first semester.

Professor Lantz.

MINING LAW. Lectures. One hour per week; second semester. 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.

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.

CARKEEK 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 important 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 pronunciation; 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 University who have taken the full two years' course shall be admitted to the bar without examination.

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 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 modern books of reference and a fair selection of 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 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 entrance requirements for the evening 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 obtain the same credits as for graduation from the day school.

THE SUMMER SCHOOL.

The fourth annual summer session of the University of Washington will begin June 24th, 1907.

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 1906 one hundred and ninety-eight 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 twenty-one per cent. were graduates of colleges, and nineteen per cent. were graduates of normal schools.

REGISTRATION.

Registration will begin Monday morning, June 24th. 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 may 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 frequently in Denny Hall. These entertainments will be open to students of the summer school free of charge.

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 used.

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.

SCHOOL OF FORESTRY.

Instruction in Forestry was first offered by the University in 1895. From that time until the present year the work, both in the lecture room and in the field, has been conducted without interruption. In 1905 the United States Government through its Forest Service designated the University of Washington as the site of a Government Timber Testing Station. A Timber Testing Engineer and an assistant are stationed here and valuable investigation of western timber is regularly carried on. But the demand for still further instruction in forestry has become so general that the University has decided to establish `a distinct School of Forestry offering a full four-year course, leading to the degree of Bachelor of Science in Forestry.

The advantages offered for the school are exceptional. The University Campus comprises three hundred and fifty-five acres of land adapted, under the climatic conditions of Puget Sound, to the growing of a wide variety of forest trees. In addition to the campus the University owns large tracts of land in various sections of the state, on which extensive experiments may be conducted. The United States Government has some ten thousand square miles in this state under the Forest Reserve, so that timber in every stage of growth may be inspected. It is worthy of notice, also, that no other Forestry School, except the one at Yale University, has a Government Timber Testing Station at its service. The Pacific Coast Lumber Association and the Gray's Harbor Lumber Association keep the Station supplied with timber free of charge. Taking all of these facts into account the University of Washington confidently expects to build up a School of Forestry second to none.

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COURSE OF STUDY

First Semester—

Analytical Geometry 4

Geology, 1..... 4 Political Economy, 1..... 4

Second Semester-

FRESHMAN YEAR.

Hours Hours College Algebra Trigonometry..... 4 4 Chemistry, 2..... 4 Chemistry, 1 4 Botany, 1..... 4 Botany, 2 4 Drawing, 1..... 4 Surveying, 1..... 4 Forest Economics..... 2 Forest Economics..... 2

SOPHOMORE YEAR.

Hours

Hours Botany, 8..... 4 Geology, 2..... 4

Forest Botany	2
Economic Botany	2
Physics, 2a.	5

Hours

JUNIOR YBAR

Hours

Mineralogy, 8	8	Forest Mensuration	4
Forest Organization, 1	4	Forest Organization, 2	4
Silviculture, 1	4	Silviculture, 2	5
Forest Finance, 1	4	Forest Finance, 2	4

SENIOR YEAR

Hours

Forest Management, 1..... 4 Silviculture, 8..... 4 Timber Physics 4 Timber Testing...... 4 Seminary.....

Hours Forest Management, 2..... 4 Dendrology..... 4 Timber Testing..... 4

REGISTER OF STUDENTS.

1906-7.

GRADUATE STUDENTS.

NAMB .	GRADUATE OF
Barrows, Walter Ransom, A. B	Oberlin College
Bovington, Sidney, A. B	Tuft's College
Brinker, William Hutchinson, A. B	University of Washington
Carr, Francis Easton, A. B	Oberlin College
Case, Kathryn, Eva, A. B	University of Washington
Chilberg, Mabel, A. B	Vassar College
Crickmore, Minnie M., A. B	University of Washington
Dustin, Leslie Bertrand, A. B	University of Washington
Glass, Rose, A. B	University of Washington
Hance, James Harold, A. B	Northwestern University
Harris, Mrs. Charles P., A. B	Ohio State University
Harris, Helen Rosamond, A. B	University of Washington
Holmes, Ruth Davenport, A. B	Mt. Holyoke College
Jones, Anna Louisa, A. B	University of Nebraska.
Jones, Edwin Henry, A. B	University of Nebraska
Kahan, Sarah Edna, A. B	University of Washington 🖌 👝
Knapp, Gertrude Ellen, A. B	Syracuse University $F/2$
Laird, Alice Luella, A. B	Northwestern University
Marston, C. May, A. B	Greenville College, Ill.
McCarthy, William George, A. B	University of Washington
Mitchell, James Buckley, A. B	University of Washington
Murray, Fay Abernathy, A. B	University of Montana
Orr, Paul J., A. B	
Sander, William Edward, B. S	Whitworth College
Sherrick, Florence Louise, A. B	University of Washington
Sweet, Anna Edith, A. B	University of Washington
Wallace, J. Sherman, A. B	University of Illinois
Weaver, Lawrence Myres, A. B	University of Nebraska
Yoshida, Yoshabaro, A. BWase	da University, Tokyo, Japan
MH	Chicked .

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SENIORS.

Ames, Ethel M. A. B. Tacoma Anthon, Sister Inger. A. B. Seattle Ball, Elsie Madge. A. B. Seattle Borie, Fanchon. A. B. Pendleton, Ore. Calkins, Donald J. F. C. E. North Yakima Callow, Edward Joseph. A. B. Summit Campbell, Ruby Margaret. A. B. Summit Campbell, Ruby Margaret. A. B. Summit Campbell, Ruby Margaret. A. B. Seattle Child, Elsie Theodosia. A. B. Seattle Child, Elsie Theodosia. A. B. Seattle Coffman, Ethelin M. A. B. Seattle Combes, Clara Gertrude. A. B. Seattle Cosgrove, Z. Myrn, . A. B. Seattle Cosgrove, Z. Myrn, . A. B. Seattle Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Seattle DuFur, Kathryn Lois. A. B. Seattle DuFur, Kathryn Lois.<
Anthon, Sister Inger. A. B. Seattle Ball, Elsie Madge. A. B. Seattle Borie, Fanchon. A. B. Pendleton, Ore. Calkins, Donald J. F. C. E. North Yakima Callow, Edward Joseph. A. B. Summit Campbell, Ruby Margaret. A. B. Summit Campbell, Ruby Margaret. A. B. Seattle Child, Elsie Theodosia. A. B. Seattle Child, Elsie Theodosia. A. B. Seattle Coffman, Ethelin M. A. B. Seattle Combes, Clara Gertrude. A. B. Seattle Cosgrove, Z. Myrn, . A. B. Seattle Cosgrove, Z. Myrn, . B. Seattle Cosgrove, Z. Myrn, . E. E. Seattle Cawford, Magnus Tate. E. E. Seattle Dality, Annie Dora. A. B. Seattle Dality, Annie Dora. A. B. Seattle Daugan, Lee Dewane. Min. Eng. Centralia Dougaas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Seattle DuFur, Kath
Ball, Elsie Madge. A. B. Seattle Borie, Fanchon A. B. Pendleton, Ore. Calkins, Donald J. F. C. E. North Yakima Callow, Edward Joseph A. B. Summit Campbell, Ruby Margaret A. B. Summit Campbell, Ruby Margaret A. B. Seattle Child, Elsie Theodosia A. B. Seattle Coffman, Ethelin M. A. B. Seattle Coffman, Ethelin M. A. B. Seattle Coffman, Ethelin M. A. B. Seattle Combes, Clara Gertrude A. B. Seattle Copestick, Maude Ethel A. B. Seattle Cosgrove, Z. Myrn, A. B. Seattle Cosgrove, Z. Myrn, A. B. Seattle Cosgrove, Z. Myrn, A. B. Seattle Dosgrove, Z. Myrn, A. B. Seattle Dalgity, Annie Dora A. B. Seattle Dalgity, Annie Dora A. B. Seattle Dearle, Percy A. B. Seattle Dougan, Lee Dewane Min. Eng. Centralia Dougas, Maud Anna A
Borie, Fanchon
Calkins, Donald J. FC. ENorth Yakima Callow, Edward JosephA. BSummit Campbell, Ruby MargaretA. BSummit Campbell, Ruby MargaretA. BSummit Campbell, Ruby MargaretA. BSummit Campbell, Ruby MargaretA. BSeattle Child, Elsie TheodosiaA. BSpokane Clark, LoisA. BSpokane Clark, LoisA. BSpokane Clark, LoisA. BSeattle Coffman, Ethelin MA. BSeattle Combes, Clara GertrudeA. BElma Copestick, Maude EthelA. BSeattle Cosgrove, Z. Myrn,A. BSeattle Cosgrove, Z. Myrn,A. BSeattle Cosgrove, Z. Myrn,A. BSeattle Cosgrove, Z. Myrn,A. BSeattle Dalgity, Annie DoraA. BSeattle Dalgity, Annie DoraA. BSeattle Dearle, PercyA. BSeattle Dearle, PercyA. BSeattle Dusfur, Horace GroveCh. EngCentralia Dougan, Lee DewaneMin. EngSeattle Dufur, Kathryn LoisA. BSeattle Dufur, Kathryn LoisA. BSeattle Dufur, Kathryn LoisA. BSeattle Erdmann, Earl EdwinC. EBig Swamico, Wis. Ferguson, James MC. EBig Swamico, Wis. Ferguson, James MC. EBig Swamico, Wis. Ferguson, James GA. BSeattle Gilkey, PearlA. BSeattle
Callow, Edward JosephA. BSummit Campbell, Ruby MargaretA. BSeattle Child, Elsie TheodosiaA. BSpokane Clark, LoisA. BSeattle Combes, Clara GertrudeA. BElma Copestick, Maude EthelA. BElma Copestick, Maude EthelA. BSeattle Cosgrove, Z. Myrn,A. BSeattle Cosgrove, Z. Myrn,A. BSeattle Cosgrove, Z. Myrn,A. BSeattle Dalgity, Annie DoraA. BSeattle Dalgity, Annie DoraA. BSeattle Dearle, PercyA. BSeattle Dearle, PercyA. BSeattle Deming, Horace GroveCh. EngCentralia Dougan, Lee DewaneMin. EngCentralia Douglas, Maud AnnaA. BSeattle DuFur, Kathryn LoisA. BSeattle DuFur, Kathryn LoisA. BMenlo Emerson, Albert TheodoreE. EBig Swamico, Wis. Ferguson, James MC. EBig Swamico, Wis. Ferguson, James MC. EBig Swamico, Wis. Findley, Florence MayA. B
Campbell, Ruby Margaret. A. B. Seattle Child, Elsie Theodosia. A. B. Spokane Clark, Lois. A. B. Spokane Clark, Lois. A. B. Seattle Coffman, Ethelin M. A. B. Seattle Combes, Clara Gertrude. A. B. Elma Copestick, Maude Ethel. A. B. Seattle Cosgrove, Z. Myrn, A. B. Seattle Cosgrove, Z. Myrn, A. B. Pomeroy Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Everett Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M.
Child, Elsie TheodosiaA. B
Clark, Lois
Coffman, Ethelin M. A. B. Chehalis Combes, Clara Gertrude. A. B. Elma Copestick, Maude Ethel. A. B. Seattle Cosgrove, Z. Myrn, A. B. Pomeroy Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Seattle Dearle, Percy. A. B. Everett Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Glanter, James G. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Combes, Clara Gertrude. A. B. Elma Copestick, Maude Ethel. A. B. Seattle Cosgrove, Z. Myrn, A. B. Pomeroy Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Seattle Dearle, Percy. A. B. Everett Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Engstrom, Ella. A. B. Seattle Frindey, Florence May. A. B. Seattle Findley, Florence May. A. B. Seattle Fletcher, James G. A. B. Seattle Glaster Pionerd J. O. B. Seattle
Copestick, Maude Ethel. A. B. Seattle Cosgrove, Z. Myrn,. A. B. Pomeroy Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Seattle Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Engstrom, Ella. A. B. Seattle Freguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Cosgrove, Z. Myrn,
Cox, Henry Clay. E. E. Kennewick Crawford, Magnus Tate. E. E. Seattle Dalgity, Annie Dora. A. B. Seattle Dearle, Percy. A. B. Everett Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Erdmann, Earl Edwin. C. E. Big Swamico, Wis. Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Crawford, Magnus Tate E. E. Seattle Dalgity, Annie Dora A. B. Seattle Dearle, Percy A. B. Everett Deming, Horace Grove Ch. Eng. Centralia Dougan, Lee Dewane Min. Eng. Plankington, S. D. Douglas, Maud Anna A. B. Seattle DuFur, Kathryn Lois A. B. Kalama Ellis, Edward Blach Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M C. E. Hastings, Neb. Findley, Florence May A. B. Seattle Gilkey, Pearl A. B. Seattle
Dalgity, Annie Dora A. B. Seattle Dearle, Percy A. B. Everett Deming, Horace Grove Ch. Eng. Centralia Dougan, Lee Dewane Min. Eng. Plankington, S. D. Douglas, Maud Anna A. B. Seattle DuFur, Kathryn Lois A. B. Kalama Ellis, Edward Blach Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Engstrom, Ella A. B. Seattle Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May A. B. Seattle Gilkey, Pearl A. B. Seattle
Dearle, Percy. A. B. Everett Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore. E. E. Elma Engstrom, Ella. A. B. Seattle Erdmann, Earl Edwin. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Fletcher, James G. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Deming, Horace Grove. Ch. Eng. Centralia Dougan, Lee Dewane. Min. Eng. Plankington, S. D. Douglas, Maud Anna. A. B. Seattle DuFur, Kathryn Lois. A. B. Kalama Ellis, Edward Blach. Min. Eng. Menlo Emerson, Albert Theodore E. E. Elma Engstrom, Ella. A. B. Seattle Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Dougan, Lee Dewane. Min. Eng Plankington, S. D. Douglas, Maud Anna. A. B. Seattle Seattle DuFur, Kathryn Lois. A. B. Kalama Kalama Ellis, Edward Blach. Min. Eng. Emerson, Albert Theodore. E. E. Engstrom, Ella. A. B. Erdmann, Earl Edwin. C. E. Ferguson, James M. C. E. Findley, Florence May. A. B. Fletcher, James G. A. B. Gilkey, Pearl. A. B. Cleaster Pickerd I. O. F.
Douglas, Maud AnnaA. B. Seattle DuFur, Kathryn LoisA. B. Kalama Ellis, Edward BlachMin. Eng. Menlo Emerson, Albert Theodore. E. E. Engstrom, Ella. A. B. Erdmann, Earl Edwin C. E. Ferguson, James M. C. E. Findley, Florence May. A. B. Fletcher, James G. A. B. Gilkey, Pearl. A. B. Cleaster Bisbard L O. B.
DuFur, Kathryn LoisA. B. Kalama Ellis, Edward BlachMin. Eng. Menlo Emerson, Albert Theodore. E. E. Engstrom, Ella. A. B. Erdmann, Earl Edwin C. E. Ferguson, James M. C. E. Findley, Florence May. A. B. Fletcher, James G. A. B. Gilkey, Pearl. A. B. Cleator Pickerd I O. F.
Ellis, Edward BlachMin. Eng. Menlo Emerson, Albert Theodore. E. E. Elma Engstrom, Ella. A. B. Seattle Erdmann, Earl Edwin C. E. Big Swamico, Wis. Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Fletcher, James G. A. B. Seattle Gilkey, Pearl. A. B. Seattle
Emerson, Albert TheodoreE.E. Elma Engstrom, EllaA.B. Seattle Erdmann, Earl EdwinC.E. Big Swamico, Wis. Ferguson, James MC.E. Hastings, Neb. Findley, Florence MayA.B. Seattle Fletcher, James GA.B. Seattle Gilkey, PearlA.B. Seattle Cleaster Bisboard L O.B.
Engstrom, EllaA. B. Seattle Erdmann, Earl EdwinC. E. Big Swamico, Wis. Ferguson, James M. C. E. Findley, Florence May. A. B. Fletcher, James G. A. B. Gilkey, Pearl. A. B. Cleator Pichord I O. F.
Erdmann, Earl EdwinC. EBig Swamico, Wis. Ferguson, James MC. EHastings, Neb. Findley, Florence MayA. BSeattle Fletcher, James GA. BSeattle Gilkey, PearlA. BSeattle
Ferguson, James M. C. E. Hastings, Neb. Findley, Florence May. A. B. Seattle Fletcher, James G. A. B. Seattle Gilkey, Pearl. A. B. Seattle Cleaster Bisbord I O. B. Seattle
Findley, Florence MayA. B. Seattle Fletcher, James G. A. B. Gilkey, Pearl. A. B. Seattle Seattle Gilkey, Pearl. A. B. Seattle Seattle
Fletcher, James GA. BSeattle Gilkey, PearlSeattle Cleater Bishord JSeattle
Gilkey, Pearl
Closton Dishand I (IF) Dallington
GIUSICI, RICHARD I
Griffith, Mabel CarolineA. BBellingham
*Gustafson, Frederick ChalmersC. E
Hafer, Wilhelmina EmilieA. BRudersberg, Germany
Hammond, Philo FayA. BCresco. Iowa
Hawkins, Lela MyrtleA. BNorth Yakima
Heyes, Margaret LouiseA. B

A.M.

*Deceased.

X P

REGISTER OF STUDENTS

NAME	COURSE	HOME ADDRESS
Holcomb, Harold Fayette	A.B	Seattle
Houlahan, Kathleen Eva	A .B	Seattle
Howell, Everett S	A . B	Falls City
Jackson, Edith Louise	A. B	Spokane
Jackson, Jessie Maud		Portland, Ore.
Jarvis, Ella Grace	A. B	Gilroy, Cal
Jaxtheimer, Bess	A.B	Everett
Johnson, Hilma Catherine	.A.B	Vancouver
Johnson Winifred Emma	.A.B	Seattle
Johnstone, Harriett Rutherford.	.A.B	Seattle
Kaufman, Elizabeth		Spokane
Kellogg, James Young Cory		Seattle
Kennedy, Thomas Joseph Louis.	.A.B	Puyallup
Leach, Kenneth Mallory	.Pharma	acyRaymond
Livesey, Esther E	.A.B	Seattle
Lucas, Mayme	.Min.Er	igSeattle
Marlow, Junia Elsie	.A.B	
Meyer, Anastacia	.A.B	Snohomish
Mitchell, Darwin DuBois	.A.B	Seattle
Needham, Delos J	.A.B	Lewiston, Idaho
Nelson, Ethel	.A.B	Tacoma
Niedergesaess. Gertrude Louise	.A.B	Seattle
Norton, Charles Alfred	.A.B	Seattle
Parker, William Edmund	.A. B. '.	Seattle
Peterson, Henry Edward	.A.B	Seattle
Peterson. Paul Willis	.A.B	Seattle
Powell, Frederick Channing	.A.B	Seattle
Robinson, Ephraim Thomas	.A.B	Washington. Ind.
Russell. Helen R	.A.B.	Spokane
Sanborn, Francis Maude	.A.B	Seattle
Schneider. Marion	.A.B.	Portland, Ore.
Sherman, Hermie	.A.B	South Park
Sieler. George	.A.B.	Odessa
Sims, Hortense	.A.B.	Seattle
Simpson. Bessie Alice	.A.B.	
Squire. Mabel Annia	.A.B.	Seattle
Talbot, Nellie Mackintosh	.A.B	Seattle
Trumbull, Harlan L	.A.B	Seattle
Underwood, Bessie Caroline	.A.B	Seattle
Uyehara, George E	.A.B	Shinano, Japan

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NAME	COURSE	HOME ADDRESS
Waddingham, Elsie Kells	A. B	,Seattle
Wagner, Charles F	Mech.Eng	Vancouver
Wagner, Walter Calvin	E.E	Seattle
Waller, J. Frank	C.E	Seattle
Webster, John Columbus	A. B	Tekoa
Wells, Clyde Emerick		Seattle
Whitfield, Jay Anesly		Kent
Whittlesey, Walter Bell		Seattle
Wilbur, Bess Rebecca		Seattle
Willis, Agnes Logan	A. B	Chehalis
Zednick, Victor H		Seattle
Zook, Carl S		Normal, Ill.

JUNIORS.

Albers, Otto Johnson	.A.B	Chehalis
Alexander, Mellie	.A.B	Seattle
Allen, Annie Bienvenu	.A. B	Tacoma
Ashmun, Raymond N	.A.B	Hoquiam
Bagshaw, Enoch Williams	.Min.Eng.	Seattle
Barnes, Lucy Rowena	.A. B	.San Francisco, Cal.
Bartlett, Phoebe M	.A.B	Seattle
Birkett, Donald	.A.B	Seattle
Bliss, Amelia	.A.B	Seattle
Brigham, Ora Nell	.A.B	Seattle
Brown, Vera Mae	.A.B	Seattle
Cales, Tony Foster	.E.E	Bucoda
Campbell, Lucy	.A.B	Seattle
Chambers, Lydia May	.A.B	La Porte, Ind.
Collins, Edward Donnan	.Pharmacy	Kirkland
Cooper, Alton	.A.B	Bellingham
Cox, Roy Edward	.E.E	Kennewick
Cunningham, Imogene	.A.B	Seattle
*Day, Elmer	.Mech.Eng	Orland, Ill.
Day, Lillian Isabel	.A.B	sSeattle
DeLand, Katherine	.A.B	Seattle
Dohren, Henry Richard	.Mech.Eng	Chicago, Ill.
Dunlap, Nellie Mae	.A.B	Seattle

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*Deceased.

REGISTER OF STUDENTS

NAME	COURSE	HOME ADDRESS
Erickson, John Otto	A .B	Astoria, Ore.
Fallis, Annie Louisa	A. B.	Seattle
Francis, Etta Lucile	A. B	Waterville
Georgeson, Dagmar	A. B	Sitka, Alaska
Gillette, Howard L	A. B	Cheney
Goetz, Walter F	Pharmacy	Milwaukee, Wis.
Gregg, Kate Leila	A. B	Clarkston
Grout, Rose Emily		Seattle
Haack, Wilhelmina		Seattle
Hammond, Edith	A. B	Tacoma
Heyes, Mary		Seattle
Himelhoch, Ceral L	. A. B	Seattle
Hoover, Joseph Webster	C.E	Everett
Jacobson, Clara	A. B	Woodinville
Jacobson. Etta		Seattle
James, Sidney Thomas		Seattle
Jamieson, Josephine Janette	A . B	Spokane
Jones, William Morrow Beach	A. B	Dunbar, Neb.
Kahan. Rose		Seattle
Karr. Arthur Thompson		North Yakima
Kerr, Katherine-Clara		Seattle
Kiemle, Florence	. A. B	Snokane
Kinney Ivan J	. A. B.	Olympia
Kittredge Margaret E.	. A B	Seattle
Knumdick Anna Helen	A.B	
Latimar Thomas Erwin	A R	North Vakima
Latimer, ruomas preint	A B	Spokono
Law, Gennue		Dort Diokale
Lewis, Herbert Henry	Maah Eng	Goottio
Lowry, Samuel Doak	•• месп. мие	Sonttlo
Luby, Florence		Tocomo
Martin Jola Color	··A.D. ···	
Martin, Leia Guer	Dhowmoor	Soottle
McCurdy, Urlan Frederick		Seattle
McDaniels, Metta Louise	•• A. D. •••	
McDonaid, Heien Porter	Dharmaar	
MacLachian, Mae M	· · Pharmacy	Searo-woolley
Miller, Mayme B	Min Fing	Seattle
Morton, Erie D	· MIII. MIG.	Hollywood, Cal.
Murray, May Anastasia	Dhormeen	Seattle
	гнагшасу	·····Tacoma
MTN AN	1.1.	
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	NAME	COURSE	HOME ADDRESS
	Nelson, Nellie Maud,	A. B.	Tacoma
	Newton, Earl Burdette	A. B.	Norwich, N. Y.
	Osburn, Gertrude M	A. B.	Tacoma
	Osburn, William Quincy	A. B.	Tacoma
	Parr, Myrtle I	A. B.	Seattle
÷	Philben, Honoria	A. B.	Puyallup
	Pope, Arthur Stanley Baker	A. B.	Seattle
	Prosch, Beatrice	В.	Seattle
	Pugsley, Harriet May	A . B.	Seattle
	*Rawell, Alfred John	A. B.	Santa Cruz, Cal.
	Ruehle, Godfrey L. A	Pharm	nacy Port Townsend
	Sharkey, Fred John	Min. I	EngNorth Yakima
	Sinclair, Anna Marguerita	A. B.	Seattle
	Smith, Glen Harry	A. B.	Seattle
	Snoke, Rupert Percy	E.E.	Seattle
	Staeger, David Arthur	A. B.	Dryad
	Starr, George East	A. B.	Waterville
	Stead, Arthur J	C.E.	Seattle
	Stone, Seymour Iver	A. B.	Olympia
	Sveinson, Mekkin	A, B.	Seattle
	Sweet, Alice Maude	Pharr	nacyBlaine
,	Taggart, Helen Child	A. B.	Evanston, Ill.
	Taylor, Josephine	A. B.	Bellingham
ι · γ	Thompson, Hugh Leslie	E.E.	Kelowna, B. C.
1.1	Thompson, William Plummer	A . B.	Seattle
JAN	Tierney, Ray Lillian Isabel	A. B .	Townsend, Mont.
(V)	Tomlinson, Grace Evangeline	A. B.	Seattle
٧٧	Toner, Annie Laurie	A. B.	Walla Walla
	Tremper, Abraham Arnold	A. B.	Seattle
	Umpleby, Joseph Bertram	A. B.	Olympia
	Vogt, Edith Frances	A. B.	Seattle
	Waite, Genevieve	A. B.	Belleville, N. Y.
	Wakefield, Cleo Marie	A. B.	Seattle
,	Walsh, Gertrude Linthlen	A. B.	Seattle
	Watson, Grace Edna	A.B.	Seattle
	Way, Ethel Elizabeth	A. B.	Seattle
	Way, Evelyn Dorothy	A .B.	Seattle
	West, Ruth	A. B.	Seattle

*Deceased.



REGISTER OF STUDENTS

NAME	COURSE	HOME ADDRESS
White, Eugene A	Min. Eng.	Seattle
Williams, Blanche Louise	A. B	Seattle
Williman, Magdalene	A. B	Seattle
Winchell, Virnie Ream	A. B	Dunlap
Witbeck, I. T.	A. B	Belvidere, Ill.
Yantis, Frances A	A. B	Lewiston, Idaho

SOPHOMORES.

Adams, Mabel Bryant	.A.BP	ort Townsend
Ames, Ezra Floyd	.C.EPark	River, N. D.
Ames, Nellie Mabel	.A.BPark	River, N. D.
Annis, Lucile	.A.B	Spokane
Ashton, Fred William	. Chem. Eng	Ballard
Balthus, Lillian C	.A.B	Seattle
Belden, William Henry	.A.B	Oberlin, Ohio
Bell, Charles Hubert	.E.E	Edmunds
Bennett, Mary Pearl	.A.B	Seattle
Berge, Clarence Austin	.A.B	Davenport
Birkett, Harold H	.A.B	Seattle
Blackmore, Beulah May	.A.B	Vassar, Mich.
Blake, Hazel Almon	.A.B	Bellingham
Breece, Dora Frances	.A.B	Seattle
Brigham, Ermie Belle	.A.B	Seattle
Burke, Gordon	.A.B	Tacoma
Burkhart, Ralph	.A.B	Tacoma
Byrd, Edna M	.A.B	Spokane
Byers, Roy Brun	.A.B	Seattle
Campbell, Dora S	.A.B	.Black River
Campbell, John Woodburn	.A.B	Edwall
Caskin, Olaf E. H	.A.B	Puyallup
Chittenden, Ralph Guild	.A.B	Green Lake
Clark, Arthur M	.A.B	Centralia
Cobb, Albert Asa	. Mech. Eng.	Tekoa
Conner, Irene Russell	.A.B	Seattle
Conkers, Caroline Catherine	.A.B	Seattle
Cook, Arthur Arnold	.E.E	Tacoma
Cooper, John F	.C.E	Seattle
Cordes, Edward Gottlieb	.E.E	St. Helens
Crane, Harry Stewart	. Min. Eng.	Seattle

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NAMB	COURSE	HOME ADDRESS
Crim, Edward Owen	C.E.	Seattle
Crim, Lemuel Paul	E. E.	Seattle
Cumbo, George Silas	Chem	EngWaterville
Dalby, Edwin Justus	A. B.	Seattle
Dean, Arthur Blain	E. E.	Everett
Dearborn, Elizabeth	A. B.	Seattle
Dewhurst, John Alfred	E. E.	Seattle
Dougan, Blanche Catherine	A. B.	Plankinton, S. D.
Drake, Edward Frederic	A. B.	Bellingham
Dungan, Violet Wilhelmina	A. B.	Seattle
Dunbar, Walter Cliffo.d	Min. I	EngSeattle
Dunlap, Alta Henrietta	A. B.	Mandan, N. D.
Durham, Mabel Lucile	A. B.	Spokane
Eason, Frederick David	C.E.	Tacoma
Easter, Ralph Roderick	E. E.	Seattle
Easterday, Fay Beatrice	A. B.	Tacoma
Ellis, Hubert Ingersoll	Min. F	EngMenlo
Ellis, William Grant	E.E:	Menlo
Engeland, Eunice	A. B.	Seattle
Enyart, Edna Hope	A. B.	Seattle
Erickson, Charles Edward	C.E.	Seattle
Erickson, Helga Maria	A. B.	Astoria, Ore.
Farley, Harry Rhanor	E.E.	Bellingham
Fischer, Adelaide Dorothy	A. B.	Seattle
Flaherty, Benjamin Guy	E. E.	Sedro-Woolley
Fos, Maude Whittier	Pharn	acySeattle
Freiday, Grace Ward	A. B.	Seattle
Frein, Bessie Mabel	A. B.	Tacoma
Girton, Elizabeth Clarkson	A. B.	Aberdeen
Gleason, Mabel E	A. B.	Seattle
Grainger, Clyde	A. B.	Sumner
Green, William Mather	E. E.	Seattle
Gruwell, Mary House	A. B .	Seattle
Hackshaw, Maude Manson	A. B.	Seattle
Hadlock, Minnie May	A. B.	Seattle
Hansen, Bert Alvin	E.E.	Tacoma
Harris, Alexander T	E. E.	North Yakima
Hawes, Edward Mason	A. B. [°]	Everett
Hawes, George Raymond	C.E.	Everett
Hemphill, James Wiley	A . B .	Seattle

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NAME	COURSE	HOME ADDRESS
Hopkins, Raymond A.	.E.E	Tacoma
Hughes, Edward Frederick	.Min.Eng.	Snoqualmie
Hunt, Clara Alice	В	Bellingham
Jacobson, Sara	.A.B	Woodinville
Johnson, Ida	.A.B	Seattle
Johnson, Pearl	.A.B	Seattle
Jones, Anna Rachel	.A.B	Seattle
Kanters, Christine	.A.B	Seattle
Kay, Lew Gate	.A.B	Seattle
Keho, Joseph	.Pharmacy .	Tacoma
Kirsten, Frederick Kurt	.E.E.Grosse	nheim, Germany
Kittredge, Frank Alvah	.C.E	Seattle
Knauss, Fred	.E.E	.Oswego, Oregon
LaFrenz, Arnold Lester	.Pharmacy	Spokane
Lee, Kate Elizabeth	.A.B	.Albany, Oregon
Leigh, Charles	. Mech. Eng.	Seattle
Lillick, Charles H	.Min.Eng	Hamilton, Mont.
Lohman, Lillian	.A.B	Chinook, Mont.
Loewe, Walter George	.A.B	Seattle
Lum, Burton Oscar	.A.B	North Yakima
Macleay, Elizabeth	. A. B	Olympia
Mackey, Walton Fletcher	. Min. Eng	Seattle
Mallory, Charles Earl	.E.E	Tacoma
*Marsh, Haven Walruth	.A.B	Seattle
McArdle, Joseph	.A.B	Seattle
McGee, Merritt	.A.B	West Seattle
McKean, Flobell	.A.B	Walla Walla
McMaster, Ella Carkner	.A.B	Seattle
McWilliams, Alice	.A.B	Seattle
Meier, Elsie Anna	.A.B	Seattle
Michelson, Edith Sidonie	.A.B	Seattle
Moran, Marjorie Eleanor	.A.B	North Yakima
Morgan, Mabel	.A.B	Waitsburg
Montgomery, Alice Estella	.A.B	Seattle
Montgomery, Ralph Strong	.A.B	Seattle
Murchinson, Alice	.А.В	Seattle
Neal, Olive Elizabeth	.A.B	Lewiston, Idaho.
Nelson, Norman C	.E.E.L. DeM	ay, Alberta, Can.
Norris, Carleton Howard		Manchester, Iowa

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*Deceased.

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NAME	COURSE	HOME ADDRESS
O'Brien, Russell Lloyd	C.E	Olympia
O'Neal, Arthur Thomas	A. B.	Spokane
Osterud, Hjalmar Lauritz	A . B	Seattle
Ostrom, Arthur William	A.B	Ballard
Parker, Lela Kathleen		Seattle
Parker, Shirley D		North Yakima
Paulson, Freda Ruth	A .B	Seattle
Phelps, Banjamin Franklin		North Yakima
Phillips, Earl Edgar		Davenport
Powers, Myrtle R	A. B	Everett
Powles, Olive Rachel		Seattle
Pugsley, Edmund Folsom	E.E	Seattle
Reagh, Arthur L	C.E	Seattle
Renkin. Louise	A. B	Seattle
Ridgway, Elizabeth Grace	A.B	Seattle
Roberts, George Braden	C.E	Kalama
Robinson, Lou Swan	E.E	Spokane
Roller, Floyd H	Min. Eng.	Bellingham
Rosaan, Archibald Guy	A. B	Seattle
Roth, Edna Elizabeth	A. B	Bellingham
Rothschild, E. Eugene	Pharmacy	.Port Townsend
Rupp, Rudoph Herman	C.E	Walla Walla
Shay, Zach B	Min. Eng	Menlo
Sheerer, Harold M	C.E	Seattle
Simpkins, Emily Gertrude	A.B	Seattle
Smith, Beulah F	A.B	Seattle
Smith, Guy Livingstone	Pharmacy	Bellingham
Smith, Laura Amelia	A. B	Portland, Ore.
Smith, Mary Agnes		Seattle
Spurrell, F. Ivie		Snohomish
Stahl, Gustav R	C.E	Seattle
Steele, Harry H	Min. Eng	Seattle
Stewart, Elsie Helen		Seattle
Strout, Rena Lizzie	A.B	Tacoma
Sturley, Ruth Emiline	A. B	Tacoma
Sutherland, Catherine B	A. B	Seattle
Sweet, Lottie Viola		Medford, Ore.
Swyney, Hendley Norton	E.E	Seattle
Tammany, Patrick Micheal	A . B	Seattle
Tanner, Merle Harriett	A . B	Seattle

NAME	COURSE	HOME ADDRESS
Teats, Ralph	Pharmacy	Tacoma
Tegtmeier, Fred	C.E	Everett
Terrell, Charles Foster	E.E	Tecumseh, Nebr.
Thomas, Walter Roger	E.E.	Wenatchee
Thompson, Amos Warren	E.E	Stanwood
Thompson, Claud S		
Thornton, Albert	A. B	Seattle
Tibbals, Henry Curtis	C.E	Port Townsend
Tillman, Helen Catherine	A. B	Seattle
Titus, Leo Grant	C.E	Seattle
Totten, Joseph Phelps	A. B	Seattle
Troll, Annie May	A. B	Seattle
Vernon, Frank Lee	Chem. Eng.	Ballard
Vincent, Frederick William	A.B	Pendleton, Ore.
Voswinkle, Olive	A.B	Seattle
Waddington, Earle C	E.E	Bloomington, Ill.
Waugh, Richey L	Pharmacy .	Mt. Vernon
Wells, Chester G	C.E	Seattle
Wilkinson, George Elbridge	A. B	Nome, Alaska
Williams, Charlotte Forsyth	A.B	Olympia
Wilson, William C	Mech. Eng.	Aberdeen
Wimmler, Norman Lucius	Min. Eng	Seattle
Wimmler, Norman Lucius Winn, Grover Cleveland	Min.Eng A.B	Seattle Juneau, Alaska
Wimmler, Norman Lucius Winn, Grover Cleveland Wintler, John J	Min. Eng A. B	Seattle Juneau, Alaska Vancouver

FRESHMEN.

Adair, Grover Charles	.C.E	Matlock
Albright, Charles Chesly	. A. BSc	outh Bend
Allen, Mayme Bernice	.A.B	Seattle
Anderson, Andrew Norman	. A. B	Ballard
Anderson, Bessie L	. A. B Wa	lla Walla
Anderson, Edward Robert	. Min. Eng	Spokane
Anderson, Maurice Phelps	. Mech. Eng	Seattle
Anderson, Ruth	. A. B. '	Seattle
Andruss, Eugenie Ann	. A. B.	Seattle
Ayers, Hallie Franklin	.Pharmacy	Sunnyside
Bain, Joe Staten	.C.E	Spokane
Banks. Lyman Talcot	.C.E	Seattle

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NAME	COURSE	Home Address
Barash, Iona	A.B	Seattle
Barker, George A	Pharmacy	Spokane
Bartholomew, Virna Madelina	A. B.	Spokane
Bartow, Jeannette	A. B	Seattle
Bates, Clarence Myers	C.E	Bellingham
Bates, William Charles	A. B.	Vancouver
Batts, Bertha	A. B	Pullman
Baumann, Henry Nicholas		Seattle
Beck, Broussais Coman	E.E	Seattle
Beebe, Genevieve Emeline		Seattle
Beery, Earl Jacob	E.EH	umboldt, Neb.
Behrens, Jerry Arthur		Seattle
Benson, Grace	C.E	Seattle
Birkett, Fred	Min.Eng.	Seattle
Bixby, Flora A	A. B	ux City, Iowa
Black, Lloyd Llewellyn	A. B	Everett
Blackman, Helen	A. B	Everett
Boggs, Ralph Elmer	A.B	Tacoma
Bond, Rowena	A. B	Seattle
Bonnett, Ada Margaret	A. B	Seattle
Boyle, Page Rolland	A.B	Seattle
Brace, Blanche Frances	A . B	Seattle
Bragdon, Roger Evan	A. B	.West Seattle
Bridgman, Leland McC	Min. Eng	Seattle
Brown, Arthur Leroy	Mech. Eng.	Bellingham
Brown, Charles Earl	E.E	Bellingham
Brown. Edwin James	A. B	Seattle
Brower, Fred	Min. Eng	Spokane
Brownell, Baker	A. B	t. Charles, Ill.
Buckingham, John Edward	Mech. Eng	Seattle
Bues, William Edward	Pharmacy	Menlo
Bulkeley, Josephine Mary	A. B	Seattle
Bullard, Lester Ivan	Mech. Eng.	Menlo
Burkhart, Karl K	C.E	Seattle
Burkholder, Ethel	A. B	Seattle
Burleson, William Edward	A. B	Edmonds
Burnett, David Carton	A. BS	t. Joseph, Mo.
Burnett, Lambert Milton	A. B	Vancouver
Burns, Alfred Aretus	A. B	Seattle
Burns, Bradford Winslow		Seattle

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NAME	COURSE	HOME ADDRESS
Burns, Evangeline Alice		Francisco, Cal.
Buwalda, John P	Min. Eng	North Yakima
Byrd, Prince Wolverton		Spokane
Cade, Richard Esh	Pharmacy	Bellingham
Camp, Birty Calvin	Pharmacy	Justin, Texas
Camp, Hiram W		Centralia
Campbell, Jessie Dudley		Seattle
Canney, Clyde C	E. E	Seattle
Canutt, B. Virgil	A.B	Colfax
Carlin, Rita Agnes	Pharmacy	Spokane
Casey, Augustine Peter	E.E	Seattle
Cayo, Eugene	. Chem. Eng.	Ballard
Carver, Coston		Bellingham
Chandler, Ione Carolin		Olympia
Chandler, William E	C. E	Spokane
Chittenden, Coy W	Mech. Eng	Green Lake
Chloupek, Edward Harry		Manitowoc, Wis.
Christopher, Willis Clinton		Seattle
Clarke, Charles Arthur	Pharmacy	Tacoma
Clarke, Clyde Howard		Centralia
Clarke. Genevieve B		Everett
Claussen, Minnie Laurine	A. B	Walla Walla
Cogswell, Vera Anna		Bellingham
Clokett, Marian Lombard		Seattle
Collier. Edith Lorne	A.B	Seattle
Colson, Zuleika May		Seattle
Cook. William Bell		Seattle
Cookerly, Grover Cleveland	. Mech. Eng	Walla Walla
Cooper, William Herbert	Pharmacy	Tillamook, Ore.
Corbet, Margaret Victoria Morrison	1.A.B	Seattle
Cornwall, Emory		Seattle
Courtright, Abram		Milford, Neb.
Cox. Julia Virginia		Toppenish
Cox. Spruce McCoy		Toppenish
Craig, Reba Mae		Ellensburg
Craven, Inez Helena		Seattle
Criswell, Lois		Tacoma
Crollard, Frederick Michael		Wenatchee
Crozier, Chell		Osceola, Neb.
Curtis, Florence Freeland		Seattle
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NAME	COURSE	HOME ADDRESS
Dalby, Minnie Amy	A. B	Seattle
Dalgity, Ruby Isabel	A. B.	Seattle
Damus, Walter		Seattle
Daniel, Aileen Margaret		Seattle
Daniels, Frank	C.E	Seattle
Danner, Joseph Sidney, Jr		n Rafael, Cal.
Darnell, John Monroe		Spokane
Davis, Arthur Anderson		Tacoma
Davis, Harold	Chem. Eng.	Spokane
Day, Glen Lincoln	A. B	Seattle
Dean. Marie Edna	Pharmacy	Bellingham
DeChesne, Victor	.Min.Eng.	Ballard
Devine. Bernadine	. A. B.	Seattle
Dewey, Albert H	. Pharmacy	Elma
Dille, Harold Joseph	. Pharmacy	Olympia
Dootson. Charlotte	A B	Everett
Dunmore Clair	Pharmacy	Ballard
Durham Paul Kenneth	A R	Snokane
Ebner Ethlyn Loone	Δ Β	Тирови
Ederer Pauline Adelaide	Δ R	Scottla
Edwards Elva Saloma		ort Townsond
Edwards, Liva Salome	ייייייייייייייייייייייייייייייייייייי	out Townsend
Edwards, George Ray		ort Townseud
Edwards, Guy Dewitt		ort Townsend
Edwards, Loia Eulti	···A·D. ········	
Elaw, Willia		Olumpia
Eggert, Grace Slive		
Figendels, Hilda Elizadeth	A B	ort Townsend
Elliott, May	А. В	Seattle
Ellis, william Grant	· . E. E	Menio
Esary, Line D	···A·B································	LaConner
Estes, Hazel Pinckney	д. В	. Walla Walla
Etsell, Ada Sage	A .B	Seattle
Evans, Winnie	A. B.	Ferndale
Fairbrook, Loyd Flint	C.EN	North Yakima
Fenton, Enid Elizabeth		Seattle
Fenton, Ione Edith	A. B.	Seattle
Fenton, Zilpha Eleanor	A. B.	Seattle
Ficks, Edna	А.В	Seattle
Filer, Henry Paul	A.B	Ellensburg
Fisher, Ella		Seattle
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NAME	COURSE	HOME ADDRESS
Fitch, A. LaVerne	.A.B	Seattle
Flagg, Herbert Judson		Seattle
Foreman, Williard Leland		Puyallup
Forsyth, Harold F	.C.EPo	rt Townsend
Franklin, Phil A	.C.E	Seattle
Franklin, William Hawley	.C.E	Seattle
Frater, John A	.A.B	Seattle
Freeman, Wood	. Mech. Eng.	Tacoma
Fretwell, Franklin McGee	.A.B	Seattle
Frew, John Henry	.Chem.Eng	Seattle
Fried, Percy Chester	.E.E	Seattle
Funfsinn, Rosa	.A.B	Seattle
Gaches, Harry	. Mech. Eng.	LaConner
Galbraith, Walter Eugene	.C.E	Seattle
Gamble, Bessie M	.A.BN	forth Yakima
Garlick, Alice Tucker	.Pharmacy	Tacoma
Gehrke, Clarence William	.C.E	Port Angeles
Georgeson, Rosemary	.A.B	Sitka, Alaska
Georgeson, Vlademar Lovett	.A.B	Sitka, Alaska
German, Glenn Arthur	. Min. Eng	Seattle
Goddard, Arthur Harold	.E.E	Olympia
Godfrey, William B	.C.EPo	rt Townsend
Godman, Melvin M., Jr	.E.E	Dayton
Goodner, Henry Evans	.Pharmacy	Seattle
Gray, Grace Leone	A . B	Seattle
Gray, Ralph Edwin	A. B	Seattle
Green, Augusta R.		e Forest, Ill.
Green. Elsie May	A. B	Falls City
Green, Theaton Earl		lorth Yakima
Gruber, Edwin Albert	A . B	Winlock
Hackshaw, Blanche Lydia	A. B	Seattle
Hagy, Robert Preston	Pharmacy	Seattle
Haley, Lucia	A. B	Seattle
Hall, Winfred Lee		Chehalis
Hamilton, James Baker	C.E	Sedro-Woolley
Hammerland, Arthur Edward		Spokane
Hammend, Ada Eugenie	A. B	Seattle
Hancock, Eugene Ammon	A.B	Coupeville
Hanley, Maude Katherine		Home, Idaho

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NAME	COURSE	HOME ADDRESS
Harmon, Fred Dean	E.E	Bellingham
Harrington, Alma B	A.B	Seattle
Harris, Margaret Dellinger	A.B.	Kelso
Harris, William Herbert	A. B.	Vancouver
Harrison, Joseph	A.B	Seattle
*Hauck, Stewart Harold	A. B	Seattle
Hauser, Charles Robert	E.E	North Yakima
Heffner, Carrie	A.B	Snohomish
Henehan, Martina	A.B	Seattle
Hermann, William Edmond	E.E	South Bend
Herr, Norbert Franklin	E.E	Seattle
Herthum, Florence Emory	A. B	Seattle
Heuss, Edward Charles	Min.Er	ngSeattle
Hibben, Harriett Fingland	A.B	Seattle
Hitt, William Mayo	E.E	Olympia
Holcomb, Marian Estella	A.B	Seattle
Holdman, Oro Elsworth	A.B	Seattle
Hollingsworth, George Edward	A.B	Seattle
Howe, Catherine Gabsden	A.B	Seattle
Howe, Jubal Washburn	C.E	Spokane
Howes, Alice	A. B.	Spokane
Hummon, Ira	E.E	Sumner
Hunter, Addie May	A.B	Seattle
Huntington, Harry Wallace	C.E	Castle Rock
Hutchinson, Dora Belle	Pharma	acyUnion, Ore.
Iffland, Nellie	A. B	Port Townsend
Isbell, Harry Raymond	E.E	Seattle
Jackson, Herbert Garrett	A. B.	Spokane
Jarvis, Paul	E.E	Georgetown
Johnson, Anna Ogden	A.B	
Johnson, Frank M	Min.Er	ng,Seattle
Johnson, George Wilfred	A.B	Seattle
Johnson, James Raymond	E.E	Aberdeen
Johnson, Josephine	A. B	Seattle
Johnstone, Annabel Milligan	A.B	Seattle
Johnstone, Walter Louis	A.B	Seattle
Jones, Eleanor	A.B	Seattle
Jones, Henry Leo	A.B.	Olympia

*Deceased

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Ланы	COUBSE	HOME ADDRESS
Jonson, Oscar F	A. B.	Quincy
Keller, Vivienne Myra	A. B.	Seattle
Kelly, Myra	A. B.	Tacoma
Kennedy, Joseph Alexander	E.E.	Pendleton, Ore.
Kerr, William Zinn	A. B.	Seattle
Kindig, Ellen	A. B.	Seattle
Kindig, Grace Minnie	A.B.	Seattle
King, Cleo P	A. B.	Seattle
King, Grace Elizabeth	A. B.	Seattle
Kingston, Hanna Dawes	A. B.	Seattle
Krohn, Albert Frederick	A. B.	Washougal
LaBelle, Eugene Philip	E.E.	Vancouver, B. C.
Lail, George Gray	E.E.	Wenatchee
Lamb, Leroy	E.E.	Colfax
Lamping, Samuel G	Min. I	EngSeattle
Latham, Ethel Valentine	A. B.	Alki Point
Lebeck, Frank	A. B.	Wenatchee
Leve, Walter Hanson	Min. H	EngSeattle
Levinson, Herman	E.E.	Goldingen, Russia
Levinson, Irving Meyer	Pharm	nacySeattle
Lewis, George John	C. E.	Seattle
Lewis, Olive L	A. B.	Spokane
Libbee, Harry Edward Leroy	Pharm	nacySeattle
Lind, Clarence Hensley	A. B.	Tacoma
Lindsley, Flora Maude	A. B.	Seattle
Lindsley, Norman David	Min. 1	EngSeattle
Lovegren, Levi Alton	C. E.	Preston
Lovejoy, Bartlet Howard	E. E:	Seattle
Lowry, Esther Montgomery	A. B.	Seattle
Lucks, Florence Ethel	A. B.	Seattle
Ludwick, Edgar Lewis	E. E.	Orting
Luther, India Ethel	A. B.	Seattle
Lynn, Eldin V	A. B.	Tacoma
Lynn, Genevieve	A. B.	Seattle
Mackie, Paul D	C.E.	Ballard
Madison, Lillian	A. B.	Kent
Magnusson, Axel Theodore	A. B.	Harris, Minn.
Malfa, Frank, Jr	A . B.	Waterville
Malthie, Axie Adelia	A . B .	Waterville
Mann, Julius Walter		Seattle
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NAME	COURSE	HOME ADDRESS
March, J. Gordon	А. В	Tacoma
Mathieu, Elizabeth Josephine	A.B	Seattle
Mattson, Will W	E. E	Portage
Matthews, John Edwin	A. B	Seattle
Matthys, Frederick Perry	Min. Eng	Van Wert, O.
Mauermann, Olive Maybelle Leon	e. A. B	Pe Ell
Maxwell, Newton Wallace	Mech. Eng.	Seattle
McCauley, Roland	A. B	Pittsburg, Penn.
McCutcheon, Allan Edgar	E.ER	ock Rapids, Iowa
McDonald, Ralph Baldwin	A. B	Seattle
McDonald, Robert Thompson	A. B	Seattle
McDowell, James Knox	A. B	Seattle
McGill, Mary P	A. B	Seattle
McGlauflin, Clarice	A . B	Hoquiam
McIntosh. Earl Forest	C. E	Olympia
McKay, Bessie Olive	A. B	Sprague
McKechnie, Joseph Lloyd	Mech. Eng	Port Angeles
McKinley, David Alexander	Min. Eng.	Spokane
McKinnon, Beth Isabel	A.B	Sumner
McKinnon, Gregor	C. E	Sumner
McKnight, Verres Morton	A. B	Seattle
McLean, John James	Min. Eng.	Seattle
McMicken, William Erle	A. B	Seattle
McMurray, Mabel Margaret	A. B	Seattle
McPhee, John Alexander	. Min. Eng.	Colfax
McPhee, Ronald George		Spokane
McRae, Duncan Wendell	A. B	Tacoma
McWilliams, James Henry	Mech. Eng.	Seattle
Miller, George Francis	Min. Eng	Seattle
Moncreiff, Ray	C. E	Seattle
Morgan, Ellsworth Andrew	A. B	Inglewood
Morris, Lena Fay	A. B	Osceola
Moultray, William Edward		Bellingham
Moyer, Leonard M	E.E	Seattle
Mueller, Olive L	A. B	Seattle
Murphy, Martin Francis	A.B	Westfield, Wis.
Murray, John Shortreed	Pharmacy .	Wenatchee
Mustard, Harry James	A. B	Montesano
Myers, Sidney Southern	Chem. Eng	Spokane
Newcomb. Dolph Allen	A. B.	Seattle



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NAME	COURSE	HOME ADDRESS
Newell, Roy Edward	. Min. Eng	Tenino
Newland, Herbert Browning	E.E	Chehalis
Noble, Roland Bruce	. E. E.	Spokane
Norris, Murney Elwood	. C. E	Burlington
Nowell, Florence Everett	.A.B	.Juneau, Alaska
O'Mera, Margaret Catherine	.A.B	Seattle
Osberg, Rosanna		LaConner
Osbourne, Leslie Blaine	.Min.Eng.	Spokane
Parker, Thomas Raymond	.E.E	Seattle
Parks, Helena Eleanor	.A.B	Seattle
Parton, Ida Anna	.A.B	Seattle
Patterson, Tom Scofield	.A.B	Seattle
Patton, Priscilla Irene	.A. B	Bellingham
Payne, Alice Mabel	. A. B	Port Townsend
Peaslee, Emilie Stewart	.A.B	Seattle
Perry, Charlotte Brintnall	.A.B	Seattle
Perry, Stewart Edward	.C.E	Puyallup
Phelps, Grayce	. A. B	Ballard
Philip, Frank Joseph	. C. E	Tacoma
Phillips, Mina	.A.B	Seattle
Phinney, Addie Jacques	.A.B	Seattle
Pierce, Jud.	.A.B	Bellingham
Plaskett, Maude L	.A.B	Snohomish
Plum, Frank Arents	.Chem.Eng.	Port Townsend
Prater, James William	.A.B	Ellensburg
Pratt, Frank Gillett	.A.B	Seattle
Putnam, Guy Leland	. Min. Eng.	Seattle
Quigley, Mary B	.A.B	Seattle
Rae, David E	. Min. Eng	Walla Walla
Ramsay, Anna	.Pharmacy	Kent
Ratcliffe, Frederick Lynn	.A.B	Cheney
Rathbun, Vilas Richard	. Min. Eng.	Seattle
Rayburn, Irene	.A.B	Seattle
Raymond, Chester Garnet	.A.B	Bellingham
Renard, Helen Therese	.A.B	Spokane
Reser, Byron Elmo	.A.B	Walla Walla
Reser, George Yancy	.A.B	Walla Walla
Reynolds, Fannie Estella	.A.B	Seattle
Richardson, Lewis Averil	. Mech. Eng.	Seattle
Robinson, Garcia Aneta	.A.B	Port Townsend

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NAME	COURSE	HOME ADDRESS
Rockefellow, Ruth,		Seattle
Roe, Charles Clark	A . B	Seattle
Rogers, Fred		Bellingham
Romine, Caroline Elizabeth		Prescott
Ronald, Mabel Claire		Seattle
Ross, Catharine Isabelle	A . B	Everett
Ross, Donald W	Chem. Eng.	Everett
Ross, Sarah Louise		Seattle
Rudio, Roy David		.Walla Walla
Sackett, Margaret Josephine	A.B	Seattle
Saeman, Marie Caroline	A.B	Seattle
St. John, James Irving	E.E	Snohomish
Sanford, Chard Oliver	Min. EngLos	Angeles, Cal.
Scearce, Addie Lillian		Seattle
Scholes, Harold L	C.E	Tacoma
Schricker, Ottillie Iona	A. B	LaConner
Schwers, Harriett Louisa	A.B	Seattle
Scott, Emma Gertrude		Everett
Scott, Rudolph Bowman		Spokane
Searle, Charles Wilbur	E.E	Sunnyside
Searle, Elizabeth Creed	A. B	Seattle
Severance, Hallie	A. B	Spokane
Shea, Annie Louise		
Shelton, Ellen Frances	A. B.	Seattle
Shelton, Edward Kirk	E. E	Seattle
Shirata, Yasitaro		nagata. Japan
Shuey, Mabel	A. B	Seattie
Simpson, Perry Alvin	E. E	Chehalis
Skone, Robert Conrad		Seattle
Slater, Doy	A . B	Ferndale
Smails, Kitty	A. B	Seattle
Smiley, Clara		Charleston
Smith, Joseph Lawrence	Min. Eng	Seattle
Smith, Marie	A.B	Alki Point
Snow, Fanny Maple		Spokane
Soule, Lyle Emmet	E.E	Leban
Spalding, Walter Talbot	C. E	Seattle
Spannagel, Erna		Spokane
Sprinkle, Gussie	A. B	Prosser
Spurk, William	. A. B.	

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NAME	COURSE	Home Address
Stanford, Edna Belle	. A. B	Olympia
Stanley, Clifford Lester	. Mech. Eng.	Portage
Stanton, Edgar Adolphus	.A.B	Columbia City
Starr, Samuel Henry	. C. E	Auburn
Statler, Pluma	.A.B	Seattle
Steele, Zella	.A.B	Seattle
Stevenson, Sarah Elizabeth	.A.B	Seattle
Stilwell, Edward Matthewson	.A.B	Seattle
Stone, Joseph William	.Min.Eng	Black Diamond
Strandberg, George Robert	. C. E	Ballard
Sutton, Fred H	.A.B	Cashmere
Suzuki, William K	E.E	Tokvo. Japan
Swan, Nellie Josephine	.A.B	Seattle
Swartz. Rossae	.A.B	Bellingham
Swarva, George Lewis	Min. Eng.	South Park
Swem. Nettie Mary	. A. B.	Fravel
Therkelson, Eric	.E.E	Portage
Thompson, Albert Chamberlain	. A. B.	
Thompson, Everett Vorbees	Min. Eng.	Bellingham
Thompson, Paul Bursell.	.C.E	Spokane
Thompson, William Calhoun	.C.E.	Seattle
Thompson, William Francis	A. B.	
Tilley, Homer Howard	E.E	Portland. Ore.
Tooker, Verna McClanathan.	A. B.	Everett
Tremner, Helen Katherine	A. B.	Olympia
Truesdell Archie Merle	C.E.	Vancouver
Truesdell Inda Nelly	A B	Vancouver
Ilhler William Preston	Δ B	Olymnia
Urgubart Helen Caroline	A B	Chehalis
Van Dame Walter F	A. B.	Buckley
Van Loon Clarice Deanne	AB	Colfay
Van Sant Clara	A B	Victoria B C
Van Jan, Clara Varona Inttia	A R	Mt Vornon
Wegoner Lyman Fisher	Δ B	Soottio
Wanamakar Lamual A	C E	Couneville
Ward John S	се	Controlio
Washhurn Sanford Comstock	A. R	Clear Laba
Watnuki Toyharu	E.E	Fukuoka Janan
Watta Sarah M	Pharmacy	. Ray City Oro
Watts, Ethel Taylor	. A. B.	Clarkston

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NAME	COURSE	HOME ADDRESS
Waugh, Eva M		Seattle
Wayland, George H	. Mech. Eng.	Seattle
Wells, Chester James	. Min. Eng	Seattle
Westfall, Levi L	.Mech.Eng	Camano
Whaley, Myrtle Mae		Chelan
White, Florence	.A.B	Seattle
Whiteside, William Porter	.Pharmacy	Pe Ell
Whitson, Kathryn Loomis	.A.BSheboyga	an Falls, Wis.
Whittle, Margaret Bernice	.A.B	.West Seattle
Will, Cameron G	.E.E	Seattle
Will, Enid	.A.B	Seattle
Williams, Arthur Edward	.Min.Eng.Lille,	Alberta, Can.
Williams, Lewis	.A.B	Wenatchee
Williams, Lewis Daniel	.C.E	Ilwaco
Willis, James Hart	.A.B	Plains, Mont.
Wilson, Clay Vernon	.E.EC	olumbia City
Wintler, Ella	.A.B	Vancouver
Wishaar, Louis Beauchamp	.E.E	Seattle
Woodnut, Lloyd Hale	. Min. Eng	Seattle
Wyman, Prudence Estella	. A. B. `	Olympia
Yeager, Will H	.C.E	Olympia
Yerkes, Beulah	.A.B	Seattle
Young, Avi Zetta	.A.B	Burton
Young, Carl Daniel	. Min. Eng	Fargo, N. D.
Young, Mabel A	.Pharmacy	Bellingham

UNCLASSIFIED STUDENTS.

Abrams, Gertrude	.A.B	Seattle
Adair, Ninon	.A.B	Seattle
Addison, Joseph Edward	.A.B	.Tacoma
Allen, Herman	.A.B	.Ballard
Allen, Ralph W	.Pharmacy	Centralia
Andreads, M. G	.A.B	Seattle
Ayres, Jessie Cameron	.A.BPort	Angeles
Bacon, Mary Albertina	.A.B	Seattle
Baird, Stella G	.A. BBois	se, Idaho
Baker, Myrtle Bowen	.A.B	Chelan
Balzow, Emil W	.E.E	Seattle
Bantz, Burwell	.C.EJuan	de Fuca

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NAME	COURSE	HOME ADDRESS
Barrett, John E	. Min. Eng.	Bremerton
Baumbach, August H	. Pharmacy	Puyallup
Braden, Edna Groves	.A.BNu	eva Caceres, P. I.
Bragg, Herbert O	.E.E	Colfax
Breece, William Lawrence	.E.E	Seattle
Brintnall, Bert Wiley	. Mech. Eng.	Seattle
Brown, Ivan C	.A.B	
Burcham, Carrie E	.A.B	Kelso
Campbell, John E	.A.B	Walled Lake, Mich.
Carlisle, Walter Oscar	.E.E	Seattle
Carmichael, Fay	. Min. Eng.	Seattle
Carr, Hazel Elva	.A.B	Seattle
Carr, Mary E	.A.B	Tacoma
Chambers, Faith	. Pharmacy	Olympia
Coates, Zoe.	. Pharmacy	Seattle
Coe, Winifred Elizabeth	. A. B	Seattle
Colwell, Alberta	.A.B	Seattle
Comer, Russell O	. E. E	Newburg, Ore.
Cooprider, George E	.A.B	Seattle
Cowgill, William Chambers, Jr	.Mech. Eng.	Baker City, Ore.
Coyle, Frank	.C.E	Seattle
Craig, Dora Belle	.A.B	Severy
Cunningham, Allan	. Min. Eng.	Seattle
Daigle, Charles Homer	. Min. Eng	North Yakima
Denio, Robert John	. E. E	Seattle
Dorfner, Walter Scott	. Min. Eng	Long Branch
Durrent, Effle May	.A.B	Seattle
Edminson, Ross Wilton	.C.E	Seattle
Ellett, Charles	.A.B	Ballard
Ewing, Thomas C	.A.B	Seaitle
Foster, Raymond Plympton	.E.E	Conconully
Frenger, George Herman	.A.B	Troy, Ohie
Froman, Walter C	.C.E	Caldwell, Idaho
Gibson, Earl Irving	. Pharmacy	Porter
Gilkey, Vernon William	.A.B	Ellensburg
Gooderham, John Wesley	.E.E	Seattle
Grasse, Gertrude Maude	.A.B	Seattle
Green, Fred	.E.E	Seattle
Griffin, Howard Miner	.A.B	Seattle
Griffin, Loraine	.A.B	Seattle

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NAME	COURSE	HOME ADDRESS
Grover, Benjamin Clinton	. Mech. Eng.	Quincy, Ill.
Guthrie, James B	. Min. Eng.	Seattle
Hall, Carl Eugene	.Pharmacy	Seattle
Henry, Elsie May	.A.B	Seattle
Hill, Ole T	.Min.Eng	Norway
Hinton, Bessie	.A.B	Seattle
Howard, Annie	.A.B	Henderson, Ky.
Hughes, Florence Marion	.A.B	Seattle
Hughes, Ingraham	.A.B	Republic
Hussey, Fred Beebe	.E.E	Auburn
Imada, Jiro	.A.B	Japan
Isham, Maud Kathryn	.A.B	Seattle
Jack, Eugene Clarence	.C.E	Seattle
Jameson, Hariette Roma	.A.B	Aberdeen
Keatts, Martha Susan	. Pharmacy	Pomeroy
King, Edwin C	Pharmacy	Ellensburg
Knight, Frank Stuart	. Mech. Eng.	Seattle
Lachner, Martin H	. Pharmacy	Seattle
Lavell, Arthur John	. Min. Eng.	Seattle
Lawatschek, Elly	.A.B	Sealtle
Leeson, Arthur Gerald	.Min.Eng.	England
Lewis, David Arthur	.A.B. `	Issaquah
Lilly, Wilmot Henry	.A.B	Seattle
Lovett, Joseph Cook	. Pharmacy	Seattle
Luce, Daisy Violet	.A.B	Seattle
Mackey, Florence Gray	.A.B	Seattle
Mackintosh, Christie	. Pharmacy	Seattle
Manley, Oran B	. Pharmacy	Port Townsend
McAllepp, Ida Mae	.A.B	Seattle
McCaughan, John	. Pharmacy	Meridian
McClain, Bovia	.A.B	Seattle
McClain, Elwood	.A.B	Seattle
McCutcheon, Lydia M	.A.B	Seattle
McDonald, George Francis	.A.B	Seattle
McDonald, Orlo Lyman	. Pharmacy .	Port Angeles
McDonald, Thomas G	.A.B	Seattle
McElroy, Sheridan T	. Min. Eng.	Silverton
McKnight, Berenice Cora	.A.B	Seattle
McLean, Ina Winifred	.A.B	Seattle
McRae Reginald Clayton	Mech. Eng.	Tacoma

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NAMB	COURSE	HOME ADDRESS
Meagher, Walter Wrigley	E. E	Seattle
Messerly, Italia Ruth	A. B	Wenatchee
Miller, Agnes H	A. B	Tacoma
Moran, John Parnell	Pharmacy	Seattle
Morrow, Claire H	A. B	Waitsburg
Nebergall, Leon	Min. Eng Da	venport, Iowa
Nelson, George Walter	Min. Eng	Tacoma
Nichols, Roy Eugene	A. B.	Foster
O'Donovan, Cornelius	Min. Eng.	Seattle
Parton, John Alfred	Pharmacy	Seattle
Petetrson, Carl Henry	Pharmacy	Seattle
Phelps. Mary Bonita	A. B	Denver, Colo.
Priest. Cora.	A. B.`	Kingston
Prosser, William	AB B	lack Diamond
Provine Ellis Fravne	Mech Eng	Seattle
Putnam Willis I.	Min Eng	Newton Mass
Randolph Melton F	Pharmacy	Souttla
Read Albert	Pharmaoy	Tagoma
Panfro Lilburn Wood	Dharmany	Prighton
Renito, Dilburn woou		Brighton
Budbarg Lewine C	A. D	Seattle
Rudberg, Lavina C		Seattle
Russell, Homer E	A. D	Seattle
Russell, Lillian B		Seattle
St. Olige, Arthur J	Pharmacy	Seattle
Samples, George W	··A.B. ·····	
Schoening, Wilneim Gustav Adolp	n. Min.Eng. Majeni	ield, Germany
Scott, Henry W		Spokane
Sether, Isaac Percy	Pharmacy	Spokane
Shelton, Robert	A. B	North Yakima
Shephard, Hartley Claire	A . B	Lakeside
Sherrill, Elmer	Chem. Eng	Licking, Mo.
Silliman, Robert Royden	C. E	Seattle
Smith, Elsie Pearl	A. B	Seattle
Starkey, Genevieve Isabel	Pharmacy	Northport
Stimmell, Pearl	A. B	Seattle
Stuff, Josephine Eleanor	A. B	Seattle
Sumner, George Bonniwell	Mech. Eng	Everett
Tanner, Harry Harris	Min. Eng	Seattle
Taylor, Daton	Min. Eng Ba	ker City, Ore.
Tholstrup, Iner Theodor	E.E	Bayview
27M 13F	X OM	

NAME	COURSE	HOME ADDRESS
Thorne, Herbert Erasmus	Pharmacy	Renton
Thorp, John Edythe	Pharmacy	Ballard
Tremper, Helen Katherine.	A. B	Seattle
Trumbull, Frances Johephin	neA.B	Twin Lakes, Colo.
Vachon, Elzie V	A . B	Wenatchee
Wanamaker, Herman Thomas	sPharmacy	Coupeville
Warne, Harry Franklin	Pharmacy	Winlock
Wells, Maud	A. B	Seattle
White, Harry Gordon	E.E	Sedro-Woolley
Whyborn, Hugh V	Mech. Eng.	Jasper, Texas
Wilcox, David Porter	Min. Eng.	Seattle
Winn, Milton	Pharmacy	Juneau, Alaska
Woodcock, Pansy Freeman.	A. B. ´	Seattle
Woodman, William George	Pharmacy	Seattle
Young, Thomas	Pharmacy	Post Falls, Idaho
SPECIAL TH	EACHERS' COUR	SE.

SPECIAL TEACHERS' COURSE.

Allen, Nicholas WilliamA. B.	Tacoma
Bernard, Edmond KA. B.	Tacoma
Beckstrom, Anna AndersA. B.	Tacoma
Brewster, Ada EA. B.	Tacoma
Bristow, Adda MargaretA. B.	Tacoma
Brown, Broden DA. B.	Tacoma
Burgess, Dora CeciliaA.B.	Tacoma
Burhaus, LinaA. B.	Tacoma
Burdick, Mary EA. B.	Seattle
Burke, Jessie CA. B.	Tacoma
Burr, Margaret MarieA. B.	Tacoma
Cone, Mary AliceA. B.	Tacoma
Cook, IsabellaA.B.	Tacoma
Durham, M. EA. B.	Seattle
Eddy, Mattie AliceA. B.	Tacoma
Edgerton, Miles SA. B.	Tacoma
Egger, Johanna BA. B.	Tacoma
Evans, Ella SarahA. B.	Tacoma
Forrester, WilliamA. B.	Ravensdale
Forsythe, MellA. B.	Tacoma
Frerichs, Marie CA. B.	Seattle
Frye, Julia AA. B.	Seattle
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NAME	COURSE	HOME ADDRESS
Gahagan, Lillian M	A. B.	Tacoma
Gaillac, Linnie	.A.B.	Tacoma
Gourlay, Edith	.A.B.	Seattle
Grady, Anna E	.A.B.	Tacoma
Hill, Claudia Olga	. A. B.	Puyallup
Hipkins, Nellie L	.A. B.	Tacoma
Hunt, Henry Franklin	.A.B.	Tacoma
Johnson, Alfred A	.A. B.	Tacoma
Johnson, Benjamin Wiley	.A.B.	Seattle
Johnson, Edith Carolyne	.A.B.	Tacoma
Johnson, Sarah Christina	.A.B.	Tacoma
Jones, Isabel Libbie Clara	.A.B.	Seattle
Kellett, Susanna	.A.B.	Seattle
Kelly, Elizabeth Jane	.A.B.	
Liddell. Grace Isadora	.A. B.	
Livesley, Carrie Belle,	.A. B.	Sumner
Loveless, Frances B	.A.B.	
Lucas. William Hardin	. A. B.	Seattle
Lucas, Mrs. William Hardin	. A. B.	Seattle
Malone, William	. A. B.	Fernhill
McCarney, Margaret Lulus	.A.B.	Seattle
Miller. Agnes H	. A. B.	Tacoma
Mitchell, L. Lillian	. A. B.	Seattle
Moffett. L. B.	. A. B.	Seattle
Murray. Christine	. A. B.	Seattle
O'Meara, Mary Gertrude	. A. B.	Seattle
Osborn. Eleanor S	A. B.	
Plumb. F. H.	A. B.	Seattle
Potter, Mrs. Myron	A. B.	Tacoma
Powell, Margaret	. A. B.	Tacoma
Reichardt, Margaret Elsa	A. B.	Seattle
Richardson, Francis Allen	A. B.	Tacoma
Ryder, Stephen	A. B.	Sumner
Sargent, Mrs. R. V	A. B.	Seattle
Sciurus, Bertha B	A. B.	Tacoma
Sherman, Charles M	A. B.	Tacoma
Smith, Julia Frances	A. B.	Tacoma
Spencer, Eugene Leland	A. B.	Tacoma
Stanley, George A	A. B.	Tacoma
Steelman Blanche T	A B	Tecome

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NAME	COURSE	HOME ADDRESS
Stockton, Ora	. A. B.	Tacoma
Streator, Gertrude Inez	.A.B.	Seattle
Tilton, Charles Sumner	. A. B.	Seattle
Varnes, Eleanor B	. A. B.	Tacoma
Wegner, Henry Frederick	.A.B.	Tacoma
Whitcomb, Grace Slater	A. B.	Tacoma
Whitcomb, Orlo Lee	. A. B.	Tacoma
Wier, Helene	. A. B.	Seattle
Young, C. N.	. A. B.	Tacoma



LAW SCHOOL.

SENIORS.

NAME	HOME ADDRESS
Ablan, Phillip	Cairo, Egypt
Amon, Delbert Leroy	Seattle
Beam, Frank	Colfax
Gillis, Wallace D	Des Moines, Iowa
Goodrich, Ray	North Yamhill, Ore.
Grant, Terence T	East Spokane
Grass, Robert	Council Bluffs, Iowa
Hall, Charles Wilber	Vancouver
Henehan, Vincent DePaul Joseph	Seattle
Hooper, Arthur Lorraine	Spokane
Huntoon, Richard Waldron	Bellingham
Jonson, Axel Ernst	Quincy
Lutz, Ralph Haswell	Seattle
McLean, Walter Gray	Seattle
Metzler, Hugo	Santa Cruz, Cal.
Murphine, Thomas Floyd	Seattle
Sadler, George Marsh	Sandusky, Ohio
Sander, Fred	Ellensburg
Savage, John Elton	Seattle
Stangeland, Arthur William	Seattle
Wells, Hulet Martell	Mt. Vernon

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JUNIORS.

NAME	HOME ADDRESS
Adams, David Cameron	,
Allen, Frank Miller	Spokane
Askren, Thomas Merle	Carbonado
Bogle, Lawrence	Seattle
Bowman, Arthur Ray	Springdale
Brennesholtz, Richard	Waterville
Burch, George Washington	Lordsburg, Cal.
Campbell, Blanche	Seattle
Crane, Mizpah Julain	Seattle
Douglas, Edwin S	Seattle
Floyd, Clarence Dell	Greeneville, Ill.
Hensel, Arthur John	Waterville
Hurwitz, Abraham	Seattle
Jones, Herbert Price	Minneapolis, Minn.
Judge, Redmond Patrick	Ballard
Luce, Henry Knox	Seattle
Lufsky, A. J	Seattle
Lumpe, Ernest G	Muscatine, Iowa
Lutz, Donald Haswell	Seattle
Mahone, Luther	Seattle
McDonald, George Donald	Seattle
Metcalfe, James Vernon	Seattle
Metsker, Glen Ray	Tacoma
Moore, Arlington Roy	Ballard
Mowers, Fred Gelwicks	Brainerd, Minn.
Murphy, Joseph Myron	Westfield, Wis.
Ormsbee, Eugene Richard	Waitsburg
Porter, John E	Wenatchee
Rasmussen, William Beatty	Forest Grove, Ore.
Rembert, William Adair	Seattle
Rhuart, Archibald Bennett	San Francisco, Cal.
Slattery, John Ruskin	Bellingham
Spirk, George Lucien	Davenport, Iowa
Teats, Leo	Tacoma
Tripp, Harold Merritt	Center
White, Coral B	Bellingham
Wills, Fred G	Walla Walla
Wright, Fred Raymond	Duluth, Minn.

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SPECIAL.

NAME	HOME ADDRESS
Abe, Toji	Tokyo, Japan
Bolen, William H	Providence, R. I.
Collins, Samuel F	Kirkland
Daihachi, Matsumi	Seattle
Fisher, Charles Ira Dorsey	Evansville, Ind.
Frank, Roy D	Rapid City, S. D.
Haggist, Frederick	Seattle
Hancock, Floyd Manley	Winlock
Howe, John Pardie	Seattle
Kelly, Thomas Francis	Seattle
Kirby, Homer	Kalama
Lewis, Devillo	Seattle
Lindley, William Fisher	Seattle
Loewe, Adolph	Seattle
Mitchell, Walter C	Seattle
Moale, Ada M. S	Seattle
Musser, Martin	Sunnyside
Pinkham, Starr Thomas	Seattle
Place, Victor M	Seattle
Sommer, John	Seattle
Standford, John P	Spokane
Wilson, Kathryn	
Wylde, Arthur H	West Seattle

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SUMMER SCHOOL STUDENTS.

NAME	HOME ADDRESS	
Aaberg, A. O	Seattle	
Alverson, Ethel E	Spokane	
Anderson, Nettie		
Anthon, Sister	Seattle	
Anthony, Julia E	Seattle	
Arnett, Susie	Sprague	
Bacon, Mary	Seattle	
Bardon, Peter J	Everett	
"Barnes, Lucy Rowena	Seattle	
Bartlett, Phoebe	Seattle	-
Bay, W. D	Centralia	-
Beaty, Edward	Hoquiam	
Berg, Benjamin E	Seattle	
Biegert, Hanna Elise	Seattle	-
Bischoff, Nellie	Seattle	-
Blain, Kathleen L	Tacoma	
Bond, E. A	Blaine	
Brace, Blanche F	Seattle	
Breece, William Lawrence	eSeattle	
"Bridgeman, Leland	Seattle	
Brintnall, Bert Wiley	Seattle	
Brown, Broden D		
Brown. Cora	Camas	
Burwell, Mildred J		-
Bush. Louie	Seattle	
Campbell, Ruby	Seattle	
Clark. Lois	Seattle	
Clark, Myrta M	North Yakima	
Collier. Edith Lorne	Seattle	<u></u>
Collins. Helen H	Kirkland	55107
Colton. Cora M	Chehalis	_
Colvin. Jessie M	Spokane	_
Cook. H. M	Aberdeen	55'07
Cook. Jennie		
Corliss. Helen L.		
Cosgrove, Z. Myrn	Pomerov	-
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NAME	HOME ADDRESS
Covey, Cora A	Seattle
Crane, Josephine G	Seattle
Crim, Mary Katherine	Lisbon, Iowa
Cunningham, Imogen	Seattle
Curtis, Lewis E	Tacoma
Dalby, Edwin Justus	Seattle
- Davis, Joel	Startup
Davis, Lavina B,	Vancouver
- Davis, Margaret	Colfax
Dearle, Percy	Everett
🔶 DeLand, Katherine	Seattle
Dennis, Mary Webb	Seattle
🔶 Doren, Charlotte A	Seattle
🔶 Doublas, Lulia G	Seattle
- Douthitt, A. G	Seattle
- Dudley, Florence E	Puyallup
🗕 DuFur, Katheryn	Kalama
Dunmore, L. Blanche	Ballard
Durham, Merritt Ernest	Seattle
Egan, Marie V	Seattle
- Ellars, Lura V	Wallace, Idaho
Epler, Francis W	Bellingham
Fallis, Annie L	Seattle
– Fallis, Lewis D	Seattle
Fink, Junia	Grinnell, Iowa
- Fletcher, Ethel	Salem, Ore.
- Flower, Herbert Patterson	College Place
Forrester, William	Ravensdale
Francis, Etta Lucile	Waterville
🗂 Garlock, Mark A	Montesano
Garrettson, Henry H	
🗝 Glass, Mabel J. H	Seattle
🦟 Glass, Rose	Seattle
— Gourlay, Edith	Seattle
- Grant, Laura May	Seattle
🥆 Grindrod, Ione	Ellensburg
Haberer, Emanuel J	Seattle
Hafer, Wilhelmina Emilie	Seattle
- Hall, Bessie C	North Yakima
Hammond, Philo F	Seattle

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NAME	Home Address
Harper, E. T	Chicago, Ill.
Harper, Mrs. E. T	Chicago, Ill. 🥌 .
Hart, Nellie M	Seattle 📻
Heyes, Margaret Louise	Seattle
Hilgesen, Helga	Seattle 🦟
Holmes, Helen	Seattle
Holmes, Sina	Payette, Idaho —
Houlahan, Kathleen	Seattle
Hurd, May	Helena, Mont.
Hurwitz, Abraham	Seattle
Irion, Henry T	Sand Point, Idaho
Jack, Eugene C	Seattle
Jackson, Effle L	Des Moines
Johnson, Paul	Walla Walla —
Jones, Effie D	North Yakima -
Kahen, Sarah E	Seattle
Kaufman, Elizabeth	Spokane
Keller, Delia L	Blaine
Kellett, Susanna	Seattle
Kellogg, Jessie M	Seattle 🤊 🖇 'o J'
Kelly, Nora	Seattle
Kingsbury, John A	Seattle
Leach, Kenneth Mallory	Raymond
Leavitt, Mattie R	Vancouver
Lentz, Kathryn	Centralia
Leve, Walter H	Seattle
Libby, Effie G	Seattle
Lichner, Maud	Kingston, Idaho —
Liveley, John W	Vancouver
Loewe, Walter George	Seattle
Logan, Victoria	Spokane
Lough, Jacob W	Seattle
Lyon, C. M. S	Hoquiam 🛩
McAlpine, Mrs. B. H	Seattle
McArdle, Joseph	Seattle 5
McCarney, Margaret L	Seattle 53
McCollins, Clara	Dubuque, Iowa 🛥
McCready, Eva	Tacoma
McDonald, Thomas G	Seattle
McGuire, Etta Belle	

-

NAME	HOME ADDRESS
— McKeown, Mary	Portland, Ore.
McKibbin, Florence	Mt. Pleasant, Iowa
McKnight, Maud	Spokane
- Madden, Imogene	Caldwell, Idaho
- Maloney, Minnie	Seattle
- Mann, Aurelia	Spokane
Marlowe, Junia	Seattle
Marston, C. May	Seattle
Matheson, Jennie R	Seattle
Milliken, Edward Joseph	Seattle
Mitchell, Darwin Dubois	Seattle
Mitchell, James B	Fairfax
- Monroe, Margaret	Tacoma
(Nash, Preston H	Wrangel, Alaska
Nelson, Ethel	Tacoma
Oliphant, John Christison	Sunnyside
Osberg, Minnie Alice	LaConner
Osberĝ, Rosanna A	LaConner
Osburn, William Q	Tacoma
Perry, Stewart E	Puyallup
Pollock, Mary R	Seattle
Price, Susan M	Dayton
Priest, Jessie Nutting	Idaho Falls, Idaho
Pugsley, Harriet M	Seattle
Randell, J. L	Áberdeen
Ray, Dora B	Van Asselt
🦟 Raymond, Rena	Seattle
	Seattle
Roberson, Rex	Seattle
👝 Rogers, Nell G	North Yakima
🛁 Ross, Bertha E	Everett
Rudberg, Lavina C	Seattle
— Russ, Esther C. E	·····Tacoma
Russell, Homer	Seattle
جزاع Sallberg, Millicent C	Seattle
🛃 Scholes, Stella	Tacoma
- Sebastian, Robert L	Centralia
Sechler, A. May	The Dalles, Ore.
- Shannon, Grace	North Yakima
- Shea, Celestine	· · · · · · · · · · · · · · · · · · ·

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Sherrick, Florence L	Seattle	· · · ·
Shull, Renata M	Seattle	20
Simms, Hortense	Seattle	******
Sinnett, Ernest	Seattle	
Smith, Grace V. H	.Montrose, Colo.	
Snow, Myra L	Blaine	
Stanford, Mildred	Olympia	
Steininger, Stephen D	Kirkland	
Steinke, Martin	Seattle	
Stewart, Viola	Seattle	
Stitt, Grace Edith Moore	Seattle	
Streator, Gertrude Inez	Seattle	
Sumner, Emily Weston	Everett	
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Taylor, Merwin W	Prosser	-
Tenwick, Anna M	Parkland	
Terpening, A. Roy	Seattle	
Thompson, Kate	Seattle	
Thompson, Lois	Seattle	
Thompson, Maud	Seattle	
Thompson, R. WLa	ingsburg, Mich.	
Torsen, Ann Martine	Lewiston, Idaho	
Turner, Esther Wilson	Seattle	-,
Ullery, Ira Lee	Port Angeles	55'04
Uyehara, George E	Japan	
Vetting, Lilla	.Kellogg, Idaho	-
Votaw, Myrtle	Tacoma	
Weaver, John Milton	Kirkland	-
Whitfield, Jay A	Kent	Record
Whitney, E. H	The Dalles, Ore.	
Wickham, Cora B	Anacortes	
Wiley, Linnie W	Ballard	
Wilson, Ida	Seattle	
Wilson, Florence Alden	Ellensburg	
Wilson, Rose M	Seattle	
Wilson, S. Bertta	Spokane	
Zednick, Victor H	Seattle	
Zook, Carl S	Normal, Ill.	- /
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SUMMARY OF ENROLLMENT.

BY SCHOOLS.

Graduate School	29
College of Liberal Arts	667
College of Engineering	210
Civil Engineering	
Chemical Engineering 12	
Electrical Engineering 91	
Mechanical Engineering	
School of Mines	72
School of Pharmacy	71
School of Law	82
-	
Total	132

BY CLASSES.

Graduate Students	• • •,		••	29
Seniors			1	.10
Juniors		• • •	1	.45
Sophomores		• • •	1	75
Freshmen		• • •	4	33
Unclassified Liberal Arts		• • •	••	69
Unclassified Engineering and Mining		•••	••	47
Unclassified Pharmacy and Law		• • •		53
Friday and Saturday Special Teachers' Courses		• • •	••	71
			_	
Total		•••	11	.32
Summer Session of 1906		•••	1	.98 🦯
1 R · A			_	00
duplicates in summer sersion			~	45
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CATALOGUE for 1907-8 and

ANNOUNCEMENTS for 1908-9

OF THE

UNIVERSITY OF WASHINGTON



SEATTLE

OLYMPIA, WASH.: C. W. GORHAM, PUBLIC PRINTER 1908

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UNIVERSITY CALENDAR, 1908-1909.

FIRST SEMESTER.

Examinations for AdmissionMonday, Tuesday, Sept. 14, 15
Registration DaysMonday, Tuesday, Sept. 14, 15
Recitations BeginWednesday, Sept. 16
Examinations for Removing ConditionsSept. 21-25
Thanksgiving VacationNov. 25, 12 m. to Nov. 30, 8:00 a. m.
Examinations for Removing ConditionsDecember 14-18
Christmas VacationDec. 24, 8:00 a. m. to Jan. 5, 8:00 a. m.
First Semester ClosesFriday, Jan. 29/

SECOND SEMESTER.

Registration DaysMonday, Tuesday, Feb. 1, 2
Recitations Begin
Washington's BirthdayFeb. 22
Examinations for Removing ConditionsMarch 8-12
Junior DayFriday, April 30
Semester Examinations Close
Baccalaureate Sunday
Alumni Dinner
Commencement

SUMMER SESSION, 1908.

Registration DayMonday,	June	22
Recitations BeginTuesday,	June	23
Summer Session ClosesFriday,	July	31

THE BOARD OF REGENTS.

HON. A. P. SAWYER, PresidentSeattle
Term Expires, 1914.
HON. JOHN P. HABTMANSeattle
Term Expires, 1909.
HON. FRANK D. NASHTacoma
Term Expires, 1910.
HON. D. L. HUNTINGTONSpokane
Term Expires, 1910.
HON. JOHN H. POWELLSeattle
Term Expires, 1911.
HON. S. G. COSGROVEPomeroy
Term Expires, 1911.
HON. JAMES T. RONALDSeattle
Term Expires, 1914.
WILLIAM MARKHAM, Secretary of the Board.

OFFICERS OF ADMINISTRATION.

PresidentTHOMAS FRANKLIN KANE
Administration Building.
Dean of the College of Liberal ArtsABTHUR RAGAN PRIEST Administration Building.
Dean of the College of EngineeringALMON HOMER FULLER Science Hall.
Dean of the School of MinesMilnor Roberts Science Hall.
Dean of the School of PharmacyCHARLES WILLIS JOHNSON Administration Building.
Dean of the School of LawJohn Thomas Condon Administration Building.
Dean of the School of ForestryFRANCIS GARNER MILLER Science Hall.
Chairman of Graduate FacultyJ. ALLEN SMITH Administration Building.
Dean of WomenAnnie Howard Women's Hall.
Registrar and Secretary of the FacultyHERBERT THOMAS CONDON Administration Building.
Head LibrarianWILLIAM ELMER HENRY Administration Building.

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, 1886-88; 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 1898; 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; 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, 1804; Attorney-at-Law, Kansas City, 1887-02; Professor of Economics and Sociology, Marietta College, 1895-97; Professor of Political and Social Science, University of Washington, 1897.

* Arranged in groups in the order of senioricy of appointment.

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

5208 Fourteenth Avenue, N. E.

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.

4536 Fourteenth 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 Mighigan, 1891; LL. M., Northwestern University, 1892; Assistant, in charge of Evidence, Northwestern University, 1891-92; Member of Seattle Bar since 1802; 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, 1809-.

* Absent on leave, 1907-8.

CABOLINE HAVEN OBER, Professor of Spanish.

5516 Fourteenth Avenue, N. E.

Student, Wheaton Seminary, Norton, Mass., 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; Austin Scholar, Harvard University, 1905-6; 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; Research Work at British Museum, 1905-06; Professor of English Language and Literature, University of Washington, 1901-.

MILNOB 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, Staaford 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. D., Professor of Physics and Director of the Physics Laboratories.

5215 Fifteenth Avenue, N. E.

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

JOHN PHILO 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; A. M., Harvard University, 1897; Ph. D., 1899. Assistant in Ethics, Harvard University, 1898-97; 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 hadcliffe 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.

4549 Fifteenth Avenue, N. E.

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. C., PH. D., Professor of Pharmaceutical 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, 1898-91; Instructor in Chemistry, University of Iowa, 1901-02; Assistant Professor in Chemistry, University of Washington, 1903-04; Professor of Pharmaceutical Chemistry, University of Washington, 1904-.

PIERBE 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, 1895-90; Fellow in Romanic Languages, Johns Hopkins University, 1898-90; Instructor (1899-1900) and Assistant Professor (1800-03) of Romanic Languages, Leland Stanford, Jr., University; Professor of French, University of Washington, 1903-.

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

5203 Fifteenth Avenue, N. E.

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-.

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

4705 Twenty-first Avenue, N. E.

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-.

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.

5203 Fifteenth Avenue, N. E.

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; Professor of Electrical Engineering, University of Washington, 1904-.

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

4549 Fifteenth Avenue, N. E.

Ph. B., De Pauw University, 1888; A. M., 1891; LL. B., 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, Proudit & 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 Engineer-

ing.

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-.

FACULTY AND OTHER OFFICERS

EDWARD OCTAVIUS SISSON, PH. D., Professor of Pedagogy and Director of the Department of Education.

1833 Ravenna Boulevard.

B. Sc., Kansas State Agricultural College, 1886; A. B., University of Chicago, 1893; Student in Berlin University, 1903-4; Ph. D., Harvard University, 1905. Teacher and Principal in Public Schools, 1886-1891; Principal, South Side Academy, Chicago, 1892-7; University Extension Reader in Psychology, University of Chicago, 1894; Director, Bradley Polytechnic Institute, Peoria, Illinois, 1897-1904; Assistant Professor of Education, University of Illinois, 1905-6; Professor of Pedagogy, University of Wasnington, 1906-.

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

4705 Sixteenth Avenue, N. E.

B. S., University of Wisconsin. 1893; Ph. D., 1904; Graduate of the State Normal School, Milwaukee, Wis., 1889; Principal of High Schools, Montello, Wis., 1889-91; Green Bay, Wis., 1893-94; Boscobel, Wis., 1894-96; Instructor in German, University of Wisconsin. 1897-1906; Student, University of Leipzig, Germany, 1901-2; Professor of German, University of Washington, 1906-.

VICTOR MORTON PLACE, A. B., Director of the Gymnasium.

A. B., Dartmouth College, 1903. Graduate Student, Harvard University, 1904-6; Coach, Ohio Wesleyan Football Team, 1903-5; Passed Massachusetts Bar Examination, 1906; Admitted to Washington Bar, 1906; Director of the Gymnasium, University of Washington, 1906.

FRANCIS GABNER MILLER, M. F., Professor of Forestry, and Dean of the School of Forestry.

M. Di., Iowa State Normal, 1893; Ph. B., University of Iowa, 1900; B. S. A., Iowa State College, 1901; M. F., Yale University, 1903. Superintendent of Schools, Parkersburg, Iowa, 1803-1895; Superintendent of Schools, Dunlap, Iowa, 1895, 1899; Graduate Student, Yale, 1901-1903; Professor of Forestry, University of Nebraska, 1903-1907; Professor of Forestry, University of Washington, 1907-; with U. S. Forest Service, Summers, 1901-.

SAMUEL CHRISTOPHEB LANCASTER, Professor of Highway Engineering. 1521 Ravenna Boulevard.

Student, Southwestern Baptist University, Jackson, Tenn.; Resident Engineer, Illinois Central Ry., 1884-1885; Resident Engineer, Gulf, Colorado and Santa Fe Ry., and Texas Pacidc Ry., 1886-1887; City Engineer, Jackson, Tenn., 1888-1906, at the same time serving as Superintendent of Water and Light Plant, 1893-1906. Chief Engineer, Madison County Goods Roads Commission, 1903-1905. Consulting Engineer, Office Public Roads, Washington, D. C., 1906-. Chief Engineer, The Heights Incorporated (Seattle Golf & Country Club), 1907-. Consulting Engineer, Road Construction, Seattle Park Board, 1907-. Professor of Highway Engineering. University of Washington, 1907-.

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

4521 Fifteenth Avenue, N. E.

B. S., Carleton College. 1801; 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-.

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

5516 Fourteenth Avenue, N. E.

C. E., Lafayette College, 1898; M. C. E., Cornell University, 1899; M. S., Lafayette College, 1901; Graduate Scholar in Civil Engineering, Cornell University, 1808-1899; five and one-half years practice in bridge and construction work with the following: Pencoyd Iron Works and American Bridge Co., Pencoyd, Penn.; D. H. Burnham & Co., Archts., Chicago; T. L. Condron, C. E., Chicago; U. S. Engineer Dep't, Fort Worden, Wash.; C. M. & St. P. Ry. Co., of Washington, Seattle; Acting Professor of Civil Engineering, University of Washington, 1900-1901; Associate Professor, 1907-.

HERBERT GALEN LULL, A. B., Associate Professor of Education.

Graduate Michigan State Normal College, 1898; A. B., University of Michigan, 1904. Principal Public School, Carson City, Michigan, 1898-1902; Superintendent City Schools, Mt. Clemens, Michigan. 1904-1905; Supervisor of Training School, Washington State Normal School, Bellingham, Washington, 1905-1907; Assistant Professor of Education, University of Washington, 1907-.

JAMES EDWARD GOULD, PH. B., Assistant Professor of Astronomy and Mathematics.

5015 Fifteenth Avenue, N. E.

Ph. B., University of Washington, 1896. A. M., Harvard University, 1907; Principal of High School, Port Townsend, 1897-99; Instructor in Physics and Chemistry, Seattle High School, 1899-1901; Scholar, Yerkes Observatory, University of Chicago, Summer Quarter, 1906; Austin Scholar and Assistant in Astronomy, Harvard University, 1906-7; Assistant Professor of Mathematics, and Principal of the Preparatory School, University of Washington, 1901-3; Assistant Professor of Mathematics, 1903-7; Assistant Professor of Astronomy and Mathematics, 1907-.

OTTILIE GEBTRUDE BOETZKES, A. M., Assistant Professor of German.

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, Corneli 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, PH. D., Assistant Professor of Chemistry, Acting Professor of Chemistry, 1907-1908.

4731 University Boulevard.

A. B., Franklin and Marshall College. 1899; A. M., 1902; Ph. D., Columbia University, 1907; SuperIntendent of Schools, Kent, Washington, 1900-1903; Graduate Student Johns Hopkins University, 1903-1904; Fellow in Chemistry, Columbia University, 1906-1907; Assistant Professor of Chemistry, University of Washington, 1904.

MAYNARD LEE DAGGY, PH. B., Assistant Professor of Rhetoric and Oratory. 5208 Brooklyn Avenue.

Ph. B., De Pauw University, 1896; Indiana Law School, 1897-99. Instructor in English, State School for the Blind, Jacksonville, Illinols, 1896-7; Instructor in English, High School, Mount Vernon, Illinols, 1809-1900; Instructor in English, High School, Fond du Lac, Wisconsin, 1900-01; Instructor in Rhetoric and Oratory, University of Wisconsin, 1901-04; Assistant Professor of Rhetoric and Oratory, University of Washington, 1904-.

ALLEN ROGERS BENHAM, PH. D., Assistant Professor of English Literature. 1708 Ravenna Boulevard.

A. B., University of Minnesota, 1900; A. M., 1901; Ph. D., Yale University, 1905. Assistant in English, University of Minnesota, 1890-1901; Principal of Ligh School, St. James, Minn., 1901-02; University Fellow, Yale University, 1802-05; Assistant Professor of English Literature, University of Washington, 1905.

CHARLES WILLIAM PRENTISS, PH. D., Assistant Professor of Zoology. 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 Zoology, University of Washington, 1905-.

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

A. B., Harvard University, 1001; 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.

A. B., University of Michigan, 1901; Ph. D., Cornell University, 1905. Graduate Scholar in Psychology, Cornell University, 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 Rhetorfc 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-.

IRVIN WALTER BRANDEL, PH. G., PH. D., Assistant Professor of Chemistry.

Ph. G., University of Wisconsin, 1899; B. S., 1901; M. S., 1902; Ph. D., 1906. Fellow in Pharmacy, 1899-1801; Fellow in Chemistry, 1901-1902; Instructor in Pharmacy, 1902-05; Assistant Professor of Pharmacy, University of Washington, 1905-7; Assistant Professor of Chemistry, 1907-.

WILLIAM MAURICE DEHN, PH. D., Assistant Professor of Physiological Chemistry and Toxicology.

5027 Fifteenth Avenue, N. E.

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

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OTTO PATZER, PH. D., Assistant Professor of French. 4702 Eleventh Avenue. N. E.

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

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

760 Lakeview Avenue.

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

JOHN WEINZIRL, PH. D., Assistant Professor of Botany.

4144 Tenth Avenue, N. E.

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

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.

CHARLES EVAN FOWLEB, 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.

19

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

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

JOHN HARISBERGER, Lecturer and Consulting Electrical Engineer on Power Transmission.

Chief Electrical Engineer, Seattle-Tacoma Power Co,

CLABENCE E. FLEAGER, Lecturer and Consulting Electrical Engineer on Telephones.

B. S. in Electrical Engineering, University of Illinois; Superintendent, Inside Plant, Sunset Telephone Company.

ROGER TAYLOR, C. E., Lecturer on Copper Smelting.

C. E., Rensselaer Polytechnic Institute, 1899; Chemist and Metallurgist, Oxford Copper Works, Bayonne, N. J., 1899-1901; Assistant Superintendent, Ontario Smelting Works, International Nickel Company, Canadian Copper Company, Ontario, Canada, 1901-05; Metallurgist, Bingham Consolidated Company, Bingham, Utah, 1905; Superintendent of Copper Works, Tacoma Smelting Company, 1905-.

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

B. S., Iowa State College, 1878; Student, Royal School of Mines, Clausthal, Prussia, 1881-82; University of Berlin, 1883; Assayer, Livingston, Montana, 1889-94; Assayer, U. S. Assay Office, Helena, Montana, 1894-1906; Assayer, U. S. Assay Office, Seattle, Wash, 1906.

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

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, Iows, 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, 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 and Chemistry, High School, St. Johns, Michigan, 1902-1903; Instructor in Physics, University of Washington, 1905-.

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

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; Caldron, Nebraska, 1900-03; Superintendent for The Douglas Electric Light Co., Douglas, Wyo., 1903-05. Instructor in Electrical Engineering, 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-.

CHARLES W. HARRIS, C. E., Instructor in Civil Engineering.

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

GEORGE SAMUEL WILSON, B. S., Instructor in Mechanical Engineering. 4212 Tenth Avenue, N. E.

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

CHARLES MUNBO STRONG, A. M., Instructor in Spanish. 4246 Brooklyn Avenue.

A. B., University of Missouri, 1897; A. M., 1900; Fellow in German, University of Missouri, 1899-1900; Professor of German, French and Spanish, St. John's Military Academy, Delafield, Wisconsin, 1000-1901; Newspaper work, United States and Cuba, 1902-1906; Instructor in Spanish, University of Washington, 1906-

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

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

CLARENCE RAYMOND COREY, E. M., Instructor in Mining and Metallurgy. 5826 Sixteenth Avenue, N. E.

E. M., Montana State School of Mines, 1905; Instructor in Surveying, Montana State School of Mines, Summer School, 1905; Mining Engineering and Metallurgical Practice, Sumpter, Oregon, 1905-1906; on Geological Survey in Montana, 1906; U. S. Deputy Mineral Surveyor for Montana; Instructor in Surveying and Metallurgy, Montana State School of Mines, 1906-1907; Instructor in Mining and Metallurgy, University of Washington, 1907-.

WILLIAM THEODORE DARBY, A. M., Instructor in English Literature. 1819 Kilbourne Avenue.

A. B., Yale University, 1905; A. M., Columbia University, 1907. Instructor in Williston Seminary, Williston, Mass., 1905-1906.

HARVEY BRUCE DENSMORE, A. B., Instructor in Greek.

4749 Brooklyn Avenue.

A. B., University of Oregon, 1903; Fellow in Latin, University of Oregon, 1903-1904; Rhodes Scholar at Oxford University, 1904-1907; A. B., Oxford University, 1907; Instructor in Greek, University of Washington, 1907.

GEORGE IBVING GAVETT, B. S. (C. E.), Instructor in Mathematics. 5525 Sixteenth Avenue, N. E.

B. S. (C. E.), University of Michigan, 1893. Graduate Student in Mathematics, Leland Stanford, Jr., University, 1904-1905; Graduate Student in Mathematics and Civil Engineering, Cornell University, 1905-1907; Teacher of Mathematics and Science, Spring Arbor Seminary, Spring Arbor, Michigan, 1807-1809; Professor of Mathematics, Fairmount College, Wichita, Kansas, 1809-1904; Instructor in Applied Mathematics, Leland Stanford, Jr., University, 1904-1905; Instructor in Civil Engineering, Cornell University, 1905-1907; Instructor in Mathematics, University of Washington, 1907-.

JESSE AARON JACKSON, Instructor in Civil Engineering.

Student in Civil Engineering, University of Washington, 1899-1901. Inspector, U. S. Engineer Department, 1901-1903. Draftsman, City Engineer's Office, Seattle, 1903-1904. Head Computer, ibid, 1904-1908. Instructor in Civil Engineering, University of Washington, 1908.

JOEL MARCUS JOHANSON, A. B., Instructor in German.

A. B., University of Washington, 1904. khodes Scholar, Oxford, England, 1904-1907; Instructor in German, University of Washington, 1907-.

SANDY MORROW KANE, Instructor in Metalwork.

Seven years' apprenticeship in iron and brass molding, machine shop, and forging, Kane and Sons, Ireland; Foreman of shops four years, Kane and Sons, Ireland; Practical Machinist, Eagle Iron Works, Des Moines, Iowa, 1881-1883; Foreman of machine shops, Des Moines Mfg. and Supply Co., Des Moines, Iowa, 1883-1887; Master Mechanic, Golden Reward Gold Milling & Mining Co., Deadwood, S. D., 1897-1903; Moran Bros. Co., Seattle, Wash., 1903-1906; Practical Machinist U. S. Navy Yard, Bremerton, Wash., 1906-1907; Instructor In Metalwork, University of Washington, 1907-.

WILLIAM VEBNON LOVITT, A. B., PH. M., Instructor in Mathematics.

A. B., University of Nebraska, 1903. Principal of School, Arcadia, Nebraska, 1903-1904; Fellow in Mathematics, University of Nebraska, 1904-1906; Graduate Student, University of Chicago, 1906-1907; Ph. M., University of Chicago, 1907; Instructor in Mathematics, University of Washington, 1907-.

EDWARD MCMAHON, A. M., Instructor in American History. University Station.

Ph. B., University of Washington, 1898; A. M., University of Wisconsin, 1907. Principal, Van Asselt (Wash.) Schools, 1898-1901; Graduate Student, University of California, 1901-02; Principal Union Grammar School, Seattle, 1902-03; Head of Department of History, Seattle High School, 1903-06; Graduate Student in History, 1906-08, Fellow in History, 1907-08, University of Wisconsin; Instructor in American History, University of Washington, 1908.

WILLIAM ALFRED MORRIS, PH. D., Instructor in European History. 4310 Eleventh Avenue, N. E.

A. B., Leland Stanford, Jr., University, 1901; Ph. D., Harvard University, 1907; Teacher of Latin and History, Portland High School, Portland, Ore., 1901-1904; Austin Scholar, Harvard University, 1904-1905; Toppan Scholar, 1905-1906; Assistant in History, Harvard University and Radcliffe College, 1906-1907; Instructor in European History, University of Washington, 1907-.

SILAS FRANKLIN SCOTT, PH. C., M. S., Instructor in Pharmacy and Materia Medica. 5027 Fifteenth Avenue, N. E.

B. S., Michigan Agriculture College, 1894; Ph. C., University of Michigan, 1902; M. S., University of Michigan, 1905. Practical Druggist, Detroit, Michigan, 1902-1903; Chemist, Iowa Portland Cement Company, Iowa, Kansas, 1905-1906; Instructor in Pharmacy and Materia Medica, University of Washington, 1907.

STANLEY SMITH, A. M., Instructor in French.

123 Eastlake Avenue.

A. B., Leland Stanford, Jr., University, 1903; A. M., 1905. Assistant in Romanic Languages, Leland Stanford, Jr., University, 1903-1904; Instructor, 1904-1906; Student in Europe, 1906-1907; Instructor in French, University of Washington, 1907.

MERLE HABOLD THORPE, Instructor in charge of the Department of Journalism. 4319 Twelfth Avenue, N. E.

Student, Park College, 1902; Student Leland Stanford, Jr., University, 1902-05; City Editor, Palo Alto Times, 1904; Managing Editor, Stanford Sequoia, 1904-05; Advertising and Circulation Manager, Washington Life, 1905; White House Correspondent, Washington Post, 1905-06; Hearst Bureau, Washington, 1906; Special Correspondent Cuba and Managing Editor, Havana Post, 1906-7; London Mail Correspondent to Jamaica, 1907; Northwest Editor, Seattle Post-Intelligencer, 1907; Department of Journalism, University of Washington, 1907-.

CHARLES EDWIN WEAVEB, PH. D., Instructor in Geology.

4238 Twelfth Avenue, N. E.

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

EVA LOUISE BARB, Graduate Assistant in German.

A. B., Woman's College, Baltimore, 1896. Instructor in Latin and German, Hedding College, Abingdon, Illinois, 1896-99; Principal of High School, Little Falls, Minnesota, 1901-04; Student, Universities of Goettingen and Munich, 1904-05; Instructor in German, Port Townsend, Wash., High School, 1906-07; Graduate Assistant in German, University of Washington, 1907-.

ERIC TEMPLE BELL, Graduate Assistant in Mathematics.

4718 Brooklyn Avenue.

A. B., Leland Stanford, Jr., University, 1904. Graduate Assistant in Mathematics, University of Washington, 1907-.

LAURA WHIPPLE CARB, B. S., Graduate Assistant/in German.

B. S., Wellesley College, 1893; Instructor, Kansas City (Mo.) High School, 1893-1897; Student, University of Chicago, Summer 1896; Studied in Braunschweig, Germany, Summer 1898; Student, Summer School, Oxford, England, 1901; Graduate Assistant in German, University of Washington, 1908-.

LEWIS HENRY FEE, A. B., Graduate Assistant in Physics.

4532 Eleventh Avenue.

Graduate, Western Michigan Normal School, 1905; A. B., University of Michigan, 1907; Superintendent of Schools, Scotts, Michigan, 1901-1904; Graduate Assistant in Physics, University of Washington, 1907.

PHILO FAY HAMMOND, A. B., Graduate Assistant in Physics.

M. Di., Iowa State Normal School, 1902; Student, University of Michigan, 1903-1904; A. B., University of Washington, 1907; Principal, Greeley (Iowa) Public Schools, 1902-1903; Principal, Public Schools, Camas and St. John, Wash., 1904-1906; Graduate Assistant In Physics, University of Washington, 1907.

JAMES HAROLD HANCE, A. B., Graduate Assistant in Mining.

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 Washington, 1905; Instructor in Chemistry and Mathematics, 1906-7; Graduate Assistant in Mining, 1907.

MARGARET MAE MCLACHLAN, PH. G., Graduate Assistant in Pharmacy.

Ph. G., University of Washington, 1906; Graduate Assistant in Pharmacy, University of Washington, 1906.

HERMIE SHERMAN, A. B., Graduate Assistant in Mathematics.

A. B., University of Washington, 1907. Graduate Assistant in Mathematics, University of Washington, 1907-.

MABEL RILEY SIMPSON, B. S., Graduate Assistant in Botany.

B. S., Wisconsin University, 1899; Principal and Instructor in Science, High School, Florence, Wis., 1900-1901; Instructor Public Schools, Tacoma, Wash., 1901-1902; Supervisor and Instructor in Science, Taylor's Falls, Minn., 1905-1906; Instructor Public Schools, Tacoma, Wash., 1906-1907; Graduate Assistant in Botany, University of Washington, 1907-.

HARLAN TRUMBULL, A. B., Graduate Assistant in Chemistry.

A. B., University of Washington, 1907. Graduate Assistant in Chemistry, University of Washington, 1907-.

WALTEB B. WHITTLESEY, A. B., Graduate Assistant in French.

A. B., University of Washington, 1907. Graduate Assistant in French, University of Washington, 1907.

UNDERGRADUATE ASSISTANTS.

- FRED W. ASHTON, Chemistry.
- EUGENE FELIX CAYO, Chemistry.
- WILLIAM B. COOK, Physical Culture.
- ALBERT H. DEWEY, Chemistry.
- CURT JOHN DUCASSE, Psychology.
- LESLIE B. DUSTIN, Chemistry.
- RAYMOND A. HOPKINS, Mechanical Drawing.
- CHRISTINE R. KANTERS, Physical Culture.
- MARTHA S. KEATTS, Pharmacy.
- RAY MONCHIEFF, Descriptive Geometry.
- GEORGE W. NELSON, Mining.
- ARTHUR T. O'NEAL, Chemistry.
- ARTHUR S. POPE, Mathematics.
- GUY L. SMITH, Pharmacy.
- RUPERT P. SNOKE, Descriptive Geometry.
- GEORGE R. STRANBERG, Surveying.
- JOSEPH B. UMPLEBY, Geology.
- EVELYN WAY, Zoology.
- CHESTER C. WELLS, Surveying.
- SYLVIA E. WOLD, Education.

FACULTY AND OTHER OFFICERS

LIBRARY STAFF.

WILLIAM E. HENRY, A. M., Head Librarian.

A. B., Indiana University, 1891; A. M., 1892; Instructor in English, Indiana University, 1891-1893; Graduate Student, Chicago University, 1893-1895; Fellow in English, 1894-1895; Professor of English, Franklin College, 1895-1897; State Librarian of Indiana, 1897-1900; Head Librarian, University of Washington, 1906.

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

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

EMMA PEARL MCDONNELL, A. B., Assistant.

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

FRANCES SOPHIA COURTENAY JAMES, A. M., Assistant.

A. B., University of Wisconsin, 1904; A. M., 1905. Wisconsin State His torical Society Library, 1900-1907; University of Washington Library, 1907-.

JOSEPHINE MEISSNER, Assistant.

A. B., University of Illinois, 1905; B. L. S., University of Illinois, 1906. Librarian, Nebraska State Normal School, Peru, Nebraska, 1906-1907; University of Washington Library, 1907.

MAMIE SWITZ, Assistant.

AMELIA BLISS, Student Assistant.

GEORGE H. FRENGER, Student Assistant.

GLENN E. HOOVER, Student Assistant.

MUSIC STAFF.

CHARLES OSCAB KIMBALL, Director of Music. EDMUND MYER, Teacher of Voice. HERBERT D. CARBINGTON, Teacher of Piano. GRACE ZIMMEBMAN, Teacher of Piano. BENJAMIN F. LEVENTHAL, Teacher of Violin.

REGISTRAR'S OFFICE.

HERBERT THOMAS CONDON, LL. B., Registrar. WILLIAM MARKHAM, Bookkeeper. JAY WHITEFIELD, A. B., Assistant Registrar. MAX HIPKOE, Clerk. CHARLOTTE WILLIAMS, Telephone Assistant.

OTHER OFFICERS.

WILLIAM B. HAMPSON, M. E., Engineer.
FRED M. CROLLARD, President's Secretary.
JOSEPH A. BEBNHARD, Steward University Dining Hall.
LILLIAN B. GETTY, Stenographer.
GEORGE LEWIS MOTTER, Superintendent of Grounds.
DAVID MCDANIEL, Janitor.
J. S. KRAPE, Carpenter.
M. W. BEECHAM, Assistant in Machine Shop.

Officers of the University of Washington Station of the United States Forest Service.

OLIVER P. M. Goss, C. E., Engineer in Timber Tests, in charge. ARTHUR L. HEIM, E. E., Engineer in Timber Tests.

COMMITTEES OF THE FACULTY.

ACCREDITED SCHOOLS: Professors Sisson, Priest, Osborn, and Lull. Advisers:

College of Liberal Arts-

Classical Freshmen and Sophomores, Professor Haggett; Modern Language Freshmen, A to L, Professor Frein; Modern Language Freshmen, M to Z, Professor Meisnest; Mathematico-Physical Freshmen and Sophomores, Professor Osborn.

Philosophical Freshmen, A to L, Professor Lull;

Philosophical Freshmen, M to Z, Professor Alden;

Scientific Freshmen, Professor Brandel;

Modern Language Sophomores, A to L, Professor Benham; Modern Language Sophomores, M to Z, Professor Patzer;

Modern Language Sophomores, M to Z, Professor Patzer;

Philosophical Sophomores, A to L, Professor Savery;

Philosophical Sophomores, M to Z, Professor Custis;

Scientific Sophomores, Professor Landes;

Special Science Course (Preparation for Medical Course), Professor Byers;

Unclassified, Dean Priest;

Juniors, Seniors, and Graduates, the respective Major Professors.

College of Engineering—

Civil Engineers, Professor More; Mechanical Engineers, Professor Eastwood; Electrical Engineers, Professor Magnusson; Chemical Engineers, Professor Benson.

School of Mines-

All classes, Dean Roberts.

School of Pharmacy-

All classes, Dean Johnson.

School of Law-

All classes, Dean Condon.

School of Forestry— All classes, Dean Miller.

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APPOINTMENTS: Professors Sisson, Lull, and Major Professors. ASSEMBLY AND PUBLIC Exercises: Professors Daggy, Condon and Kimball. ATHLETICS: Professors Roberts, Haggett and Lantz. CATALOGUE: Librarian Henry, Professors Alden and Milliman. DISCIPLINE: Professors Frein, Eastwood and Gould. DOBMITORIES: Professors Fuller and Boetzkes. GBADUATION: Professors Byers, Main and Magnusson. HOLIDAYS: Professors Johnson, Sidey and Weinzirl. HONORS AND ADVANCED DEGREES: Professors Smith, Fuller, Frein, Moritz and Stevens. LIBRARY: Professors Padelford, Frye and Moritz. MUSEUM: Professors Landes. Meany, Kincaid and Frye. PETITIONS: Professors Moritz, Ober and Benham. PROGRAM: Professors Morrison, Eastwood and Brandel. SENIOR SCHOLARS: Professors Padelford, Byers, Savery and Thomson.

SPECIAL ABTS COURSE (Preparation for Law Course): Professors Condon, Priest and Smith.

SPECIAL SCIENCE COURSE (Preparation for Medical Course): Professors Byers, Prentiss and Weinzirl.

STUDENT ASSISTANCE: Professors Meany, Landes and Dehn.

STUDENT OBGANIZATIONS: 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 to appropriate land for a university." Two townships were granted, the amount previously given to Oregon for the same purpose.

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 nine hundred thirty-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 7,500.

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 the 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 have a wholesome influence upon University life.

The state legislature in 1895 enacted a strict law prohibiting the sale of 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 salcon.

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 gerives 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 vield 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 the old site of nine acres in the central part of the city of Seattle. 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., 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, where it breaks off in a series of benches, terraces, and ravines.

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 recitations rooms it contains the administration offices, 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 sace of one hundred and twenty feet in length and eighty feet in width; the women's hall has a floor space eighty

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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.

In addition to the above buildings, which have been in use for some years, the following are now under construction, viz., an Auditorium, a Chemistry building, an Engineering building, and a power plant. The first three are to be used temporarily by the Alaska-Yukon-Pacific Exposition as an Auditorium or Concert Hall, Fine Arts building and Machinery Exhibit building, respectively.

The Auditomium building is a classic structure of ivory colored brick and terra-cotta to match. The main facade consists of a Corinthian colonnade, 180 feet long, with seven large door-ways affording ample exits and entrances. The detail of the order is modeled from the capitol of the Temple of Vesta, at Tivola, and the main cornice sustains the same classic richness of design. It is constructed of steel and wood interior, with a concrete basement.

The Chemistry building is in the Ionic style of architecture and consists of a central motive in the form of a portico of four large columns with decorative French Ionic capitols. Flanking the central motive on either side is a colonnade of pilasters of similar design. The main cornice is highly ornamented with carved moldings of rich, but classic character. The construction is of steel frame, concrete floors, and fire proof throughout; three stories high and will be furnished in an up-to-date manner.

The Engineering building is of design particularly adapted to its purpose and is composed along simpler lines. The facade consists of a series of large round arches, surmounted by gables of the Spanish Mission type. It is of ivory brick with terra-cotta gable trimmings to match. The building carries a large bracketed cornice of heavy overhang, supported by exposed wooden rafters of a pergola type with the natural stain. The construction is of

the heavy mill type with exposed surfaced wooden timbers, provision being made for a later installation of a traveling crane.

The power house plant will be installed in a red brick building and will be equipped adequately to light and heat all of the buildings on the University campus, both existing and those under construction. In a general way the equipment will be as follows:

Two 250-horse power boilers.

One 200 K. W. direct connected alternating current generator. One 100 K. W. direct connecting alternating current generator. This plant will take the place of the existing power plant.
THE UNIVERSITY LIBRARY.

LOCATION.

The Library is located in the rear wing of the Administration building, with the reading and reference room on the main floor and the stack room below.

CONTENTS.

BOOKS.

30,948 bound volumes are now in the library and several thousand pamphlets making a total of nearly 40,000 titles. More than two-thirds of the volumes have been purchased within the last ten years and have been selected with the modern idea of college work in mind, thus making it especially well suited to present needs. This is a designated depository library and is fortunate in possessing almost a complete set of United States government publications, that are always available to any who cares to consult them.

The Frederick James Grant Memorial Library of American History supplements the general library in that department.

PERIODICALS.

The library receives regularly 336 periodicals, other than newspapers, including standard magazines and leading technical journals, both American and foreign, representing all phases of scholarship pursued in the University. Besides these, it receives the leading newspapers from the Pacific Northwest and a few from the large eastern cities.

READING ROOM.

The reading room is on the main floor of the Administration building, and easy of access. It is an exceedingly well lighted room and well suited to its purposes. Seats at individual tables are provided for 140 readers on the main floor, and seats without tables for 160 readers in the balcony, giving a total seating capacity for 300 readers.

THE UNIVERSITY LIBRARY

In the reading room, 12,000 volumes and 200 current periodicals are shelved, giving unrestricted access.

ACCESS TO STACKS.

Any student may upon request of a professor obtain a stack permit, which gives him access to all the books of the library.

LENDING.

Excepting reference books, periodicals, U. S. government publications and books reserved for required reading in the several courses, all books are loaned for home use for a period of two weeks, subject to renewal or recall in case of special demand.

LIBRARY HOURS.

The library is open every day in the year except Sundays and legal holidays. During the college year, it is open Mondays to Fridays from 8:00 a. m. to 5:30 p. m. and from 7:00 p. m. to 10:00 p. m. On Saturdays from 8 a. m. to 12 m. and from 1 p. m. to 5 p. m. During the vacation period it is open at least three hours a day.

SEATTLE PUBLIC LIBRARY.

Besides the University library facilities, members of the University have the privilege of the Seattle Public Library, now containing 110,000 volumes. This library is administered in the most modern manner and is housed in commodious new quarters.

THE LIBRARY CENTER OF THE NORTHWEST.

In selecting a place for educational opportunities, it must not be overlooked that students here are in the great library center of the Northwest. In this city there are already the greatest book collections within eight hundred miles. Both the University library and the Seattle Public Library are growing rapidly. Seattle as a book center is growing more rapidly than any other city in the territory described.

THE UNIVERSITY LABORATORIES.

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

BOTANY.

The botanical laboratories are on the third floor of Science hall. The general laboratory is a room forty-one feet by fortytwo 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 material, and with student lockers. There is also a case of drugs for pharmaceutical work.

The bacteriological 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. 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 undisturbed work.

On the fourth floor is fitted up a room sixteen by sixteen feet. This is where the herbarium work is done, and where the laboratory sections in field work meet. Adjoining are the herbarium cases.

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 thirty-five compound microscopes, twelve dissecting microscopes, one of the best Minot

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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. There are appliances for photography and the making of lantern slides, and the department has several hundred lantern slides on hand.

The herbarium consists of about ten 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. The department will be glad to receive specimens from teachers and others.

CHEMISTRY.

The laboratories devoted to the department of chemistry are capable of accomodating two hundred fifty students working at one time. They consist of three laboratories, a stock room, a store room, a weighing room, and three private laboratories, situated in two temporary buildings near the Administration building. These laboratories are well equipped for experimental work.

A new building to be used by the department of chemistry is now in course of erection. This building is located south of the Science hall and is a three-story steel frame, fire proof structure, 168 by 61 feet in the main and with an annex 64 by 64 feet. The latter has two floors, one containing a lecture room with a seating capacity of 500 and the other an assay shop, reading rcom, etc. The main portion of the building contains twelve laboratories, each 28 by 59 feet, and each floor contains private laboratories, store rooms and offices. The floors are of concrete on steel beams with wooden coverings; exterior walls are of buff pressed brick. All lavatories are finished in marble and the exhaust system of ventilation is to be installed.

ENGINEERING.

CIVIL ENGINEERING.

SURVEYING. 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 Brandis transit, one Seelig transit, 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 Sellig thye level, one Gurley and two Keuffel and Esser plane tables, all complete with alidades; sextants, pocket transits, aneroid barometers, hand levels, chains, tapes, level and stadia rods, and other necessary minor articles.

HYDRAULIC. The hydraulic laboratory is located on the campus near the shore of Lake Washington. At present it occupies a floor space of twenty-eight by thirty-six feet. The high pressure equipment consists of one small Tutthill wheel, one Pelton wheel, and various nozzles and orifices connected to a header under a head of 265 feet. For low head experiments and pump tests there is a set of tanks and measuring weirs. Water is furnished for illustrating the flow of water over different forms of weirs, by two centrifugal pumps with a combined capacity of six hundred gallons per minute. Larger weirs are placed in streams near the campus, making it possible for regular work to be conducted under ordinary field conditions. Stream guagings are carried on both by weir and by current meter, a number of stations having been established where daily readings are taken. The Price acoustic meter and the Price electric meter are used for stream measurements. A test of an existing plant will be conducted each year, the students being called upon to take an active part both in preparation and in the test. A visit is made each year to one or more of the large hydraulic developments such as at Snoqualimie. Electron, and the Seattle municipal power plant.

STRUCTURAL MATERIALS. The structural materials testing laboratory contains two 30,000 lb. Olsen, one 100,000 lb. Riehle, and one 200,000 lb. Olsen general testing machine with complete appurtenances for tension, compression and transverse tests of full sized 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 UNIVERSITY LABORATORIES

ROAD. The road laboratory is equipped for testing materials used in the construction of roads. The impact and abrasion machines are of the standard designs adopted by the American Society for Testing Materials. This laboratory is prepared to make all tests necessary for determining the value of road material, the tests being similar to those conducted by the office of Public Roads of The Department of Agriculture, Washington, D. C.

Plans are being matured for constructing all roads on the grounds of the Alaska-Yukon-Pacific Exposition by the Civil Engineering Department of this University; in which event all machinery such as graders, steam rollers and other equipment necessary for carrying on the work in the most approved way will be provided.

Sections of roads will be built according to all known methods and careful records and observations made.

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

ELECTRICAL ENGINEERING.

The equipment for the laboratories may be outlined as follows: (a) Direct Current Laboratory.

On a floor space of 20x40 feet are placed nine direct current generators and motors of the Westinghouse, General Electric, Bullock & Western Electric manufacture. The capacities vary from 2 to 20 K. W. with a total of 75 K. W. Lamp-banks, switchboards, rheostats, and other accessory apparatus are conveniently arranged about the room. A storage battery of 72 cells is placed in an adjacent room, and current is distributed in the laboratory through a separate switch-board.

(b) Alternating Current Laboratory.

In this room, 30x50 ft., are placed eight alternating current dynamos, of commercial types, having a total capacity of 70 K.

W. Among these may be named, a two-phase and a three-phase Fort Wayne generator; three-phase Westinghouse rotary converter; Wagner, General Electric, and Bullock single-phase and three-phase induction motor; and a three-phase Fort Wayne synchronous motor. The equipment also includes ten transformers of a combined capacity of eighteen K. W., five lamp-banks with 900 lamps; switch-board and other accessory apparatus.

(c) Commercial Laboratory (Power House).

1. D. C. 500 volt, 75 K. W., Westinghouse generator.

- 2. A. C. Single-phase, 60 cycle, 1100 volt, 60 K. W. generator.
- 3. A. C. Single-phase, 133 cycle, 1100 volt, 35 K. W. generator.
- 4. D. C. 125 volt, 221/2 K. W., Northern generator.

(d) Photometrical Laboratory.

1. Mathews Integrating photometer.

2. Three meter bench photometer with Lummer-Brodhum screen.

3. Standard lamps from the National Bureau of Standards, New York Testing Laboratory and the Westinghouse Testing Laboratory.

4. Assortment of arc, Nernst, and incandescent lamps for testing purposes.

(e) Instruments.

The laboratories are equipped for the most part with standard Weston and General Electric instruments, while American, Whitney, and Westinghouse makes are also represented.

8 indicating D. C. portable voltmeters; 9 indicating A. C. portable voltmeters; 10 indicating D. C. portable ammeters; 13 indicating A. C. portable ammeters; 7 indicating portable wattmeters; 9 indicating switch board voltmeters; 8 indicating switch board ammeters; 8 integrating wattmeters; 4 Bristol recording volt and ammeters.

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

THE UNIVERSITY LABORATORIES

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, gauges, barometers, thermometers, a pyrometer, Orsat gas apparatus, 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 measuring of water used. A seven horse-power engine, to burn gas or gasoline, is fitted especially for experiment. In connection with the above are used the three horizontal tubular boilers of the power house. A seven horse-power steam turbine has been installed in such manner that it may be run either with steam under full pressure direct from the boiler or with exhaust steam from the laboratory engine. and in either case the turbine itself may exhaust into the atmosphere or vacuum, several sets of nozzles being available for the various conditions.

The laboratory is also equipped with an air compressor and air brake outfit, belt testing and oil testing machines, dynamometers and fuel calorimeters.

The wood-working shop is equipped with lathes and benches, band saws, circular saws with boring attachment, planer, wood trimmer, and the necessary accessories.

The machine shop contains modern high speed lathes with turret attachment, planer, shaper, drill press, a universal milling machine, a universal grinding machine, metal shop saw, emery wheels, and a complete equipment for bench and vise work.

The forge shop is equipped with down draft forges with suitable blower and necessary accessories.

The foundry is provided with a cupola of two tons capacity and the necessary accessories.

LIBBABY.

The library contains complete files of the transactions of the American Society of Civil Engineers, the transactions of the American Society of Mechanical Engineers, transactions of the American Society of Electrical Engineers, the proceedings of the American Railway Engineering and Maintenance of Way Association, the Minutes of the Proceedings of the Institution of Civil Engineers of Great Britain, the Engineering News, the Engineer-

ing 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 priodicals.

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, 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 minerals for descriptive and determinative work, collections of natural crystals, wood models, blowpipe sets, etc.

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

PHARMACY AND PHARMACEUTICAL CHEMISTRY

The rooms devoted to pharmacy and pharmaceutical chemistry are located in the Administration building and are capable of accommodating seventy-five students working at one time. They consist of three laboratories, a stock room, prescription room, three private laboratories and a class room. The laboratories are adequately equipped with water, gas, electric lights, electrical current for experimental purposes, as well as with excellent desks and permanent apparatus.

Everything essential to the work of the department, covering about five years' work in pharmaceutical chemistry and pharmacy, is included. The stock room is in charge of a pharmacist and contains a complete supply of crude drugs, chemicals and apparatus. At certain hours students are permitted to borrow all needed apparatus, which may be returned without charge if in good condition.

Students in pharmaceutical botany, physiology and bacteriology have well equipped laboratories in Science hall.

PHYSICS.

The laboratories set apart for the use of the departments consist of: (1) a general laboratory, thirty by seventy feet; (2) an electrical testing room with four piers; (3) a photometry room; (4) a battery room.

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 straightline dividing engine with microscopes, so that it may be used as a comparator; (2) Helmholtz resonators and a double siren, chronograph with fork; (3) Boy's radio-micrometer, Dulong and Petit's absolute expansion of liquids apparatus. Nertholet'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. Weston voltmeters and ammeters, Reichsanstalt resistance, Kohlrausch bridge, Hartman & Braun's electrolytic resistance apparatus, standard condensers, Thompson galvanometers, etc.; (6) a storage battery of seventy cells; (7) Lummer-Brodhun photometer with three meter track, a Bunsen screen, standard lamps from the New York Testing Laboratory and the National Bureau of Standards.

The general laboratory is supplied with a number of standard

reference works. A number of the more prominent periodicals in physics are constantly on file, such as Philosophical Magazine, Physical Review, Astrophysical Journal, Wiedmann's Annalen and Beiblaetter, Journal de Physique, Nature, Science.

STANDARDIZATION BUBEAU. The department of Physics is equipping itself as rapidly as possible to meet the demand for a bureau where scientific instruments may be accurately calibrated and tested. The primary standards of this bureau will, in so far as it is possible, be calibrated by both the Reichsanstalt and our National Bureau of Standards. At present the bureau is prepared to standardize D. C. Voltmeters, Ammeters, and Wattmeters; A. C. instruments to a less accurate degree, thermometers, and to some extent high temperature instruments. Those desirng to have work done should address the director, Frederick A. Osborn.

PSYCHOLOGY.

The psychological laboratory occupies four rooms on the fourth floor of Science hall. The largest room, which is used for the general laboratory, is eighteen by thirty-six feet; two other rooms, each eighteen by eighteen feet, are used for accoustic and visual experimentation. The fourth room contains appartus for the reaction experiment. The equipment of the laboratory includes the following pieces of apparatus: five Koenig forks; an Edelmann's Galton whistle sonometer; two organ pipes; bellows and rubber wind-bag for actuating pipes: Ellis harmonical, and other minor instruments for accoustical work; colored papers; Hering's color-blindness tester, Hering's binocular color-mixer, Hering's color-mixer and campimeter; six electro-motors, ophthaloscope, ophthalmotrope, stereoscopes, pseudoscope; a clock-work kymograph, a Zimmerman ergograph, a Lehman plethysmograph; a Hipp chronoscope and ascessories; materials for experimentation on the cutaneous sensations and taste and smell.

SCHOOL OF MINES.

Assaying. The assay laboratory is located immediately north of the Administration building. One room contains six stationary wind furnaces, thirteen inches square; one large double muffle, heated by coal and coke; desks for fifty students; eight ore balances and tables for preparing charges, and hand sampling equip-

THE UNIVERSITY LABORATORIES

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ment. An adjoining room contains a Hoskins gasoline pressure tank, five burners to heat muffles and fusion furnaces, a Brown cupel machine, two Denver Fire Clay Company's double muffle coal furnaces, a sampling floor, bucking boards, mortars, pans, lockers and suitable tools.

The crushing equipment consist of a Sturtevant roll-jaw crusher, size 2 by 6 inches, an Allis-Chalmers sample grinder and a Braun disc pulverizer, all driven by a 2-h. p. motor.

High temperatures are obtained by means of a Heracus electrically heated tube furnace 60 cm. long, mounted on trunnions, and a Hoskins electric furnace. Temperatures from 900 to 2000 centrigrade are measured by an optical pyrometer after Wanner.

The balance room is supplied with a Keller button balance, sensitive to one two-hundredth of a milligram, Oertling, Ainsworth and Becker button balances, two Thompson analytical balances, and one Thompson button balance, sensitive to one twohundredth of a milligram, and having multiple-rider attachment.

Wet assaying and analysis is carried on in a room fitted with gas and water for twelve desks. The University power plant supplies direct current for electrolytic work. Tanks for cyanide tests, a large hood, two pairs of cornet rolls and a 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. A twoton 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 3-4-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 bat-

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tery weigh three hundred pounds each and fall at the rate of ninety drops per minute. The pulp passes over silvered copper plates, through a mercury trap of Black Hills pattern, and, if desired, it may be passed through a Browne hydrometric sizer. The classified product may be directed by launders to one or more of the following: Frue vanner; Overstrom diagonal table; Wilfley slimer: revolving slime table: New Standard concentrator. Ores to be concentrated 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 boiler plates where it is quartered by hand, the final sample being crushed at the assay shop. The main stream of ore passes through a trommel and is jigged in a three-compartment single Harz jig with screens nine by fifteen inches. The jig tailings may be treated on any of the tables mentioned. Screening tests are made by means of a power driven shaking screen with six decks of screens.

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. A six horse power motor furnishes 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, a Wood air drill and a Jeffrey coal mining drill, besides several sets of hand tools. Compressed air for running the drills is obtained from a compressor in the Mechanical Engineering department. The students have driven a small timbered tunnel on the campus, where experiments are made with different varieties of blasting powders.

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 twen-

THE UNIVERSITY LABORATORIES

ty-eight compound miscroscopes. 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.

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.

BOTANICAL MUSEUM.

The botanical museum consists of the following: (1) An herbarium of dried flowering plants representing 8,000 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.

GEOLOGICAL MUSEUM.

The geological museum is located in Science hall, on the first floor, where it occupies a room fifty by sixty feet. 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 crystal-

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ized 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) the college collection of paleontology from the Ward Natural Science establishment, representing all the characteristic invertebrate forms from the Palaeozic and Mesozoic eras; (5) 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; (6) collections of photographs and relief maps illustrating the geology and geography of Washington.

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 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 Indian life. One of the merits of the Stewart exhibit lies in the fact that it is entirely local, having been collected along the lower Columbia river.

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 Museum 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 crnithological 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 mollusca 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.

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, and a wash room.

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, 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.

For the laboratory work there is a Bond sidereal chronometer (No. 1024), one standard time clock, one sidereal clock, three sextants and artificial horizons, six sidereal globes, two blackboard globes, two small telescopes, fourteen binoculars, fiftèen wooden universal instruments, and one stereopticon with four hundred lantern slides.

A valuable addition to the laboratory equipment is a gift from Harvard College Observatory. This gift consists of ten large photographic transparencies, twenty star charts, and twelve volumes of the Annals of the Observatory.

ADMISSION TO THE UNIVERSITY.

ADMISSION TO THE FRESHMAN CLASS.

The following fixed requirements have been made for the years 1907-8 to 1910-11, 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 eight and one-half are specified and required of each student; the remaining six and one-half are elective from the list of optional subjects:

SPECIFIC SUBJECTS.

Algebra, 1½ units. English, 4 units. U. S. History and Civics, 1 unit. Physics, 1 unit. Plane Geometry, 1 unit. Total, 8½ units.

OPTIONAL SUBJECTS.

Astronomy, ½ unit. Botany, ½ or 1 unit. Chemistry, 1 unit. Drawing, 1/2 or 1 unit. Economics, 1/2 unit. French. 1, 2 or 3 units. *Geology, ½ or 1 unit. German, 1, 2, 3 or 4 units. Greek, 1, 2 or 3 units. History, 1, 2 or 3 units. Latin. 2. 3 or 4 units. *Physical Geography, ½ or 1 unit *Physiology, ½ or 1 unit. Solid Geometry, 1/2 unit. Spanish, 1 or 2 units. Trigonometry, ½ unit. Zoology, ½ or 1 unit.

*1 unit accepted only after approval of a definite laboratory course.

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

NOTE 2. Among the six and one-half elective units there must be included certain ones determined by each particular college or school of the University as follows:

COLLEGE OF LIBERAL ARTS.

Classical group: Four units of foreign language, not less than two being Latin.

Modern Language-Literature group: Four units of foreign language.

Philosophical group: Same requirement as any other group.

Mathematico-Physical group: Two units of a foreign language, one unit of chemistry or biology, one-half units each of solid geometry and physical geography.

Science group: Same as the Mathematico-Physical group.

COLLEGE OF ENGINEERING AND SCHOOL OF MINES.

Two units of a modern foreign language, one unit of chemistry and one-half unit of solid geometry.

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.

SCHOOL OF PHARMACY.

The requirements may be satisfied by entrance similar to that of any other college or school of the University.

SCHOOL OF LAW.

The requirements may be satisfied by entrance similar to that of any of the other colleges or schools, and the completion of one year's work in the College of Liberal Arts.

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.

ASTRONOMY.

A knowledge of general astronomy as is set forth in Young's Manual of Astronomy or the texts of Moulton and Comstock.

The fundamental facts and laws of the solar system should be mastered.

BOTANY.

As stated in the requirements for admission, botany may be offered as one unit or 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's Plant Life, Bergen's Foundations of Botany, or Bergen's Principles of Botany.

CHEMISTRY.

The equivalent of one year's work in the high school. The text recommended is Hessler and Smith or Newell's Descriptive Chemistry. 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 high school.

DRAWING.

The equivalent of one year's work in mechanical or freehand drawing.

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

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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—De Coverly Papers. Coleridge—Ancient Mariner. George Ellor—Silas Marner. IBVING—Life of Goldsmith. Lowell—Vision of Sir Launfal. Scorr—Lady of the Lake and Ivanhoe. SHAKESPEARE—Merchant of Venice and Macbeth. TENNYSON—Idyls of the King.

The books set for this part of the examination in the years 1909-1911 are:

GROUP 1 (two books to be selected).

SHAKESPEARE—AS YOU Like It; Henry V; Julius Caesar; The Merchant of Venice; Twelfth Night.

GROUP 2 (one book to be selected).

BACON-Essays. BUNYAN-The Pilgrim's Progress, part 1; The Sir Roger de Coverly Papers in the Spectator. FRANKLIN-Autobiography.

GROUP 3 (one book to be selected).

CHAUCER—Prologue; Selections from Spenser's Faerie Queene. POPE—The Rape of the Lock (Parrott). GOLDSMITH—The Deserted Village (Pound). PALGRAVE—Golden Treasury (first series), books 2 and 3, with especial attention to Dryden, Collins, Gray, Cowper and Burns.

GROUP 4 (two books to be selected).

GOLDSMITH—The Vicar of Wakefield. SCOTT—Ivanhoe, Quentin Durward. HAWTHORNE—The House of Seven Gables. THACK-ERAY—Henry Esmond. GEORGE ELIOT—Silar Marner. MRS. GAS-KELL—Cranford. BLACKMORE—Lorna Doone. DICKENS—A Tale of Two Cities.

GROUP 5 (two books to be selected).

IRVING—Sketch Book. LAME—Essays of Elia. DE QUINCEY— Joan of Arc and the English Mail Coach. CARLYLE—Heroes and Hero-Worship. EMERSON—Essays (selected). RUSKIN—Sesame and Lilies.

GROUP 6 (two books to be selected).

COLERIDGE—The Ancient Mariner. SCOTT—The Lady of the Lake. BYRON—Mazeppa and the Prisoner of Chillon. PALGRAVE— Golden Treasury (first series), book 4, with special attention to Wordsworth, Keats and Shelley. MACAULAY—Lays of Ancient Rome. POE—Poems. LOWELL—The Vision of Sir Launfal. AR-NOLD—Sohrab and Rustum. LONGFELLOW—The Courtship of Miles Standish. TENNYSON—Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur. BROWNING—Selections.

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—Conciliation with America. MACAULAY— Essay on Milton and Life of Johnson. MILTON—Minor Poems. SHAKESPEABE—Julius Caesar.

The books set for this part of the examination in the years 1909-1911 are: SHAKESPEARE—Macbeth. MILTON—Lycidas, Comus, L'allegro, and Il Penseroso. BURKE—Speech on Conciliation with America, or Washington's Farewell Address, and Webster's First Bunker Hill Oration. MACAULAY—Life of Johnson; or, CARLYLE—Essay on Burns.

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

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.

GERMAN.

Students entering with two years of high school German should be able to translate simple German prose into good idiomatic English, to translate simple English sentences into German and to carry on a simple conversation in German based upon the reading. They should have a thorough knowledge of elementary grammar and should have read about 300 pages of easy prose, chiefly narrative, including one or two short comedies.

Students who offer more than two years of German for entrance should have had systematic work in German composition and conversation, and should have read at least one German classic, preferably Schiller's Wilhelm Tell or Lessing's Minna von Barnhelm.

Valuable suggestions concerning methods of teaching and suitable texts to be read each year may be found in the report of the Committee of Twelve, (16c, D. C. Heath & Co.), which ought to be in the hands of every high school teacher of German.

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 Grek 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 Benner & Smyth's Beginner's Greek Book 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.

HISTORY AND GOVERNMENT.

Preparatory schools are recommended to rely upon the suggestions of the committee of seven of the National Educational Association. The ideal course embraces four full years as listed in the following suggestions for preparation. In case time and equipment preclude this ideal, then one or more of the suggested fields should be chosen rather than the ineffectual attempt to cover all the fields in a so-called general history course.

1. ANCIENT HISTORY. Special stress should be given to the history of Greece and Rome, as planned by the best modern textbooks. A full year should be given to the work, and the following are recommended as among the best text-books: West's Ancient History, Wolfson's Essentials in Ancient History and Botsford's Ancient History.

2. MEDIEVAL AND MODERN HISTORY. This work should occupy a full year in a study of the history of the world from the death of Charlemagne to the present time. Among the best text books are Munn and Whitcomb's Medieval and Modern History, and Harding's Essentials in Medieval and Modern History.

3. ENGLISH HISTORY. There are many good new texts on this field. Among those commended are Larned's History of England,

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Andrew's History of England, Walker's Essentials in English History and Montgomery's Leading Facts of English History. There should be collateral reading in more extensive works, such as the Epoch Monographs, Gardiner's larger history and Green's Short History of the English People. At least one year should be used in this preparation.

4. AMEBICAN HISTORY AND CIVIL GOVERNMENT. Every American high school and independent student should have abundant equipment to achieve preparation in this field with one year of work. Among the texts commended are Hart's Essentials in American History, McLaughlin's History of the American Nation, Montgomery's Student's American History, Larned's History of the United States, Channing's Student's History of the United States. With the history, or at least during the same year, should be taken the work in Civil Government. For that purpose Ashley's American Government is recommended as a satisfactory text.

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 1 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 Caesar 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 Aeneid. Special attention should be paid to prosody, the syntax of Vergil, mythology, and the history and purpose involved in the poem.

MATHEMATICS.

ALGEBRA.

The required work in algebra $(1\frac{1}{2}$ 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 binominal 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 unknown; variation, ratio and proportion; imaginary and complex numbers and their geometrical representation.

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 GEOMETBY.

The required work in plane geometry (1 unit) should extend throughout one year of five recitations per week. Whatever text-book or method is used, the theorems of the book should not occupy over one-third of the time allotted to geometry. Another

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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 solids 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 should 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.

PHYSICAL GEOGRAPHY.

The preparation in this subject should include at least one full year's work with regular laboratory exercises and excursions

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in the field. One-half entrance credit is given only when the course is given for a half year. Davis's or Tarr's Physical Geography are examples of good texts.

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 general character of 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.

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.

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 Linville and Kelly's Text-book of Zoology, or Jordan's Animal Life, accompanied by practical laboratory work, is suggested.

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 University, a committee of the faculty will visit the 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 a certified record of work as in the case of local students.

Correspondence relating to inspection and accrediting should be addressed to Professor Edward O. Sisson, Chairman of the Committee on Accredited Schools.

LIST OF ACCREDITED SCHOOLS.

The following high schools and academies were on the accredited list March 1, 1908.

Public High Schools. Aberdeen Anacortes Arlington Auburn Bellingham, North Bellingham, South Bremerton-Charlestown Centralia Chehalis Colfax Davenport Dayton Ellensburg Everett Garfield Hoquiam Kent LaConner Mt. Vernon North Yakima Olympia

Palouse Pomeroy Port Angeles Port Townsend Prosser Puvallup Seattle-Washington Lincoln Ballard Sedro-Woolley Snohomish Spokane Sumner Sunnvside Tacoma Vancouver Waitsburg Walla Walla Waterville Wenatchiee

Other Secondary Schools.

Brunot Hall (Spokane) Seattle Seminary (Seattle) University of Puget Sound, Preparatory Department.

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.: a foreign language, sixteen credits; a science, eight credits; political economy, four credits; modern European history, four credits, philosophy, eight credits; and twenty-four credits in the major study. Normal graduates who major in education, in consideration of the large proportion of pedagogical work in the normal school course, may with the consent and advice of the department of education, take part of the 24 hours of major work in other departments.

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.

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.

UNIVERSITY LECTURES.

ADDRESSES AT ASSEMBLY.

Addresses by members of the faculty and by distinguished scholars and men of affairs are given Wednesdays before the student body in the men's gymnacium. 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 1907-1908:

Sept. 18, 1907.	Music by University Orchestra.						
	Address: Mayor William Hickman Moore.						
Sept. 25, 1907.	Addresses by Student Leaders.						
Oct. 9, 1907.	9, 1907. Music: University Orchestra.						
	SoloMr. Fred Butler						
	Address by Dr. David Beaton, of the University						
	of Chicago.						
Nov. 13, 1907.	Address: "The U. S. in the Philippine						
	Islands"Dr. Homer C. Stuntz						
Dec. 18, 1907.	Address: "The Political Situation"						
	Chancellor E. Benjamin Andrews						
	University of Nebraska.						
Feb. 5, 1908.	Selection from "Faust"University Orchestra						
	Soprano Solo, "Jewel Song" from Faust						
	Miss Suzanne McArdle						
	Baritone Solo, "Valentine's Cavatina" from						
	"Faust"Mr. Karl Schwerdtferger						
Mar. 4, 1908.	SoloMiss Lela Martin						
	Address: "The Mission of the Classic Actor"						
	Mr. Charles B. Hanford						
Mar. 18, 1908.	College Hour Exercises.						
	Address: Professor Edward S. Meany.						
Apr. 15, 1908.	College Hour Exercises.						
	AddressLoren D. Grinstead, '05						

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 1907-8 comprises the following:

Lecture: Hon. Benjamin R. Tillman, United States Senator from South Carolina.

Lecture: Profesor Frederick Starr, of the University of Chicago.

Lecture: Dr. Thomas E. Green, of chicago.

Lecture: Captain Richmond P. Hobson, Congressman from Alabama.

Entertainment: Mr. William Lee Greenleaf.

UNIVERSITY MUSICAL COURSE.

During the past year the University established, as a permanent feature, a musical course consisting of concerts and recitals given by the great artists of the world. The course for 1907-8 comprises the following:

Miss Maude Powell, Violinist.

Mr. Jan Kubelik, Violinist.

Mr. Herbert Witherspoon, Basso.

Mr. Ignace Paderewski, Pianist.

Mme. Lillian Blauvelt Company.

Chicago Symphony Orchestra.

Grand Opera "Faust," Chicago Symphony Orchestra and supporting soloists, with chorus of 300 voices under the direction of Professor Charles Oscar Kimball, Director of Music, University of Washington.

Miss Bessie Abbott, Soprano.

INSTITUTES AND LECTURES.

The various members of the University faculty hold themselves ready to respond to call 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 the 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.

ALUMNI ASSOCIATION.

The officers of the Alumni Association for 1906-7 are as follows:

President	.Edgar	J	. 7	Vright,	1901
SecretaryI	Loren I). (}ri1	mstead,	1905
Treasurer	Jam	es	E.	Gould,	1896

THE ASSOCIATED STUDENTS.

The Associated Students of the University of Washington, (Incorporated) is an organization of the entire student body. The powers of government are vested by its constitution in an annually elected Board of Control, upon which three members of the faculty and three alumni also have seats. 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.

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.

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.

COUNTY AND STATE CLUBS.

The students from the different counties of the state and the students from some of the neighboring states maintain organizations at the University. These clubs serve the purpose of extending the acquaintance of the students that come from different high schools of the same county, and enable the students of the county organization to be helpful to the new students that enter from their county by furnishing all sorts of detailed information which has to be gained by personal acquaintance with the University. The most active of these organizations during the school year of 1907-8 have been the county organization of Chelan county. which has secured the establishment of the "Big Red Apple Scholarship" for the high school of Wenatchee, the Tacoma club and the Montana club. These clubs have enabled their members to wield a strong influence in the University, and have served to identify prominently with the University life, the names of the towns and counties which the club represents.

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 announcements 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.

DEUTSCHER VEREIN.

The Deutscher Verein is an organization of students and instructors interested in the study of the German language and literature and of German life and culture. Meetings are held twice a month, on Wednesday evenings, from seven to eight o'clock. The program consists of lectures, recitations, singing,

social entertainments and dramatic performances. All students who have studied German one year or more, particularly those who intend to specialize in German, are invited to membership.

THE INTERNATIONAL CLUB.

The International Club is an organization of the students at the University who are registered from foreign countries and those students of foreign parentage or foreign lineage and who speak the language representing their nationality. The nucleus of this club is the contingent of thirty-two students from foreign countries, twenty-one of whom are Japanese students and seven are from Canada.

MATHEMATICAL CLUBS.

The Students Mathematical Club meets on the first Tuesday of each month in room 26, Science hall, at 7:30 p.m. The club is open to every student of the University who is sufficiently interested in mathematics to contribute something toward a program at least once during the year.

The Mathematics Journal and Research Club meets on the second Tuesday evening of each month in room 26, Science hall, at 7:30 p.m. The club consists of teachers and advanced students in the department of mathematics.

MUSICAL ORGANIZATIONS.

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

The Choral Society now numbers 300 singers, including both students of the University and outside singers. It was organized for the purpose of promoting general musical culture, and to give the students an opportunity to study standard operas and oratorios. Membership in the chorus is open to all students who show a reasonable amount of musical ability. This chorus has been organized but three years, and in that time has attained a most phenominal growth and popularity.

The first year Sir Arthur Sullivan's opera, "The Pirates of Penzance," was given with chorus of 80 voices and orchestra of 15. The second year Handel's "Messiah" was given with chorus of 100 voices and orchestra of 16 pieces and an organ. This year Gounod's "Faust" was given with a chorus of 300 voices, the Chicago Symphony Orchestra of 65 pieces and the following solo-
ists, Genevieve Clark Wilson, soprano; Rose L. Gannon, alto; John Miller, tenor; Karl Swerdtferger, baritone. Charles Oscar Kimball of the University was the conductor.

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 some of the principal cities of the state.

The Orchestra was organized in 1898 and furnishes music for many events of the college year. The Band furnishes music at the foot-ball games, track meets and upon many other occasions. Both band and orchestra have more than doubled in membership during the past three years, and are very popular organizations.

There is no regular department of music in the University, but private instruction may be had at special rates, on the piano, violin, wind instruments, and in harmony and singing, from teachers of reputation and ability.

PHARMACEUTICAL ASSOCIATION.

Membership is open to all students of the school of pharmacy. The chief aim of the society is to have practical pharmacists deliver addresses upon subjects that have a bearing upon the practical side of the profession.

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.

POLITICAL SCIENCE CLUB.

This club is composed of students and members of the faculty interested in political science. Meetings are held on the first and third Wednesdays of the month at 7:30 p.m. At these meetings there are papers and addresses on political, social and economic subjects. It is the plan of the club to have one meeting each month devoted to papers prepared by students of the University, and one evening each month given to an address by some person not connected with the University.

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UNIVERSITY ASSOCIATIONS

SIGMA XI.

A chapter of the National Society of Sigma Xi has been established at the University. The purpose of the society is to encourage research work along scientific lines, and its membership is composed of teachers and graduate students.

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 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; Roger S. Green, treasurer; Edmond S. Meany, secretary; Cornelius H. Hanford, Thomas Burke, Samuel Hill, trustees.

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 Summer School. In the Summer School the tuition is ten dollars, as the Summer School is conducted independently by members of the faculty.

BOARD AND BOOM.

In the two dormitories, one for men and one for women, board and rooms are furnished at cost. During the past year the price of board and room has been \$17.50 a calendar month. This includes heat and light. 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 stay 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 DEPOSITS.

The University does not desire to make any profit from the deposits 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 deposits are based upon the average cost of materials used by the individual student in the laboratories. Laboratory deposits are made with the registrar in advance. These deposits in the several laboratories are as follows:

Assaying.—In assaying there is a laboratory deposit of ten dollars for course 1. A deposit of five 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 five dollars, the balance is refunded. If he has exceeded that amount, he is expected to pay the difference.

ASTRONOMY.—A deposit of fifty cents for each hour of credit is required of all students in courses 1, 2; 1a, 2a, 5 and 6. The deposit is intended to cover the cost of materials, breakage, and laboratory guides.

BOTANY.—Materials for dissection, stains, alcohol, and other reagents, and typewritten laboratory outlines are furnished each student, which cost one dollar for each hour's credit, except in research work, where the cost is determined by the nature of the work done and materials used.

CHEMISTRY.—At the beginning of each semester each student in chemistry will be required to make a deposit of ten dollars with the registrar before being assigned to his desk. Of this deposit there will be deducted the cost of chemicals, gas, water, etc., and the remainder, less breakage, will be returned.

ELECTRICAL ENGINEERING.—A deposit of one dollar for each hour of credit is made in all laboratory courses. The student also pays for any damage or injury that may come to any instrument or machine entrusted to him.

GEOLOGY AND MINERALOGY.—In courses 1, 1a and 2 a deposit of one dollar is made, in courses 3 and 4 a deposit of two dollars is made.

METALLURGY.—In courses 2 and 3 the deposit is three dollars. In courses 5 and 6, five dollars each.

PHABMACY.—The total deposit of first year students taking work in pharmacy, chemistry, botany and physiology is twentythree dollars for the first semester, and twenty-two dollars for the second semester. Second year students have a deposit of twenty dollars per semester. The student pays only the actual cost of drugs and chemicals used, the remainder of the deposit, less

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breakage, is returned at the end of each semester. The total cost per year seldom exceeds thirty dollars, the amount varying with the care and economy of the student.

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

PSYCHOLOGY.—A deposit of one dollar is made for each of the laboratory courses offered in experimental psychology. These courses are Philosophy 1-2 and Philosophy 7-8. The deposit 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.

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

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.

ZOOLOGY.—For the courses in Zoology, involving laboratory work, a deposit is required to cover the estimated cost of the laboratory outlines, materials, and reagents used by the students. For the regular courses, the amount is one dollar for each hour's credit. In research work the amount of the deposit is subject to special arrangement, according to the nature of the investigation.

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 also an employment bureau conducted by students to secure work for students who have to make their own expenses. The Registrar has a record of 303 men and 62 women who are paying all or part of their expenses for the school year of 1906-7. 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.

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 year 1906-7 to William P. Thompson.

A prize of one hundred dollars has been offered to students of the department of Chemistry by Mr. Thomas T. Kerl, of Cœur d'Alene, Idaho. This prize will be awarded to the student presenting the best paper on an industrial topic involving the products of the Pacific Northwest. The award is to be made at Easter. In 1907 the prize was given to Horace G. Deming.

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. In 1906-7 the Battle prize was awarded to Edward M. Hawes, Charles W. Hall and William B. Rasmussen. In 1906-7 Hon. Watson Allen gave a prize of seventy-five dollars to the Washington debaters who met the team from the University of Idaho. The Allen prize was awarded to George Spirk, Harlan Trumbell, and Victor Zednick.

DECLAMATION.

Hon. Alden J. Blethen offers annually the sum of one hundred dollars for prizes in declamation. The contests, two in number, one in oratorical declamation, and one in narrative and dramatic declamation, are held at the University in May of each year. These contests are open to pupils in attendance at any one of the accredited high schools of the state. The prizes are twenty-five dollars for first place, fifteen dollars for second place and ten dollars for third place in each contest. In 1907 the winners in the oratorical section were: 1st, Alice Tooley, Vancouver; 2nd, George J. Kasai, Seattle; 3rd, Ralph Callahan, Aberdeen. The winners in the dramatic section were: 1st, Scipio Oyen, Everett; 2nd, Fannie Charles, Puyallup; 3rd, Elsie Mackenzie, Colfax.

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. In 1906-7 this scholarship was awarded to Walter C. Wagner.

THE B. C. ERSKINE PRIZE.

The R. C. Erskine, of Seattle, gives annually a cash prize of fifty dollars to the member of the senior class who presents the best original oration. The purpose of Mr. Erskine in offering this prize is to stimulate interest in the study of political and social problems with special reference to the peculiar problems ϕf the city of Seattle and the state of Washington. This contest, open only to seniors, is held in the early part of March.

LATIN.

A scholarship of sixty dollars has been provided through the generosity of Judge Burke, of Seattle, to be awarded annually to the student in the department of Latin who does the best work in the sophomore year. Candidates must be carrying a full year of college work and the scholarship will be awarded on the basis of both the work in Latin and that in the other subjects of their course. The first award will be made at commencement in 1907-8.

ORATORY.

In 1896 the King County Bar Association offered an annual 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 of oratory was kept up until 1907 by a voluntary committee of the association, consisting of E. F. Blaine and W. S. Fulton. In 1907 Mr. E. F. Blaine himself became sponsor for the prize, which is now known as the E. F. Blaine prize in oratory. The prize was awarded in 1907 to John Erickson of the University of Washington.

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PHARMACY.

Thomas 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. The medal in 1906-7 was given to William P. Whiteside.

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. At commencement, 1907, this prize was awarded to Jay Whitfield.

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 in physics during the year. To be eligible a student must have had at the time of the award at least eight hours each in physics and mathematics, and he must continue his work in the department the following year.

THE SEATTLE BAR ASSOCIATION GIFT.

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

SENIOR SEHOLARS.

In June preceding their senior year juniors who have 88 or more credits with high grade may be elected senior scholars. A senior scholar may be relieved from attendance at regular lectures or recitations, and may be granted other special privileges; his work must be in not less than two nor more than four allied subjects, and it must be correlated so that it will bear upon some common field. The senior scholars for 1907-8 are: Lucy Barnes, Annie Fallis, Rose Kahn, Thomas E. Latimer, William Q. Osburn, Arthur S. Pope, William P. Thompson, Ethel Way, Evelyn Way.

THE JOHN WALTER ACKERSON SCHOLARSHIP FOR WOMEN.

This scholarship, of one hundred dollars, is to be awarded annually to a member of the junior class. The award will be made by a committee of the faculty on the basis of (1) scholarship, and (2) personal influence and activity in elevating student interests. Of the young women in the junior class measuring up to the standards contemplated in this scholarship, preference will be given to the ones who are financially more or less dependent on their own resources.

The scholarship is due to the generosity of Mrs. S. Louise Ackerson. It is named in honor of her husband, the late John Walter Ackerson, a pioneer of Washington, who built the first mill in Tacoma and was one of the founders of the great lumbering industries centering in that city.

THE BIG RED APPLE SCHOLARSHIP.

Through the efforts of the Chelan County Club, an organization composed of students in the University from Chelan county, a scholarship of two hundred dollars has been established in the University. This scholarship is to be given to the most deserving student in the graduating class of the Wenatchee High School, based upon class standing and participation in student activities. The scholarship is to be known as the "Big Red Apple Scholarship," taking its name from the fact that the award is made by the business men of Wenatchee, the Home of the Big Red Apple.

UNIVERSITY FELLOWSHIPS.

By the will of Sarah Loretta Denny the sum of \$25,000 was bequeathed to this University for the establishment of University fellowships. Announcements will be made later concerning the fellowships provided for in this bequest.

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; no student is allowed to carry more than sixteen hours or fewer than twelve hours per week, exclusive of physical culture and shopwork, without official consent granted by the faculty committee on petitions.

Two hours of gymnasium work per week are required of all students throughout the first and second years. Eight credits in physical culture are required of all candidates for a degree. This does not apply to any student entering as a junior or senior. The Deans and Physical Director together have authority to allow a student to substitute for gymnasium work when it seems advisable, the proper corresponding amount of scholastic work. Substitutions to be valid must be signed by the Dean concerned and the Physical Director, and must be filed in the Registrars's office.

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.

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.

The work of the senior year must be done in residence.

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 in March.

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' degree are not less than one year.

In the College of Liberal Arts are given the degrees of Bachelor of Arts (A. B.), Bachelor of Science (B. S.) 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.) and Engineer of Mines (E. M.); 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.).

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

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.

NORMAL DIPLOMA.

The Normal Diploma of the University, equivalent to a life certificate to teach in the schools of the state without further examination, is granted upon the following conditions:

1. Attainment of a bachelor's degree equivalent to that of the College of Liberal Arts of the University of Washington. 2. Completion of twelve hours in the Department of Education, including course 2, History of Education, four hours; and eight hours selected from the following courses: 1, 3, 4, 6. Eight hours out of the twelve are credited on the 128 hours required for graduation; the remaining four hours are not so credited, but count only for the Normal Diploma.

3. Completion of the teachers' course in the student's major subject.

4. Evidence of such general scholarship and personal qualities as give promise of success and credit in the profession of teaching; legible handwriting, good spelling, and correct English are indispensable. Active interest in the prospective work as teacher will be considered.

Recommendation to teach particular subjects will be granted to those who have made appropriate special preparation.

Note.—Applicants for the diploma in 1908 and 1909 will be accepted upon the conditions announced in the catalogue for 1906-7, calling for eight hours instead of twelve in Education.

SYSTEM OF GRADES.

The following is the system of grades:

A		100
B +		93
В		85
B		77
C	(Conditioned)60-	69
D	(Failed)Below	60

Grade C is changed to D if not removed by the student during his next semester in residence.

SCHOLABSHIP STANDING.

(a) If a student, during his first semester of residence, does not pass in one-fourth of his hours, he is dropped from the University.

(b) If a student, during his subsequent residence, does not pass in one-half of his hours, he is dropped from the University.

(c) A student must pass in three-fourths of his hours to keep off probation.

(d) A student on probation two semesters in succession must pass in all his hours.

ORGANIZATION OF THE UNIVERSITY.

THE UNIVERSITY OF WASHINGTON EMBRACES:

THE COLLEGE OF LIBEBAL ARTS. THE COLLEGE OF ENGINEERING. THE SCHOOL OF MINES. THE SCHOOL OF PHARMACY. THE SCHOOL OF LAW. THE SCHOOL OF FORESTRY. 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.

EDMUND 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.
- ABTHUB SEWELL HAGGETT, Ph. D., Professor of Greek.
- FREDERICK ABTHUE OSBORN, Ph. D., Professor of Physics and Director of the Physics Laboratories.
- WILLIAM SAVERY, Ph. D., Professor of Philosophy.

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

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

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

- ROBERT EDOUARD MORITZ, Ph. D., Professor of Mathematics and Astronomy.
- EDWARD O. SISSON, Ph. D., Professor of Pedagogy and Director of the Department of Education.

FREDERICK W. MEISNEST, Ph. D., Professor of German.

VICTOR MORTON PLACE, A. B., Director of the Gymnasium.

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

HERBERT GALEN LULL, A. B., Associate Professor of Education.

*Absent on leave, 1907-8.

- JAMES EDWARD GOULD, Ph. D., Assistant Professor of Mathematics. OTTILLIE GERTRUDE BOETZKES, A. M., Assistant Professor of German.
- THOMAS KAY SIDEY, Ph. D., Assistant Professor of Greek and Latin.
- HENBY KREITZER BENSON, Ph. D., 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.
- CHARLES WILLIAM PRENTISS, Ph. D., Assistant Professor of Zoology.
- 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.
- IBVIN WALTEB BRANDEL, Ph. G., Ph. D., Assistant Professor of Chemistry.
- OTTO PATZER, Ph. D., Assistant Professor of French.
- JOHN WEINZIRL, Ph. D., Assistant Professor of Botany.
- ROBERT EVSTAFIEFF ROSE, Ph. D., Acting Assistant Professor of Chemistry.
- GEORGE NELSON SALISBURY, B. S., Lecturer in Meteorology.
- IDA KATHERINE GREENLEE, A. B., Instructor in English.
- HENRY LOUIS BRAKEL, A. M., Instructor in Physics.

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

- CHARLES MONBOE STRONG, A. M., Instructor in Spanish.
- WILLIAM T. DABBY, A. M., Instructor in English Literature.
- HABVEY BBUCE DENSMORE, A. B., Instructor in Greek.
- GEOBGE IBVING GAVETT, B. S., C. E., Instructor in Mathematics.
- JOEL MABCUS JOHANSON, A. B., Instructor in German.
- WILLIAM VEBNON LOVITT, A. M., Instructor in Mathematics.

EDWARD MCMAHON, Ph. B., Instructor in American History.
WILLIAM A. MORBIS, Ph. D., Instructor in European History.
STANLEY SMITH, A. M., Instructor in French.
MERLE HAROLD THORPE, Instructor in Charge of the Department of Journalism.
CHARLES EDWIN WEAVER, Ph. D., Instructor in Geology.
EVA LOUISE BARB, B. S., Graduate Assistant in German.
ERIC TEMPLE BELL, A. B., Graduate Assistant in Mathematics.
LAURA WHIPPLE CARR, B. S., Graduate Assistant in Physics.
PHILO FAY HAMMOND, A. B., Graduate Assistant in Physics.
HERMIE SHERMAN, A. B., Graduate Assistant in Mathematics.
MABEL SIMPSON, B. S., Graduate Assistant in Botany.
HARLAN L. TRUMBULL, A. B., Graduate Assistant in Chemistry.
WALTER BELL WHITTLESEY, A. B., Graduate Assistant in French.

UNDERGRADUATE ASSISTANTS.

FRED W. ASHTON, Chemistry. EUGENE FELIX CAYO, Chemistry. WILLIAM B. COOK, Physical Culture. ALBERT H. DEWEY, Chemistry. CURT JOHN DUCASSE, Psychology. LESLIE B. DUSTIN, Chemistry. CHRISTINE R. KANTERS, Physical Culture ARTHUE T. O'NEAL, Chemistry. ARTHUR S. POPE, Mathematics. JOSEPH B. UMPLEBY, Geology. EVELYN WAY, Zoology.

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.

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College of Liberal Arts

COURSE OF THE COLLEGE OF LIBERAL ARTS.

The requirements of graduation from the College of Liberal Arts are the satisfactory completion of certain prescribed subjects together with a major, a minor, and sufficient free electives to make up a total of one hundred and twenty-eight credits.

PRESCRIBED SUBJECTS.

The prescribed subjects are the following:

	Credits
English Composition	. 8
English Literature	. 8
Foreign Language	16
Mathematics	. 4
Science	. 8
Philosophy	. 8
Economics	. 4
Modern European History	. 4
Physical Culture	. 8

A credit 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 credits; if it requires four hours a week for one year, it represents eight credits.

MAJORS AND MINORS.

Not later than the beginning of his junior year a student is required to select some department to which ne will devote his first attention. This department will be known as his major department, and its head will be his major adviser. He will be expected to elect as a minor certain other related subjects. The grouping of majors and minors under the different courses has been definitely determined.

UNIVERSITY OF WASHINGTON

TABLE OF MAJORS AND MINORS.

Course.	ICLASSICAL.*		II	-Modern	LANGUAG	e and Liter	ATURE.
Major 24 hrs.	Greek.	Latin.	French.	Spanish.	German.	Rhetoric.	English Literature.
Minor 16 hrs.	· Latin, Modern Lan- guage.	Greek, Modern Lan- guage.	Italian, Spanish, German, Greek, Latin.	French, Italian, German, Latin.	French, English Litera- ture, Latin.	English Literature, Philosophy, Political Science, History.	Rhetoric, Philosophy and Psychology, Education, European History, 5th and 6th year of Latin, 8d and 4th year of any other language.

III.-PHILOSOPHICAL.

Philosophy.	Psychology.	Education.	Political and Social Science.	History.
Education, Political Science, European History, Rhetoric and Argumentation. English Literature, Mathematics, Physics.	Education, Political Science, Mathematics, Physics, Chemistry, Zoology.	Philosophy and Psychology, Political Science, History, Zoology, Any subject to be taught by the student.	Philosophy and Psychology, Education, History, Rhetoric and Argumentation, English Literature, Botany, Zoology.	Philosophy and Psychology, Education, Political Science, Rhetoric, English Literature.

IVMAT	HEMATICO-
	PHYSICAL.

V.-SCIENTIFIC.

Mathematics.	Physics.	Chemistry.	Botany.	Zoology.	Geology.
Physics, Astronomy, Philosophy, Chemistry, Botany, Zoology. Geology.	Mathematics, Astronomy, Chemistry, Botany, Zoology, Geology.	Botany, Zoology, Geology, Mathematics, Physics.	Chemistry, Zoology, Geology, Psychology, Physics.	Chemistry, Botany, Geology, Psychology,	Chemistry, Botany, Zoology, Mechanical Drawing, Surveying, Mathematics, Physics.

*Those who do not present Greek for entrance must finish Greek 4, if Greek is not chosen as a Major or Minor in the classical group.

NOTE 1. The minor shall not be distributed over more than two subjects, and no prescribed work shall count toward a minor.

NOTE 2.—Not more than 40 hours' credit in a major subject may count toward a Bachelor's degree, and not more than 24 hours in any other one subject.

SUGGESTIVE	SCHEDULE I	BY YEARS	OF	THE	COURSES	LEADING	то	THE	А.	в.	DEGREE.
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I.	II.	III.	IV.	IV.
CLASSICAL.	MODERN LANGUAGE AND LITERATURE.	PHILOSOPHICAL.	MATHEMATICO- PHYSICAL.	SCIENTIFIC.
Freshman.	Freshman.	Freshman.	Freshman.	Freshman.
Latin	Foreign languages16 English	Foreign language 8 English	Foreign language 8 English	Foreign language 8 English 8 Science 8
Sophomore.	Sophomore.	Sophomore.	Sophomore.	
Latin	Foreign language	Foreign language	Foreign language 8 Mathematics 8 Physics 8 English literature 8 Physical culture 2	
Junior.	Junior.	Junior.	Junior.	
Philosophy	Science	Major Minor Elective	Political economy	
Senior.	Senior.	Senior.	Senior.	
Major Elective	Major Elective	Major Minor Elective	Major Minor Elective	

COLLEGE OF LIBERAL ARTS

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UNIVERSITY OF WASHINGTON

SCHEME OF ELECTIVES.

The following courses given outside the College of Liberal Arts may be counted toward a Bachelor of Arts degree. However, not more than twelve such credits altogether shall be counted toward this degree.

SCHOOL OF LAW.

Elementary Law Contracts Constitutional Law

Provided, such courses may be elected by Juniors and Seniors only.

Provided, further, that such law courses may not be counted for both the A. B. and LL. B. degrees. If counted for the A. B. degree, an equivalent number of additional Liberal Arts credits shall be required for the LL. B. degree.

Provided, further, that such law courses may not be counted in the Liberal Arts requirement for the LL. B. degree.

SCHOOL OF PHARMACY.

Materia Medica Therapeutics Toxicology

Total amount allowed, eight credits.

SCHOOL OF ENGINEERING.

CIVIL ENGINEERING.

Mechanical Drawing, 4 credits Descriptive Geometry, 4 credits Surveying, 4 credits

ELECTRICAL ENGINEERING.

Dynamo Machinery Alternating Currents { Total amount allowed, eight credits.

Provided that when either of these courses is offered in the College of Liberal Arts, credits for the corresponding course in the School of Engineering shall cease to apply.

SCHOOL OF MINES.

General Metallurgy - four credits.

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SCIENTIFIC COURSE PREPARATORY TO MEDICAL COURSE.

For students who wish to specialize in the sciences, with a view to studying medicine after graduation, the following course leading to the B. S. degree is offered:

Freshman.		Sophomore
English	4	English literature
Mathematics	4	German or French 8
Chemistry	8	Organic chemistry
German or French	8	Zoology
Botany	Š.	Physical culture
Physical culture	$\tilde{2}$	Senior.
Junior.		Psychology
Physiology	8	Political Economy
Physics	8	Elective
Comparative anatomy	Ř	
Bacteriology	8	

NOTE—Electives should be Histology, Physiological Chemistry, or Bacteriological Hygiene.

DOMESTIC ECONOMY.

For students who wish to specialize in Domestic Economy with a view to teaching the subject in the high school, the University has established a four year course leading to the degree of B. S. in Domestic Economy, only the first year of which will be given in 1908-9.

Students entering the University for the purpose of taking the course in Domestic Economy must offer for entrance the requirements for admission to the science group of the Liberal Arts College. The outline of work is as follows:

	FRESHM	AN.	
First Semester-		Second Semester-	
Rhetoric	4	Modern History	4
Physiology	Ā	Physiology	â
Chamletan	1	Chomistary	Ā.
Chemistry	*	Chemistry	7
French	4	French	4
Physical culture	2	Physical culture	2
9	SOPHOMO	RE.	
English Literature	4	Home Architecture and Equip-	
Analitativo Analysis	Ā	ment	4
Pastoniology	1	Quantitativa Analysis of Foods	Ā
Bacteriology	7	Basterialory	7
Household Science	4	Bacteriology	4
Physical culture	2	Household Science	4
		Physical culture	2
	JUNIOR	L .	
Organic Chemistry	4	Organic Chemistry	4
Food Materials	4	Food Materials	ā.
Payehology	Ā	Distatics	Ā
i sjenologj		Elective	7
	Contor	Enecurve	**
The second sec	SENIOR	Trustana and Tublic Tratil	
Economics	4	Hygiene and Public Health	4
Food Adulteration, or Sewing		Microscopy of Foods, or Sew-	
and Design	4	ing and Design	4
Sanitation	2	Sanitation	2
Electivo	ā	Elective	ñ
JUCULITE			•

UNIVERSITY OF WASHINGTON

DEPARTMENTS OF INSTRUCTION,

ASTRONOMY.

ROBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD, Assistant Professor.

The department as now organized provides courses for two classes of students: First, for those who desire a knowledge of astronomy as a part of a liberal education; second, for those engineering students who need a practical knowledge of astronomy in preparation for professional work.

1, 2. GENERAL ASTRONOMY. Two hours. M., W. 11. Lectures and recitations. A study of the fundamental facts, principles, and laws of the planetary and stellar universe. The six-inch telescope in the observatory will be used for illustrative purposes. No mathematical prerequisite is necessary beyond that required for entrance to the College of Liberal Arts.

This course combined with 1a and 2a may be chosen as the required science for freshmen in the College of Liberal Arts. Courses 1, 2, 1a, and 2a are recommended to be taken together. [Gould.]

1a, 2a. GENERAL ASTRONOMY. Two hours. Laboratory and observation, Tues. 1-4 and clear evenings. A study of the sun's diurnal path, the path of the moon and planets, constellations, time, the celestial globe, the almanac and American Ephemeris, use of the telescope, spectroscope and sextant, etc. [Gould.]

3, 4. SPHERICAL ASTRONOMY. Two hours. M., Th., 9. Lectures and work in the observatory. A study of spherical trigonometry and its applications to spherical astronomy, together with a preliminary study of such fundamental facts and principles as relate to the various determinations of azimuth, latitude, and time. Determination of azimuth, latitude, longitude, and time, by means of the sextant and theodolite. [Gould.]

College of Liberal Arts

BOTANY.

THEODORE CHRISTIAN FRYE, Professor. JOHN WEINZIRL, Assistant Professor. MABEL RILEY SIMPSON, Graduate Assistant.

The courses 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. ELEMENTARY BOTANY. TU., F., 10. Laboratory, Sec. A, M., Tu., 10-12; Sec. B, Tu. and Th., p. m. This course is planned for those who *do not offer a year* of botany for entrance. It includes the study of a few types of the lower plants; types of ferns and flowering plants with a view to their structure and physiology; variations in part and the reasons why; analysis of a few plants; elements of plant physiology. [Frye.]

3, 4. FIELD BOTANY. M., Th., 10. Laboratory T., Th., 1-3. This is the regular course for those who offer one year of botany for entrance. The collection of plants; their preparation for herbaria; analysis. The groups are taken in their season; flowering plants in fall and spring; the mosses, liverworts, and lichens in the middle of the year. [Frye.]

5, 6. CEYPTOGAMIC BOTANY. W., F., 9. Laboratory, Tu., Th., p. m. This course is open to those who offer one year of botany for entrance, or who have taken botany 1 and 2. It is a study of types of plants from the lowest up, with a view to tracing the evolution of the plant kingdom. The work is mainly in the algae, fungi, and bryophytes, but the ferns and flowering plants are taken up with reference to seed formation. [Frye.]

7, 8. BACTERIOLOGY. M., W., 9. Laboratory, Sec. A, M., W., 10 to 12, Sec. B, M., W., 1 to 3. A course in general bacteriology. The first semester is taken up with the study of the structure, functions and distribution of the bacteria; during the second

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semester the pathogenic bacteria are studied, some time being devoted to immunity, sanitation, and the pathogenic protozoa.

[Weinzirl.]

9. BACTERIOLOGICAL HYGIENE. First semester. W., 4. Lectures. The distribution of bacteria with reference to air, water and food; the relation of disease bacteria to the individual, home, school and public. This course is open to students who have not taken a previous course in bacteriology. No laboratory work is required. [Weinzirl.]

10. BACTERIOLOGICAL PROBLEMS. First or second semester. A laboratory course taking up such problems as the individual student may desire and the facilities of the laboratory permit. Credit in proportion to work done. [Weinzirl.]

11. PHARMACY BOTANY. First Semester. F., 9: Laboratory, F., 10-12. Structure of roots, stems, rhizomes, leaves, barks. Types are studied with a view to locating the elements; later the dry drugs are studied for the recognition of kinds of cells in them. [Weinzirl.]

12. PHARMACY BOTANY. Second Semester. Th. 11; F. 9: Laboratory, Th., 9-11; F., 10-12. Variations in stems, leaves, roots, parts of flowers, seeds, fruits. Study of types of the various families of phanerogams, and the analysis of plants in the spring with a view to fixing the chief characters of the families.

[Weinzirl.]

13. PLANT PHYSIOLOGY. First Semester. Two recitations and four hours laboratory work. 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. Prerequisite, 1 and 2. [Frye.]

14. PLANT HISTOLOGY. Second Semester. One recitation and six hours laboratory work. 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. [Frye.]

16. STRUCTURE AND PATHOLOGY OF WOODY STEMS. Second Semester. Two recitations and two hours laboratory work. A study of the tissues found in woody stems; their use to the plant; their development; their diseases. [Frye.]

17, 18. ECOLOGY. Three credits per semester. Saturday only. Class meets at some stated point about 9:00 a. m., regardless of weather, and walks 2 to 8 miles while collecting plants, stopping for campfire lunch at noon, returning to Seattle about 4 p. m. Conferences or lectures at any time during the period, on plant ecology, and on the interesting features of the plants secured. Occasional meetings at the University for mounting the plants collected and dried. The course will not be given with a class of fewer than eight persons. [Frye.]

CHEMISTRY.

HOBACE BYERS,* Professor. HENBY KREITZER BENSON, Acting Professor. IEVIN WALTER BRANDEL and ROBERT EVSTAFIEFF ROSE, Assistant Professors.

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. M., W., F., 11. Laboratory sections, A and B, Tu., W., 2-4; C and D, Tu., Th., 10-12; E and F, M., F., 9-11. 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry. [Byers and assistants.]

^{*}Absent on leave, 1907-08.

1, 2. GENERAL CHEMISTEY. M., W., F., 11. Laboratory sections as in 1a, 2a. Many students come from accredited high schools in which chemistry is not offered. To meet the needs of these students a course is offered consisting of three lectures or quizzes and six hours laboratory work per week. Text books Smith's General Chemistry and Laboratory manual.

[Benson and assistants.]

3, 4. ORGANIC CHEMISTRY. M., Tu., Th., 10. A lecture course on the chemistry of the carbon compounds, with special reference to the Aliphatic and Aromatic series. Holleman's text book is followed as a lecture syllabus. Laboratory work consists in the preparation and testing of important commercial organic chemicals, dyestuffs, etc. Prerequisite 1, 2. [Brandel.]

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. M., Th., 9. Laboratory Tu., Th., 1-4. 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. [Byers.]

5b. ELEMENTARY QUALITATIVE ANALYSIS. Two hours. First Semester. Tu., F., 9. Chemistry, 1, 2, is followed by a course in Qualitative Analysis. The course consists of two lectures and six laboratory hours per week. Text book: Byers and Knight.

[Brandel.]

6, 6b. QUANTITATIVE ANALYSIS. First Semester. Th., 9. Laboratory Tu., Th., F. afternoons. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours, and one recitation per week.

The course is repeated the second semester. The second semester's work can also be taken by those desiring advanced work. Prerequisite 2a or 5b. [Brandel.]

7. INDUSTRIAL CHEMISTRY. Second Semester. M., W., F., 9. Laboratory, M., 1-5. A course designed primarily for engineering students. It will take up subjects of importance along engineering lines and discuss them with respect to manufacture and applications. About one-half of the time is spent in a discussion of the manufacture and applications of iron and steel. This treatment 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. [Benson.]

8. PHYSICAL CHEMISTRY. First Semester. W., F., 8. Labatory, W. and F. afternoons. 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. [Benson.]

9. ELECTRO CHEMISTRY. Second Semester. W., F., 8. Laboratory, W. and F. afternoons. 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. [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. [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. [Byers.]

13, 14. ADVANCED ORGANIC CHEMISTEY. Tu., Th., 8. A special study of the chemistry of dyestuffs will be made the first semester. The second semester wil be devoted to the study of the chemistry of alkaloids or of sugars. Special laboratory work may be arranged. Prerequisites 4, 6. [Brandel.]

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

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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. 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.

[Benson.]

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.

21. PHOTO—CHEMISTRY. Second Semester. Tu., F., 9. A study of the effect of light on various chemicals and chemical reactions, with special reference to the chemistry of photography. The laboratory work consists in the chemical study of photographic developing, fixing, printing, toning, etc. Prerequisite 2. [Brandel.]

EDUCATION.

Edward Octavius Sisson, Professor. Herbeet Galen Lull, Associate Professor.

The department of Education offers its work both to students who are preparing to teach and to others who desire to be acquainted with the main facts and principles of education as a social process in which all intelligent persons are concerned.

Students are not regularly admitted to the department before the junior year. A knowledge of elementary psychology is prerequisite to all courses except Course A. Philosophy 1a is recommended in fulfilment of this requirement. Some knowledge of ethics, sociology and zoology is very desirable, and is required of students doing major work in education.

NORMAL DIPLOMA.

For information concerning the Normal Diploma of the University, which is a life certificate to teach in the schools of the state, see p. 85.

SUBJECTS.

1. PRINCIPLES OF EDUCATION. First Semester. 9. Chief topics: The nature and development of the child as the basis for the methods and processes of education; ideals of individual and social character as determining the aim of education; physical, intellectual and moral training; the special task and methods of the school and the teacher, as compared with other agencies such as the home, the calling, the church, social intercourse; the branches of study, their values and method; discipline, organization and administration. [Sisson.]

2. HISTORY OF EDUCATION. First semester, 11; repeated second semester, 9. This course is offered in the belief that a serious study of the history of education is necessary to a perspective view and a true understanding of modern educational agencies and forces. Owing to the shortness of the time in which this course must be presented and to the relative importance of the various periods of education for the teacher, the history of modern education beginning with Comenius will be emphasized. Text, Monroe's History of Education. [Lull.]

3, 4. OBSERVATION AND TEACHING. Two hours. Afternoons of Wednesday and one other day. This course includes the systematic observation and study of school work both in elementary grades and high school. Later the students are assigned to do actual teaching in the various schools. The course is planned for those who have not had experience in teaching.

[Lull, Sisson.]

6. THE HIGH SCHOOL. Second Semester, 11. Outline of historical development; aim and function in school system; peculiar characteristics of high school age—early adolescence; the course of study; election and prescription; discipline; student activities; social life; training for vocation and leadership; a study of typical high schools; organization and administration. [Sisson.]

7. EDUCATIONAL PSYCHOLOGY. First Semester. Two hours. Tu., F., 10. In this course those psychological elements which have direct application to teaching problems will be studied. The following topics indicate in a general way the character of the course: Instincts and capacities of the child, apperception, interests, responses of conduct, responses of feeling, motor education. Prerequisive, an amount of general psychology equivalent to that included in Philosophy 1 and 2.

Note—This course is not in any sense a duplication of any course offered by the Department of Philosophy. [Lull.]

8. SCHOOL LAW. Second Semester. Two nours, Tu., F., 10. A careful study of the important provisions of the school code of Washington, and comparison with the corresponding features of the codes of other states. [Lull.]

9, 10. SCHOOL OBGANIZATION AND SUPERVISION. Two hours. M., 2-4. Types of school systems; state and local administration; school boards; powers and functions of supervising officers; appointment of teachers. Open to advanced students who have had experience in teaching. [Sisson.]

11, 12. JOURNAL CLUB. Two hours. Fri., 2-4. The work consists of reports and discussions based on the reading of current educational magazines. The aim of this course is to familiarize the student with educational problems of the present. [Lull.]

13. COMPARATIVE STUDY OF SCHOOL SYSTEMS. Time and credit to be arranged. Attention is given mainly to the United States, Canada, Germany, England, France; students are encouraged to study some limited field intensively. Emphasis is placed upon secondary schools. Prerequisite, four hours in Education.

[Sisson.]

14. SOCIAL ASPECT OF EDUCATION. Two hours. Second Semester. Tu., 2-4. The essentially social nature of the human being; education a process of socialization; the agencies of education socially viewed: family, school, church, community, calling, state; the peculiar relation of the state to education; social elements in the curriculum and in the school; society's concern and activity in the school. Prerequisites, four hours in Education. [Sisson.]

15, 16. EDUCATIONAL CLASSICS. M., Th., 10. The work of this course consists of a comparative study of the doctrines of eminent educational thinkers, ancient and modern. Among those to be studied are the following: Plato, Aristotle, Rabelais, Milton, Montaigne, Comenius, Locke, Rousseau, Pestalozzi, Herbart, Froebel, Spencer. [Lull.] EDUCATIONAL SEMINARY. The work of the seminary in 1908-9 will deal with educational problems in the State of Washington. For senior and graduate students who have had at least four hours in Education. Time and credit to be arranged.

[Sisson.]

Education A. THE CITIZEN AND EDUCATION. Second Semester. Tu., 2. Primarily for students who do not intend to teach; open to all students. Education and national welfare: the private citizen and education: the genius of American education; educational agencies: family, school, church, social intercourse, the press, the calling, amusement and recreation: home training; the school: teachers, studies, control and support, progress; education of the tastes and the will. Lectures, discussions. reading. [Sisson.]

SATURDAY COURSES.

One or more courses will be offered on Saturday mornings, to meet the needs of teachers engaged during the school week. Details will be announced later; any persons who are interested are invited to correspond with the department concerning subjects to be offered.

OPEN LECTURES.

A series of open lectures on educational topics is conducted by the Department. The lectures take place on Wednesday afternoons at 4 o'clock. The series for 1909 will be announced by cir culars and in the press. The course for 1908 was as follows:

Superintendent Frank B. Cooper, Seattle—"The Parental School and the Delinquent Child." February 12th.

Mr. W. E. Henry, University Librarian—"The Library in the School." February 19th.

Judge A. W. Frater-"The Juvenile Court." February 26th.

Principal J. M. Kniseley, Green Lake—"American Activity in Philippine Schools—An Early View." (Illustrated.) March 4th.

Assistant State Superintendent H. B. Dewey—"Educational Progress in Washington." March 11th.

Superintendent A. H. Yoder, Tacoma—"Observations Made During My Eastern Trip." March 18th.

Mr. Milton Gantz—"American Activity in Philippine Schools—A Recent View." April 15th.

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UNIVERSITY OF WASHINGTON

MANUAL TRAINING AND DOMESTIC SCIENCE.

The University is planning courses for the preparation of teachers in manual training and domestic economy; the work will be begun in the fall of 1908. Preliminary announcement of the course in Domestic Science will be found on page 95. The work in Manual Training will include courses in Drawing and Shopwork, in addition to regular scientific and literary studies: fuller announcement will be made in the near future. In both Manual Training and Domestic Science special instruction in the pedagogy of the subjects will be provided. Correspondence is invited from teachers and others who are interested and might wish to enter these courses.

ENGLISH LANGUAGE AND LITERATURE.

FREDERICK MORGAN PADELFORD, Professor. Allen Rogers Benham, Assistant Professor. Ida Katherine Greenlee, Instructor. William T. Darby, Instructor.

SUBJECTS.

1, 2. HISTORY OF ENGLISH LITERATURE. Section A, 8; Section B, 9; Section C, (men) 10; Section D, 1; Section E, 2. Portions of Spenser, Shakespeare, Milton, Addison, Pope, Gray, Burns. Cowper, Wordsworth, Lamb, Carlyle, Ruskin, Arnold, Newman, and Stevenson are read and discussed. The study of literature is accompanied with practise in English composition.

[Benham and Darby.]

1, 2. SHAKESPEARE, AND VICTORIAN ESSAVISTS. 11. 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 practise in English composition.

[Padelford.]

3. THE GEORGIAN POETS. First Semester. 9. A critical study of the nature and romantic movements, as illustrated in the poetry of Keats, Byron. Shelley and Wordsworth. Prerequisite. 2.

[Padelford.]

4. THE VICTORIAN POETS. Second Semester. 9. The first half of the semester is devoted to Browning, the second half to the pre-Raphaelite Movement, quite as much attention being given to the painting as to the poetry. Prerequisite, 2. [Padelford.]

5, 6. PRINCIPLES OF LITERARY CRITICISM. 8. 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 defined. A strictly graduate course.

[Padelford.]

7, 8. MEDIEVAL CHRONICLES AND TALES. 11. Prerequisite 2. [Benham.]

9, 10. COLLEGE ENTRANCE REQUIREMENTS. 8. 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. [Greenlee.]

11, 12. OLD AND MIDDLE ENGLISH. 9. 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. [Benham.]

15, 16. Identical with Rhetoric 5, 6.

17, 18. Identical with Rhetoric 7, 8.

19, 20. WORLD'S GREAT CLASSICS. (Men) 10. A study of some of the world's masterpieces, such as The Odyssey, The Divine Comedy, Faust, etc. This course is open only to men. Prerequisite 2. [Padelford.]

21. OLD ENGLISH LITERATURE. Two hours. Second semester. Hours to be arranged. A wider study of texts than is afforded by course 11. (Not offered 1908-9.) [Benham.]

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22, 23. THE DEVELOPMENT OF THE ENGLISH DRAMA. 10. A historical review of the English drama, from the mystery play to modern times, is given in lectures. Representative plays of the different periods are read and discussed. [Darby.]

FRENCH.

PIERRE JOSEPH FREIN, Professor. Otto Patzer, Assistant Professor. Stanley Smith, Instructor. Walter Bell Whittlesey, Graduate Assistant.

The first year of work in this department is devoted to τ 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.

In the third year a course in conversation is given along with composition; the subject of the composition is made the basis for conversation, each being given on alternate days.

The courses are so arranged that students may pursue the study of French consecutively whether they enter at the beginning of the first or the second semester. Provision is thus made for students who have had any number of semesters of French in the High School.

SUBJECTS.

1, 2. ELEMENTARY. Section A, 8; Section B, 9; Section C, 10 (men); Section D, 11; Section E, 2. Fraser and Squair's French Grammar, Part I; Daudet, La Belle Nivernaise; Labiche et Martin, Voyage de M. Perrichon; Merimee, Colomba. Emphasis is laid upon the acquirement of a correct pronunciation, and a systematic drill in composition is given. No credit if offered for entrance. [Patzer, Smith, Whittlesey and assistant.]

1a. Second Semester. 8. Repetition of course 1, intended primarily for those who enter the University at the beginning of the second semester, but open to all. Provision is made for an uninterrupted course of two or more years for those desiring it. [Patzer.]

2a, 3a. Continuation of 1a. 10. Beginning in September and continuing throughout the year. Open to those who have had only one semester of French in the University, and to those who have had one year of French in the high school. Those who have studied French one year in the University or three semesters in the high school may enter the class at the beginning of the second semester. [Whittlesey.]

4a. Continuation of 3a. First Semester. 8. This course completes two full years of French. Those wishing to continue the work may enter courses 6 and 8. [Patzer.]

3, 4. NINETEENTH CENTURY READING AND SYNTAX. Section A, 8; Section B, 9 (men); Section C, 11. Two hours per week are devoted to the syntax of the present day, and two hours per week are spent in translating masterpieces of the literature of the entire century.

The work in syntax is based upon Fraser and Squair's French Grammar, Part II. The texts read in 1907-8 were Sand, La Mare au Diable; De Vigny, Cinq Mars; Hugo, Hernani; Balzac, Ursule Mirouet; Rostand, Cyrano de Bergerac. No credit if offered for entrance. Prerequisite, 2 or 2a. [Patzer, Smith.]

5, 6. COMPOSITION AND CONVERSATION. 1. The exercises for composition will be founded upon the customs and manners, history, geography, literature and industries of France. Conversation, two days per week but only one credit, will be centered upon the composition exercise of the previous day. Composition (Mo. and W.) may be taken without the conversation (Tu. and Th.) but it is not advisable to take the conversation without also taking the composition. Prerequisite, 4 or an equivalent. [Patzer.]

7, 8. CLASSICAL FRENCH. Three hours. Section A, (men) M., W., Th., 9; Section B, M., Tu., Th., 10. The student is given a general knowledge of the literature of the entire classical period, but the reading is selected from the works of only a few of the most noted writers. The texts to be read are: Corneille, Le Cid, Horace, Polyeucte; Moliere, Le Bourgeois Gentilhomme,

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Les Precieuses Ridicules, Le Tartuffe; Racine, Andromaque, Athalie; Boileau, L'Art Poetique; La Fontaine, Fables. Prerequisite, 4 or an equivalent. [Frein.]

9, 10. ADVANCED PROSE COMPOSITION. One hour. F., 9 (men). Systematic review of French syntax, and the translation into idiomatic French of moderately difficult English prose. Themes. Prerequisite, 4 or an equivalent. [Frein.]

11, 12. LYRIC POETRY. Two hours. An introduction to French versification, structure of the verse, hiatus, rhyme; variations in the stanzas, and in the forms of the lyric poems. 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 or an equivalent. [Frein.]

[Given in alternate years with Course 13, 14; it will not be given in 1908-9.]

13, 14. THE FRENCH DRAMA. Two hours. Tu., F., 11. 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 7, 8, but it may not precede it. [Frein.]

[Given in alternate years with Course 11, 12; it will be given in 1908-9.]

15, 16. HISTORY OF THE FEENCH LITERATURE OF THE NINE-TEENTH CENTURY. Two hours. M., W., 11. 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, 8. [Frein.]

[Given in alternate years with Course 17, 18; it will be given in 1908-9.]

17, 18. HISTORY OF FRENCH LITERATURE FROM THE RENAIS-SANCE TO THE ROMANTIC MOVEMENT. Two hours. Lectures in French, and assigned reading from the important authors. Prerequisite, 8. [Frein.]

[Given in alternate years with Course 15, 16; it will not be given in 1908-9.]

19, 20. OLD FRENCH READING. Two hours. M., W., 1. Elements of Old French grammar, and translation of Old French texts from Bartsch, Chrestomathie de l'Ancien Francais. Open only to advanced students. [Frein.]

21, 22. TEACHERS' COURSE. Two hours. Tu., Th., 1. Study of phonetics, and review of grammar from the teacher's standpoint. Discussion of books, magazines and courses of study.

[Frein.]

ITALIAN.

PIERRE JOSEPH FREIN, Professor. Stanley Smith, Instructor.

SUBJECTS.

1, 2. ELEMENTARY. 10. The first year in Italian corresponds to the same course in French and Spanish. Grandgent's Italian Grammar, Grandgent's Italian Composition, Bowen's First Italiaa 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 entrance credits in French or Spanish. No student will be allowed to begin Italian and French (or Spanish) the same year. [Smith.]

3, 4. ADVANCED. Two hours. Tu., 9; Th., 11. Selections from Dante's La Divina Commedia. Open only to those who have completed Italian 1, 2. [Frein.]

GEOLOGY.

HENEY LANDES, Professor. GEORGE NELSON SALISBUBY, Lecturer in Meteorology. CHARLES EDWIN WEAVER, Instructor.

In this department about one-half of the subjects offered migh: 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. Section A, M., W., F., 9; Section B, M., W., F., 11. One laboratory period, M., W., Th. afternoon or Tu. morning. A year's course treating of the principal facts and general principles of the science. Lectures and recitations. Occasional field trips on Saturday. [Landes and Weaver.]

1a. GENERAL GEOLOGY. First Semester. M., 8; Tu., 9; Th., 11, and laboratory on M. afternoon. A semester's course for engineering students. Lectures and recitations. [Landes.]

3. METEOROLOGY. First Semester. Tu., Th., F., 10. Laboratory, Tu. afternoon. A general consideration of the atmosphere; winds and storms; the causes and distribution of rainfall; weather; climate; etc. [Landes and Salisbury.]

4. PHYSIOGRAPHY. Second Semester. Tu., Th., F., 8; one laboratory period, time to be arranged. 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. [Landes.] (3 and 4 constitute an advanced or college course in physical geography. They are recommended for those who are preparing to teach in the public schools.)

5. MINERALOGY. First Semester. W., F., 9. Two laboratory periods, Tu., F., 1-3:30. Descriptive and determinative mineralogy. Practice in the determination of unlabeled minerals by means of their physical properties and by blowpipe analysis.

[Weaver.]

6. OPTICAL CRYSTALLOORAPHY. Second Semester. W., F., 9. Two laboratory periods, Tu., F., 1-3:30. Chemical and optical properties of crystallized matter. Demonstrations of the different methods of investigation of the rock forming minerals in thin sections under the microscope. Use of the polarizing microscope and preparation of thin sections. [Weaver.]

7. PETROGRAPHY. First Semester. M., W., F., 11. Laboratory Th., 1-4. Principles and methods of investigation of rock forming substances. A study of the distinguishing characteristics of the different groups and species of rocks with practice in their determination by modern petrographical methods. Preparation of thin sections. [Weaver.]

8. ECONOMIC GEOLOGY. Second Semester. 10. A study of the origin and extent of metalliferous 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. Prerequisites, 1, 2 and 5. [Landes.]

9, 10. PALAEONTOLOGY. M., Tu., Th., 9. One laboratory period. The general principles of the study of fossil organisms, with their geologic and geographic distribution. A laboratory study of the most important forms of fossil invertebrates. Excursions in the field in the vicinity of Puget Sound. [Weaver.]

11, 12. FIELD WORK. Time to be arranged. Instruction and practice in methods of field observation and in interpretation of results. A study of the geological conditions in the vicinity of Puget Sound with occasional more extended excursions.

[Weaver and Landes.] 13, 14. RESEARCH. Credit and hours to be arranged. Investigation of special problems in geology. To be taken by permission.

[Landes and Weaver.]

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GERMAN.

FREDERICK WILLIAM MEISNEST, Professor. OTTILIE GERTRUDE BOETZKES, Assistant Professor. JOEL MARCUS JOHANSON, Instructor. EVA LOUISE BABR and LAURA WHIPPLE CARB, Graduate Assistants.

Students who have not studied German before entering the University will ordinarily not find it advantageous to choose German as their major study. Those taking courses 3 and 4 in their freshman year should devote at least four hours each semester during the remaining three years to the study of German.

SUBJECTS FOR UNDERGRADUATES.

1, 2. FIRST YEAR. Section A, 8; Section B, 10; Section C, (men) 1; Section D, 2. Pronunciation, grammar and easy readings with practice in speaking and writing. For beginners. [Boetzkes and Assistants.]

1a. FIBST YEAR. Second Semester. 2. Course 1 repeated. [Assistant.]

2a, 3a. ADVANCED FIRST YEAR. 8. For students who have had course 1a or one year in the high school. [Assistant.]

3, 4. SECOND YEAR. Section A, 8; Section B, 9; Section C, 10; Section D, 11; Section E, 1. Modern prose, narrative and dramatic, and at least one drama by Schiller or lessing. Review of grammar, elementary syntax and composition. For students who have had courses 1, 2 or two years of high school German. [Boetzkes, Johanson and Assistant.]

4a, 5a. ADVANCED SECOND YEAR. 11. Modern prose and dramas. For students who have had 3a or three years in the high school. [Johanson.]

5. SCHILLER. First Semester. Section A, 10; Section B, 11. Introductory study of his life and selected works. Wallenstein, and Die Braut von Messina. Open to students who have had four years of high school German. [Boetzkes and Instructor.] 6. GOFTHE. Second Semester. Section A, 10; Section B, 11. Introductory study of his life and selected works. Egmont, Hermann und Dorothea, Iphigenie and Goetz von Berlichingen. [Boetzkes and Instructor.]

7, 8. MODEEN GERMAN DRAMAS. Two hours. Tu., F., 11. Selections from Grillparzer, Hebbel, Sudermann and Hauptmann. A rapid reading course. (Omittee in 1908-9.) [Johanson.]

9, 10. MODERN GERMAN NOVELS. Two hours. M., Th., 9. Selections from Freytag, Scheffel, Hauff, Ludwig and Sudermann. A rapid reading course. [Johanson.]

11, 12. SCIENTIFIC GERMAN. Two hours. W., F., 9. A rapid reading course for students specializing in the general sciences. [Johanson.]

13, 14. GERMAN CONVERSATION, COMPOSITION AND SYNTAX. Two hours. W., F., 9. [Instructor.] ٠

FOR UNDERGRADUATES AND GRADUATES.

15. GERMAN LYBICS AND BALLADS. First Semester. 10. Reading and interpretation of the best and most characteristic German lyrics and ballads of Goethe, Schiller, Heine, Uhland, Geibel and others. [Meisnest.]

16. HISTORY OF GERMAN LITERATURE. Second Semester. 10. Selected readings, reports and lectures. A general survey for students specializing in German. [Meisnest.]

17. LESSING. First Semester. 11. Introductory study of his life and selected works. Emilia Galotti, Nathan der Weise and Hamburgische Dramaturgie or Laokoon. [Meisnest.]

18. GOETHE'S FAUST. Second Semester. 11. Reading, interpretation and discussion of Parts I and II, with collateral reading in Faust literature. [Meisnest.]

19, 20. TEACHERS' COURSE. Two hours. Tu., 1 to 3. Elementary phonetics, practice in pronunciation, review of grammar from the standpoint of the teacher, critical study of the methods of teaching German, discussion of text books, and course of study for high schools, observation. [Meisnest.] FOR GRADUATES.

21, 22. STORM AND STRESS PERIOD. Two hours. Assigned readings, reports and lectures. (Omitted in 1908-9.)

[Meisnest.]

23, 24. ROMANTIC SCHOOL. Two hours. M., Th., 9. Assigned readings, reports and lectures. [Meisnest.]

25, 26. MIDDLE HIGH GEBMAN. Two hours. Grammar and selected readings. Nibelungenlied, Kudrun, Walther von der Vogelweide. (Omitted in 1908-9.) [Meisnest.]

27. OLD HIGH GERMAN. First Semester. Two hours. W., F., 9. Grammar and selected readings. [Meisnest.]

28. GOTHIC. Second Semester. Two hours. W., F., 9. Grammar and selected readings. [Meisnest.]

GREEK.

ARTHUR SEWALL HAGGETT, Professor. HARVEY BRUCE DENSMORE, Instructor.

The general plan of the courses is as follows: Coures 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. Section A, 9; Section B, (men) 10. For beginners. No credit allowed if presented for entrance. This course will not count toward a minor in the classical group. [Haggett.]

2. ELEMENTARY GREEK. Second Semester. Section A, 9; Section B (men), 10. Continuation of course 1. Xenophon's Ana-

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basis, Book 1; Greek composition. No credit allowed if presented for entrance. This course will not count toward a minor in the classical group. [Haggett.]

3. XENOPHON. First Semester. 10. Continuation of course 2; Xenophon's Anabasis, Books II-IV; Greek composition. No credit allowed if presented for entrance. [Densmore.]

4. HOMER. Second Semester. 10. Homer's Iliad, Books I-III, with special reference to Homeric grammar and prosody. No credit allowed if presented for entrance. [Densmore.]

5. HOMER AND HERODOTUS. First Semester. 11. Selections from Homer's Odyssey, with study of the prehistoric age of Greece and the history of epic poetry; followed by selections from Herodotus. Prerequisite, 4. [Haggett.]

6. HERODOTUS AND XENOPHON. Second Semester. 11. Continuation of the reading of Herodotus, followed by the Memorabilia of Xenophon. Prerequisite, 5. [Haggett.]

7. GREEK TRAGEDY. First Semester. Two hours. 8. Euripides' Iphigenia in Tauris or Medea, with the reading of other tragedies in an English translation; study of the history of the Greek drama and the Greek theatre. Prerequisite, 6.

[Haggett.]

8. GREEK COMEDY. Second Semester. Two hours. 8. Aristophanes' Clouds or Frogs, with the reading of other plays in an English translation. Prerequisite, 7. [Haggett.]

9. LYRIC POETRY. First Semester. Two hours. 8. Selections from the elegaic, iambic, and melic poets, with study of the history of lyric poetry. Prerequisite, 6. [Haggett.]

10. GREEK PHILISOPHY. Second Semester. Two hours. 8. Phato's Apology and Crito and parts of the Phaedo; study of the life and influence of Socrates. Prerequisite, 6. [Haggett.]

11. THE GREEK DRAMA. First Semester. Two hours. 1. The Prometheus Bound of Aeschylus and the Oedipus the King of Sophocles, with the reading of other plays in an English translation. Elective for Juniors and Seniors who have finished course 8. [Haggett.]

12. GREEK OBATORY. Second Semester. Two hours. 1. Selections from Lysias and Isoctrates, with study of the development of Greek oratory. Elective for Juniors and Seniors who have finished course 8. [Haggett.]

13. EPIC POFTRY. First Semester. Two hours. 2. Rapid reading of selections from Homer and Hesiod, supplemented by lectures and topical reading. This course is designed to give a comprehensive knowledge of the life and literature of the epic age. Elective for Juniors and Seniors who have finished course 8. [Haggett.]

14. GREEK HISTORICAL PROSE. Second Semester. Two hours. 2. Selections from Thucydides and Xenophon; history of the fifth century before Christ; with special emphasis on the Pelopeonnesian War; lectures on Greek historiography. Elective for Juniors and Seniors who have finished course 8.

15. GREEK PHILOSOPHY. First Semester. Two hours. Time to be arranged. Selections from Plato's Republic, with lectures and collateral reading on Platonism. For advanced students.

[Haggett.]

16. GREEK ORATORY. Second Semester. Two hours. Time to be arranged. Selections from Demosthenes, with study of his life and time. For advanced students. [Haggett.]

17. GREEK ANTIQUITIES. First Semester. Two hours. M., W. 2. (1) Public and private life; (2) mythology and religion; (3) art and archæology. Open to all students. A knowledge of Greek is not required. [Sidey.]

18. GREEK HISTORY. First Semester. Two hours. Tu., Th. 2. The history of Greece from the earliest times to the Roman subjugation. Open to all students. [Sidey.]

Note-Courses 17 and 18 are designed to be followed by Latin 11 and 12.

College of Liberal Arts

HISTORY.

EDMOND STEPHEN MEANY, Professor. George Henby Alden, Associate Professor. Edward McMahon and William Alfred Morris, Instructors.

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.

1. MODERN EUROPE. Section A, 9; Section B, 11; Section C, 1; Section D, 2. Beginning with the renaissance, the historical development of Europe is studied from the continental point of view. Text book, lectures, and special work with source and secondary material. Once a week the class meets in small sub-sections for recitation and personal conference with the instructors. This course is required of all Liberal Arts students except those who have offered for entrance a half unit on the same field, in which case the history requirement may be otherwise satisfied by direction of class adviser. [Alden, Morris.]

2, 3. MEDIEVAL HISTORY. 10. A study of the history, civilization and principal institutions of Western Europe from the later Roman Empire to the Italian renaissance. The work of the first semester covers in general the period as far as the crusades. Lectures with prescribed reading and written reports on assigned topics. [Morris.]

4, 5. THE ENGLISH PEOPLE AND INSTITUTIONS. From the Anglo-Saxon Invasion to the present time. Omitted 1908-9.

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[Alden.]

6. GREECE. Two hours. First Semester. 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. For 1908-9 see course 18, Department of Greek.

7. ROME. Two hours. Second Semester. 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. For 1908-9 see course 12, Department of Latin.

8,9. HISTORY OF THE UNITED STATES. 9. A general survey with emphasis upon political history. Lectures, text book, collateral reading and topics. Not open to first year students and should be taken by all students who expect to elect advanced courses in American History. [McMahon.]

10. THE FRENCH REVOLUTION AND NAPOLEONIC ERA. 11. First Semester. A study of the causes as seen in conditions of the old regime, the forces that produced the Revolutionary excesses and made Napoleon's career possible, and the forces that brought about his overthrow. Lectures, class discussions and library work. Open to Seniors, Juniors, and others who have had course 1. [Alden.]

11. EUROPE SINCE 1814. Second Semester. 11. 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. Prerequisite, course 10. [Alden.]

12,13. NORTHWESTERN HISTORY. Two hours. M., W., 11. From the earliest voyages to the settlement and organization of the territories. Lectures. Theses on assigned topics.

[Meany.]

14. SPAIN IN AMERICA. First Semester. 10. 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. [Meany.]

15. DEVELOPMENT OF THE PACIFIC. Second Semester. 10. History of the countries bordering upon the Pacific Ocean, with spec-

ial reference to the changes now in progress of development. Lectures, collateral reading and theses. [Meany.]

16, 17. ECONOMIC AND SOCIAL HISTORY OF THE AMERICAN COL-ONIES. 8. Attention will be given to European conditions and to the motives and methods of colonization. A study will be made of the transfer of population to the colonies, of the social, economic and political forces that acted on it there, and emphasis will be laid upon the expansion westward across the country and the development of the plantation system in the South.

[McMahon.]

18. THE AMERICAN REVOLUTION. First Semester. M., Th., 1. A general view of the British imperial system and of American conditions will be followed by a study of the issues leading to the political revolt and independence of the colonies.

[McMahon.]

19, 20. ENGLISH CONSTITUTIONAL HISTORY. 9. Beginning with primitive Germanic institutions the historical development of the principal legal and governmental institutions of the English people is traced through the Anglo-Saxon, Norman and Plantagenet periods. A general review is then made of English constitutional progress, from the fifteenth century to the present time. There are lectures, prescribed reading and written reports embodying the results of individual investigation of special topics. This course may be taken by Juniors or Seniors who have had courses 4 and 5 or by law students of satisfactory attainments.

[Morris.]

21. HISTORY OF THE UNITED STATES, 1783-1828. First Semester. A study of the organization of the government of the United States and the leading forces shaping its development down to the presidency of Jackson. (Omitted 1908-9.) [McMahon.]

22. HISTORY OF THE UNITED STATES, 1828-1860. Second Semester. A continuation of course 21, bringing the study down to the outbreak of the Civil War. In this and the preceding course Constitutional History will be studied as the outgrowth of economic and social conditions in the physiographic sections. (Omitted 1908-9.) [McMahon.]

23. HISTORY OF AMERICAN DIPLOMACY. A study of the treaties and foreign policy of the United States. Open to those who have taken a narrative course in American history. (Omitted in 1908-09.) [Meany.]

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

[Meany.]

25, 26. SEMINARY IN MODERN HISTORY. Two hours. Time to be arranged. A close study, chiefly from sources, of a particular phase of recent European development. Topical reports and personal conferences. Primarily for graduates, but open to undergraduates of sufficient preparation. [Alden.]

27,28. CIVIL WAR AND RECONSTRUCTION. Two hours. W., F., 1. A general study of the Civil War and the period of Reconstruction. Some attention will be given to the problems growing out of this period. [McMahon.]

29. METHODS OF TEACHING HISTORY. Second Semester. M., Th., 1. A course with especial reference to the work of secondary schools. Text books, assigned readings, courses of study and the best method of presentation will be considered. Required of advanced students who expect to teach History. [McMahon.]

JOURNALISM.

MERLE HAROLD THORPE, Instructor.

Men and women intending to enter journalistic work should be given that specialized university training which has long been accorded to other professions. With this in view the Department will endeavor to outline the student's four years' work so that each subject may be of practical value to him as a newspaper man. Special stress will be laid on the study of social and economic problems, political history, and English literature. The Department itself will endeavor to teach the student to express his ideas in clear-cut, virile English and to develop any original style he may possess. Practical journalism will be studied following as closely as possible the work in a newspaper office. News will be gathered, written, edited, its importance considered, and "made up" into dummy papers. The class will be organized as a news staff and each member in turn will learn the duties devolving upon the different departments. Metropolitan papers will be studied daily throughout the four years in an endeavor to develop the student's sense of news value. The press associations, the law of libel and copyright, the history and development of the American press, etc., will be covered fully by lectures and required reading.

During the year the classes will edit the college paper, go out with reporters of city papers, and have the privilege of listening to talks by prominent newspaper men of the West.

SUBJECTS.

1, 2. COMPOSITION. 9. Short daily news stories with critical study of newspaper writing. Course designed to familiarize student with working tools of facile writer and to develop individual style.

3, 4. SOPHOMORE COMPOSITION. 8. Continuation of 2 along more ambitious lines.

5, 6. ADVANCED COMPOSITION. Various prose writers will be studied and students will continue work of composition. Open to those who have done good work in Sophomore Composition. (Not offered in 1908-9.)

7, 8. THE NEWSPAPER. 11. Students will gather and write university news. Lectures on: Evolution of the American Press; Literary and Mechanical; The Press Association; Development and Work of the Reporter; The Correspondent, War, Washington, and Special; Women in Newspaper Work; The Sunday Paper; Newspaper Photography and Cartooning; Law of Libel and Copyright; Tainted News, Political and Advertising; The Circulation Department; The Advertising Department; Fake Stories; How Local News is Collected; Writing, Editing and Managing Editors; With the Foreman in the Composing Room; Journalism in England, France and Germany; The Weekly Journal; The Magazine; What a Paper Owes the Public; Journalism vs. Literature; Trend of Modern Journalism. Practical work in writing semi-feature and feature stories.

9, 10. THE SHORT STORY. Two hours. M., Th. 10. A historical and critical study of representative short stories with practical work of gathering materials, constructing and sketching plots, developing characters, etc.

11, 12. ADVANCED JOURNALISM. 2. Reading copy; head-writing; "making up;" study and writing of editorials; weekly lectures on place of newspaper in political history, and economy of daily paper; comparison and study of same story in large dailies; study of Biblical news stories; and gathering of city news.

13, 14. DEVELOPMENT OF THE MODERN NEWSPAPER. Two hours. Tu., F., 10. Course designed for those who do not intend to follow the profession of journalism but who wish a knowledge of the historical growth and inner workings of the newspaper. Lectures, with study of various papers, journals and magazines. Open to all.

15. BIBLIOGRAPHY. Second Semester. One hour. W. 1. A study of library methods of classification and cataloguing; use of reference books; making of bibliographies on various subjects. Course designed to give student facility in finding material.

17. THE INTERVIEW. Two hours. M., Th., 1. Students will thoroughly study each week some phase of social, economic or political problem, then impersonate an authority and submit to interview by another member of the class. Entire class will then write extended article on matter obtained from interview.

COURSE IN JOURNALISM.

FRES	AMAN.
First Semester—	Second Semester-
Hours	Hours
Journalism, 1	Journalism 2 4
Language, foreign	Language, foreign
History 1	Trigonometry 1 4
Chemistry 1 or	Chamistry 9 or
Dolition Science 1	Dolitical Science
Physical Onlines	Direction Science
Physical Culture	Physical Culture
18	18
Sopho)MORE.
Journalism 8	Journalism 4
Language foreign 4	Languaga foreign A
Wistowy 9 8 10 or	Wistows 2 0 on 11 on
Delitical Solamon 9 an 15 4	Delitical Science 4 on 10
Political Science, 3 or 15 4	Political Science 4 or 16 4
English Literature 1 4	English Literature 2 4
Physical Culture 2	Physical Culture 2
18	18

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Journalism 7 4 English Literature 5 4 Philosophy 1 4 Law, Elementary 2 History, elective Political Economy Journalism 5 4 18	Journalism 8 4 English Literature 6 4 Philosophy 2 4 History, elective 4 Political Economy 4 Journalism 6 6 Law, Torts 1 Law Contracts 4 Journalism 15 1
	17
SENIOR	L
Journalism 9 2 Journalism 11 2 Journalism 11 4 Electives 8 16	Journalism 10 2 Journalism 12 4 Electives 8 14

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 COURSES.

1. CICERO. First Semester. Section A, 8; Section B, 10; Section C (men), 9. De Senectute; Tacitus: Germania, with exer-

cises in prose composition and sight translation. Primarily for Freshmen. [Thomson and Sidey.]

2. LIVY. Second Semester. Book I and selections from others of the early books. In other respects, this course is a continuation of course 1. [Thomson and Sidey.]

3. CATULLUS. First Semester. 11. (Simpson's Selections); HORACE: Odes and Epodes. Prerequisites, 1 and 2. Primarily for Sophomores. [Sidey.]

4. PLAUTUS. Second Semester. 11. Captivi and Menaechmi; TERENCE: Phormio and Adelphi. Primarily for Sophomores. [Sidey.]

5. CICERO. First Semester. 9. Letters (Abbott's Selections); HORACE: Epistles. Prerequisites, 3 and 4. (Not given in 1908-9) [Thomson.]

6. PLINY. Second Semester. 9. Letters (Westcott's Selections); SENECA: Epistulae Morales. (Selections.) (Not given in 1908-9.) [Thomson.]

5a. TACITUS. First Semester. 9. Annals, Books I, IV-VI. Prerequisites, 3 and 4. Primarily for Juniors and Seniors. [Thomson.]

6a. JUVENAL. Second Semester. 9. Satires; MARTIAL: Epigrams (Stephenson's Selections). Primarily for Juniors and Seniors. [Thomson.]

7. CAESAB. First Semester. Two hours, M., Th., 1. Bellum Gallicum, Books V-VII and selected portions of Bellum Civile; SUETONIUS: Life of Julius Cæsar. Prerequisites, 5 and 6, or may be taken along with these. Primarily for Juniors and Seniors. [Sidey.]

8. SALLUST. Second Semester. Two hours. M., Th., 1. Catiline; VERGIL, Selections from the Bucolics and the Georgics; Ancient Lives of Vergil. A continuation of Course 7. [Sidey.]

9. Lectures on the teaching of preparatory Latin and discussion of matters connected therewith. First Semester, Two hours. W., F., 1. Practice in the writing of Latin. Review of the portions of Cæsar, Cicero and Vergil usually prescribed in high schools. Teaching by the members of the class, under the supervision of the instructor. Prerequisites, 5 and 6, or may be taken along with these. Primarily for Juniors and Seniors.

[Sidey.]

10. A continuation of Course 9. Second Semester. Two hours. W., F., 1. From time to time, visits will be made to schools where Latin is taught and reports upon the teaching observed will be presented by the members of the class. [Sidey.]

Courses 7-10 constitute a Teachers' Course provided for those who are preparing to teach Latin in the High Schools and are prescribed for the Normal Diploma, in the case of those whose major is Latin.

11. ROMAN ANTIQUITIES. Second Semester. Two hours. M., W. 2. Lectures on such topics as the Roman name, the family, education, trades, profe sions, amusements, etc., amphitheatres, aqueducts and public roads, illustrated by slides, photographs and cuts, whenever possible. Open to all students. [Sidey.]

12. ROMAN HISTORY. Second Semester. Two hours. Tu., Th. 2. The history of Rome from the foundation of the city to the fall of the Western Empire, with particular attention to the development of Roman political institutions. Open to all students. [Sidey.]

13. LUCRETIUS: de Rerum Natura. Two hours (to be arranged) throughout the year. For Graduate Students.

[Thomson.]

14. PLAUTUS AND TERENCE. A rapid reading course intended primarily for Seniors and Graduates. Two hours (to be arranged) throughout the year. [Thomson.]

PRELIMINABY COURSES.

These do not count towards the major of twenty-four hours.

A. CICERO. First Semester. 1. Oration:, with exercises in syntax and prose composition. [Sidey.]

B. CICERO. Second Semester. 1. Orations. Course A continued. [Sidey.]

C. VERGIL. First Semester. 9. Aeneid, Books I-III, with exercises in syntax and practice in the reading of Latin Hexameters. [Densmore.]

D. VERGIL. Second Semester. 9. Aeneid, Books IV-VI. A continuation of Course C. [Densmore.]

MATHEMATICS.

ROBERT LDOUARD MORITZ, Professor. JAMES EDWARD GOULD and FRANK MARION MORRISON, Assistant Professors.

GEOBGE IRVING GAVETT AND WILLIAM VERNON LOVITT, Instructors. HERMIE SHERMAN AND ERIC TEMPLE BELL, Graduate Assistants.

ADVICE AS TO CHOICE OF COURSES.

Mathematics may be studied for several distinct purposes, and the courses which the student takes should be selected with reference to his particular purpose. Under each of the four headings below the course best adapted to certain ends are enumerated in the order in which they should be taken.

A. Mathematics as a means to mental discipline and culture. Courses 1, 2, 3, 4, 5, 6.

B. Mathematics as an instrument for use in other arts and sciences. Courses 1a, 2a, 3, 4, 5a, 5c, 6a, 9, 10, 11.

C. Mathematics as a special field for High School teachers. Courses 1, 2, 3, 4, 5, 6, 14, 15 and if possible 7 and 8.

D. Mathematics as a separate science or profession. Courses 1, 2, 3, 4, 5, 6, 7, 8 and as many of the following courses as possible.

Students expecting to major in mathematics, should take physics as the required science in the fresman year, and also German or French, preferably German, tho a reading knowledge of both these languages is highly desirable. Furthermore students in mathematics will do well to take a course in descriptive geometry and drawing and mechanics in the engineering college, a year's work in chemistry and a year's work in astronomy.

Courses marked (E) are primarily for engineering students, tho course 11 is extremely helpful to students of mathematics as well as to all advanced students of applied science.

SUBJECTS.

FOR LOWER CLASSMEN.

1. PLANE TRIGONOMETRY. Each Semester. This course is required of all freshmen in the College of Liberal Arts. It presupposes the completion of all entrance requirements in Mathematics. Students who expect to take Math. 2 should register in section A, the first semester. Students conditioned in entrance algebra should defer this course until such condition has been removed. Taylor's Plane and Spherical Trigonometry, Crockett's 5 place tables.

First Semester-

Second Semester-

Sec. A. Moritz. 11, (men and women).	Sec. A. Bell. 11, (men and women).
Sec. B. Morrison. 9, (women).	Sec. B. Morrison. 9, (women).
Sec. C. Lovitt. 11, (men and women).	Sec. C. Lovitt. 11, (men and women).
Sec. D. Lovitt. 2, (men).	Sec. D. Lovitt. 2, (men).
Sec. E 9, (men).	Sec. E 9, (men).
Sec. F 1, (men).	Sec. F 1, (men).
Sec. G 1, (women).	Sec. G 1, (women).
Sec. H 2, (women).	Sec. H 2, (women).

2. COLLEGE ALGEBRA. Second Semester. 11. 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, combinations 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 convergence. Fine's College Algebra. [Moritz.]

1a. (E) PLANE TRIGONOMETRY AND HIGHEE ALGEBRA. Each Semester. Sections A and B, 8; Sections C and D, 9; Sections E and F, 1. 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. Crockett's

Trigonometry, Crockett's 5 place tables, C. Smith's Treatise on Algebra. [Gould, Gavett, Bell.]

2a. (E) ANALYTIC GEOMETRY AND HIGHER ALGEBRA. Each Semester. Sections A and B, 8; Sections C and D, 9; Sections E. and F, 1. 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. 1_{10} 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. Candy's Analytical Geometry. C. Smith's Treatise on Algebra.

[Gould, Gavett, Bell.]

3, 4. SOLID GEOMETRY. Two hours. Sections A and B, M., 8, and Tu. 9. The usual theorem and constructions, with exercises and application to mensuration. Required of engineering students who do not offer solid geometry for admission. Open to all students who have completed plane geometry. Should be taken during the first or second year by students who are preparing to become teachers of mathematics. Well's Solid Geometry.

[Graduate Assistants.]

5. ANALYTIC GEOMETRY. First Semester. 10. For Liberal Arts students. Cartesian and polar coordinates; curves and their equations; the straight line; transformation of coordinates; the circle; conic sections and the equation of the second degree; Cartesian coordinates in space; the plane; the straight line in space; the sphere, the cylinder and the cone; the quadratic surfaces and the equation of the second degree in three variables. Nichol's Analytic Geometry. [Morrison.]

5a. (E) ANALYTIC GEOMETRY FOR ENGINEERS. Two hours. Each Semester. Section A, Tu., Th., 8; Section B, W., F., 8; Section C, M., Th., 10; Section D, Tu., F., 10. Continuation of 2a. Study of the conic sections, and the elements of solid analytics. Must be preceded by 1a and 2a. Candy's Analytical Geometry. [Gavett, Bell.]

5b. (E) DIFFERENTIAL CALCULUS FOR ENGINEERS. Each Semester. Sections A and B, 10; Sections C and D, 8. Open to stu-

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dents who have completed 1a, 2a, 3, 4, and are taking 5a. This course considers the subject with reference to the needs of engineers. Granville's Calculus.

[Morrison, Lovitt, Gavett, Gould.]

6. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. 10. An elementary course, covering the fundamental principles and their applications both of the differential and integral calculus. Open to students who have completed 1, 2 and 5. Osborne's Differential and Integral Calculus. [Morrison.]

6a. (E) INTEGRAL CALCULUS FOR ENGINEERS. Second Semester. Sections A and B, 10; Sections C and D, 8. Must be preceded by 5b. The integral calculus treated with reference to its application to the various branches of engineering. Granville's Calculus. [Morison, Lovitt, Gavett.]

FOR UPPER CLASSMEN AND GRADUATE STUDENTS.

7. ADVANCED CALCULUS I. First Semester. 9. Open to students who have completed 6 or 6a. Partial and total differentiation; change of variables, orthogonal transformations; elimination; partial integration; line, space and surface integrals; Green's theorem; parametric derivation; curve tracing.

[Moritz.]

8. ADVANCED CALCHLUS II. Second Semester. 9. Continuation of 7. Definite integrals; elliptic integrals; applications to the theory of probability; elements of the theory of functions of complex variable. Byerly's Integral Calculus. [Moritz.]

9. DIFFERENTIAL EQUATIONS. First Semester. 2. Solution of ordinary and partial differential equations with applications to geometry and physics. Must be preceded by 6a or 7.

[Gould.]

10. ANALYTIC MECHANICS. Second Semester. 2. Mathematical treatment of the laws of force and motion. Presupposes a knowledge of both the differential and integral calculus and some knowledge of differential equations. [Gould.]

11. (E). LEAST SQUARES. Two hours. First Semester. Tu., F., 11. Primarily for engineering students, but open to all stu-

dents who have completed the differential calculus. A study of the best a thods for the adjustment of observations, and the determination of probable errors, with numerous applications to actual problems. Merriman's Least Squares. [Gavett.]

12, 13. DIFFERENTIAL GEOMETEY. Two hours. 1. Application of the Infinitesimal Calculus to the study of geometry. The right line in space, the plane, the conoids, twisted curves and surfaces. [Lovitt.]

14. TEACHERS' COURSE I. HISTORY OF MATHEMATICS. First Semester. Two hours. M., Th., 1. Open to students who have completed 6 or 6a. A brief course in the history of mathematics. [Gould.]

15. TEACHERS' COURSE II. TEACHING OF MATHEMATICS. Second Semester. Two hours. M., Th., 1. Open to students who have completed 6 or 6a. The course deals with such questions as: the educational value of mathematics; a study of curricula in foreign schools; the course of mathematics in the high schools; a discussion of the various methods of presenting the several high school branches of mathematics; correlation of algebra and geometry; methods of reviews and examinations and grading of papers; discussion of text books; collection of bibliographies on topics of interest; etc. [Gould.]

16. PROJECTIVE GEOMETRY. First Semester. A study of geometric properties by section and projection. The anharmonic ratios, involution, the theorems of Pascal, Brianchon and Desargues, projective theory of polar curves and lines, etc. (Offered alternate years, not given in 1908-1909.) [Morrison.]

17. MODERN ANALYTIC GEOMETRY. Second Semester. Trilinear coordinates, method of abridged notation, reciprocal polars, harmonic properties of conics, invariants and covariants of conics. (Offered alternate years, not given in 1908-1909.)

[Morrison.]

18. THEORY OF FUNCTIONS OF THE COMPLEX VARIABLE. First Semester. 11. The theories of Cauchy, Weierstrass and Riemann; conformal representation, integrability, etc. (Offered in alternate years, given in 1908-1909.) [Morrison.] 19. FOURIER'S SERIES AND SPHERICAL HARMONICS. dBecond Semester. 11. Fourier's and allied series, with applications to mathematical physics. (Offered in alternate years, given in 1908-1909.) [Morrison.]

20. THEORY OF EQUATIONS. First Semester. Cajory's theory of equations, with a brief survey of the theories of Abel and Galois. (Offered alternate years, not given in 1908-09.)

[Moritz.]

21. THEORY OF INVARIANTS AND COVARIANTS. Second Semester. Elliott's Algebra of Quantics with lectures. (Offered in alternate years, not given in 1908-1909.)

22. HIGHER ALGEBRA. First Semester. 10. Chrystal's Higher Algebra, with lectures, and journal readings. [Moritz.]

23. SELECTED TOPICS. Second Semester. 10. Lecture course with journal readings. Survey course of modern theories and developments. Theory of pure form. Graasman's theory of extension, Hamilton's quaternions, Pierce's Linear associative algebras, Boole's symbolic logic, insolubility of classic problems, Demorgan's generalized algebraic processes, the theory of ratients, Cantor's transfinite manifolds, etc. (Offered alternate years, given in 1908-1909.) [Moritz.]

24, 25. THEORY OF NUMBERS. Two hours. 2. Lecture course, with reference readings. A presentation of the matter in the first five and seventh sections of the Disquisitiones Arithmeticæ of Gauss, as modified by later writers. [Bell.]

26. MATHEMATICS JOURNAL AND RESEARCH CLUB. Meets on the second Tuesday evening of each month in Room 26, Science Building, at 7:30 p.m. The club consists of advanced students and teachers of the department of mathematics. Its purpose is to review current mathematical literature, and to discuss the research work carried on by members of the club.

[Moritz.]

27. STUDENTS' MATHEMATICS CLUB. Meets on the second Wednesday of each month in Room 26, Science Building, at 7:30 p. m. The club is open to every student of the university who is

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sufficiently interested in mathematics to contribute something toward a program at least once during the year.

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

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 those students who 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. (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 ideas 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.)

The requirements in Philosophy may be satisfied by 1a and 2, or 1b and 2, or 3 and 4.

SUBJECTS.

1a. ELEMENTS OF PSYCHOLOGY. First Semester. 10. One twohour laboratory period afternoons. A study of the facts and laws of consciousness and their relation to the body. Text: Thorndike's Elements of Psychology. Lectures and laboratory.

[Stevens.]

1b. ELEMENTS OF LOCIC. First Semester. 9. One recitation hour afternoons. 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: Jevons' Lessons in Logic. Lectures and recitations. [Stevens.]

2. ELEMENTS OF ETHICS. Second Semester. 10. One recitation hour afternoons. 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: Paulsen's System of Ethics. Lectures and recitations. [Savery.]

3, 4. HISTORY OF PHILOSOPHY. 8. The aim in this course is both historical and constructive. Text. Weber's History of Philosophy. Readings in the philosophies studied. Lectures and recitations. No prerequisites in philosophy. Prerequisite, junior standing. [Savery and Stevens.]

5, 6. METAPHYSICS. 9. A study of the theory of knowledge and the nature of reality—including 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, two courses in Philosophy. [Savery.]

7, 8. PRINCIPLES OF PSYCHOLOGY. Three hours. M., W., F., 11. A systematic study of the principles of psychology. Attention will be paid mainly to the fundamental principles of the subject rather than to method or matters of fact. James' Principles of Psychology will be read. Prerequisite, 1a, 2. [Stevens.]

10. EXPERIMENTAL PSYCHOLOGY. One, two or three hours, according to the amount of laboratory work done. Second Semester. M., Tu., Th., 1 to 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. Qualitative experiments upon sensation, affection, attention, action, perception, and association of ideas will constitute the bulk of the work. Titchener's Manual, Qualitative, Pt. I, will

be used as text book. 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, 1a, 2. [Stevens.]

11, 12. RESEARCH. Original research in psychology may be undertaken by students who are fitted for it. Credits will be determined by the amount of work done. [Stevens.]

13, 14. SEMINABY IN PHILOSOPHY. Two or three hours credit. One evening a week. This course is primarily for graduate or other advanced students, and will follow the seminary plan of instruction.

In 1907-8, Schopenhauer's "The World as Will and Idea," was studied during the first semester, and Lotze's Metaphysics during the second semester.

In 1908-9, Sigwart's Logic will be read and critically discussed. [Savery.]

TEACHER'S COUBSE IN PSYCHOLOGY. Laboratory work in psychology may be taken on Friday afternoon and Saturday morning. The laboratory work should be accompanied by the reading of James' Psychology, Briefer Course. This reading may be done at home during the week. Credit 2 hours. [Stevens.]

RELIGION.

21, 22. COMPARATIVE RELIGION. Two hours. Tu., 9, Th., 11. 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, Judaism and Christianity. Lectures and readings in the sacred writings of the religions studied. Elective for sophomores, juniors and seniors. [Savery.]

23, 24. STUDY OF RELIGION. Two hours. A study of religious experience, its content, types, value and truth. The course falls into two divisions:

(1) Psychological study of religious facts, such as: the religious impulses and emotions, sense of sin, conversion, feeling of "being saved," saintliness, mysticism, and effects of religion on other aspects of life. In this part James' "The Varieties of Religious Experience" will be read and discussed.

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(2) Philosophical study of the truth of the most important religious doctrines, the goodness of the Universe, the personality of God, and immortality. In this part McTaggart's "Some Dogmas of Religion" will be used as text for study and criticism. Lectures and discussions. No prerequisites. (Omitted in 1908-9.) [Savery.]

PHYSICS.

FREDERICK ARTHUR OSBORN, Professor. HENRY LOUIS BRAKEL, Instructor.

LEWIS H. FEE and PHILO F. HAMMOND, Graduate Assistants.

The instruction in this department is designed to meet the needs of three different classes of students. First, those who desire some work in physics as a part of a liberal education; second, those who intend to prepare themselves for teaching physics; and third, those who pursue it as a preparation for engineering.

1. Students who wish physics as a part of a liberal education are advised to elect from the following courses in the order given. 1, 2, 3, 7 or 10, 14.

2. Students who major in physics or are preparing to teach it, should elect from the courses in the order given, 1, 2, 3, 5, 6, 7, 9, 10, 15.

A student may begin his University work in physics either semester but he should have had or be taking Mathematics 1.

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, 2.

SUBJECTS.

1. MECHANICS, SOUND. First Semester. 9. Laboratory one two-hour period each week.

[Osborn, Brakel and Assistants.]

2. LIGHT, HEAT AND ELECTRICITY. Second Semester. 9. A continuation of course 1. [Osborn, Brakel and Assistants.]

1a. MECHANICS, SOUND AND LIGHT. Six hours. First Semester. 11. Laboratory one four-hour period each week.

[Osborn, Brakel and Assistants.]

1a. Second semester. Recitation at 1, and a four-hour laboratory period. Repetition of 1a, first semester. [Brakel.]

2a. HEAT AND ELECTRICITY. Five hours. Second Semester. 11. Laboratory, one three-hour period each week.

[Osborn, Brakel and Assistants.]

3. ELECTRICAL MEASUREMENTS. First Semester. M., W., 1. Laboratory one four-hour period each week. This course treats of the theories of the methods used in the accurate determination of electrical quantities, and the theory and description of the standard instruments for the measurement of resistance, current strength, electro motive force, wattage, capacity and inductance. The laboratory work consists of precision methods of measuring the electrical quantities and the calibration of electrical instruments. Prerequisite Physics 1 and 2, or 1a and 2a.

[Brakel.]

3a. ELECTRICAL MEASUREMENTS. First Semester. Th. 11. One three-hour laboratory period. An abridgement of course 3 designed for Mechanical Engineering Students, with emphasis on the theory, construction and use of electrical instruments. Prerequisite Physics 1a and 2a. [Brakel.]

4. ELECTRICAL MEASUREMENTS. Second Semester. One threehour laboratory period. A continuation of course 3. The measurement of capacity and inductance. Prerequisite Physics 3.

[Brakel.]

5. PRIMARY AND SECONDARY BATTERIES. First Semester. Hours to be arranged. One class period and one laboratory period. This course deals with the description, characteristics and uses of different types of primary and secondary cells, the energy transformations and the measurement of the internal resistance and electro motive force of the different cells. The laboratory work consists of the accurate determination of the e.m. f. and internal resistance of cells by different methods, and time and efficiency tests. Prerequisites Physics 1 and 2 or 1a and 2a, and 8 hours of Chemistry. [Brakel.]

6. ELECTRO-CHEMISTRY AND THEORIES OF E. M. F. Second Semester. Hours to be arranged. Two class periods and two laboratory periods. The class work discusses the general electrochemical phenomena, the theories of electrolysis and e. m. f. of cells. The laboratory work consists of illustrations of the class work, use of coulometers, study of concentration and thermoelectric elements, purifying the chemicals, construction and testing of standard cells. Prerequisites 1 and 2, 3 or 5 and 8 hours of Chemistry. [Brakel.]

7. HEAT. First Semester. Hours to be arranged. The course consists of two lectures and two laboratory periods. The lecture work presents the more important aspects of the subject, both experimental and theoretical. The subjects of thermometry, calorimetry, expansion and conduction are given rather full treatment together with a study of the classical experiments in each. The laboratory work lays stress on the calibration, use and practical handling of temperature measuring instruments, the use of calorimetric methods, and the determination of the coefficient of expansion of a gas, the mechanical equivalent of heat, etc. Prerequisite, 8 hours of Physics. [Osborn.]

8. HEAT. Second Semester. Hours to be arranged. For the present this is a laboratory course. The work consists in the construction, setting up and operating of thermostats, the use of the standard gas thermometer, the calibration and use of high temperature instruments, thermo-couples, resistance thermometers, pyrometers, etc. Prerequisite, course 7. [Osborn.]

9. VIBRATORY PHENOMENA AND SOUND. First Semester. Hours to be arranged. This course consists of two lectures and two laboratory periods. The lectures develop and discuss the mathematical expressions for simple harmonic motion, wave form, vibrating systems with one degree of freedom, damped vibrations, forced vibratinos, propagation of sound in an elastic medium, etc. The equations so developed are applied to the explanation of the phenomena of sound, light, and electrical oscillations. The laboratory work is a study of certain problems in sound, such as rating of a spring by the stroboscopic method, absolute rate of a string, etc.; and in electricity of the determination of the wave length, damping, etc., of electric oscillations. Prerequisite eight hours of physics and calculus. (Not given in 1908-1909.)

[Osborn.]

First Semester. Hours to be arranged. 10. LIGHT. This course consists of two lectures, and two laboratory periods. The lecture work aims to present and discuss the most important optical researches from the early beginnings up to the present time; the mathematical theories in elementary form and the experiments upon which they are founded are given and in addition a study is made of the more important experiments and measurements, such as the velocity of light, wave lengths, indices of refraction, interference phenomena, etc. The laboratory work gives the student an acquaintance with and a training in the use of the more important optical instruments used in investigation. such as the spectrometer, the refractometer, the polarimeter, gratings, plane and concave, and the interferometer. Prerequisites, eight hours of physics and calculus. Not given in 1908-09.)

[Osborn.]

11. LIGHT. Second Semester. Hours to be arranged. This course offers advanced laboratory work in Light. A more extended use and application of the instruments of course 10. To students who show special fitness opportunity is given to do some research. The amount of credit is arranged with the individual student. Prerequisite course 10. (Not given in 1908-09.)

[Osborn.]

14. HISTORY OF PHYSICS. First Semester. Two hours. Hours to be arranged. This is a two-hour course, one lecture and one period of assigned reading. Prerequisites 12 hours of physics and special permission. [Osborn.]

15. TEACHER'S PHYSICS. Second Semester. Hours to be arranged. This is a two-hour lecture course and seminar combined. It is intended for those who are preparing to teach physics. Prerequisite, 16 hours of physics and special permission.

[Osborn, Brakel.]

16. PHYSICS COLLOQUIUM. Open only to graduate students, and major students on special permission.

17. DYNAMO MACHINEBY. Two hours. First Semester. Prerequisites, Physics 3. [Magnusson.]

19. ALTERNATING CURRENTS. Three hours. First Semester. Prerequisites, Physics 9, 17. [Magnusson.] Note—Course 17 corresponds to course 1a, and course 19 corresponds to course 6a in the Department of Electrical Engineering. Laboratory work may be elected in both subjects.

20. GRADUATE WORK. Courses 3 to 19 are for major and graduate students.

Students conditioned in physics for admission to the University may take it up in the summer session, or will be given an opportunity to work off the condition under a tutor appointed by the department and paid by the student.

PHYSICAL CULTURE.

VICTOR MORTON PLACE, Director.

LAVINA C. RUDBERG, Instructor in Women's Department.

H. B. CONIBEAR, Student Trainer of all Teams and Coach of Track Teams and Crews.

Two years of work are required in this department for which the student receives eight credits. Three hours of work a week for two years are required in the Colleges of Liberal Arts, Engineering and School of Mines, and the same amount is required of first year classes in the Schools of Law and Pharmacy.

The department aims primarily to give those students who are healthy and able bodied the proper kind and amount of work requisite to good health and to prescribe the proper work for those less fortunate which will aid in the correction of their infirmities. This work is divided as follows: (a) General gymnastic and outdoor work; (b) Special work for the remedying of scoliosis, flat-foot, weak chest, round shoulders, etc.; (c) Exercises for poise and grace.

The University of Washington has an ideal location for outdoor work. The climate is so mild that outdoor work is possible all the year round and it is the policy of the department to urge all who can to do this kind of work. The campus has a frontage on Lakes Union and Washington and no university in the country has a better location for boating. The Associated Students have recently built a boat house on Lake Washington which serves a double purpose, that of store house for individual cances and headquarters for the varsity crews. Great stress is placed upon

cross country running as a means of body upbuilding and many of the students adopt this method.

For men who are representing the University on the athletic field, or who are trying for any of the University teams or crews, credit is given as for gymnasium work for the time that they are in training, and when not in training the regular gymnasium work will be required of those who come under the rule for required work.

There is a splendid opportunity for women to play tennis, and courts are reserved for them. Women are also allowed to work out their credits by cross country running and rowing. Al: women engaging in rowing must know how to swim.

During the winter months classes in wrestling and boxing will be organized for those men who desire that kind of work.

Instruction is given in both theory and practice of physical education. The theoretical instruction is offered to those students who do their major work in the department of Zoology. Anthropometry as applied to the laws of growth and development in children and to the variations in measurements that can be produced by systematic exercise; lectures and demonstrations on personal hygiene and school hygiene and sanitation; and the application of exercise to such conditions as curvature of the spine, mal-nutrition, intestinal disorders, etc., will be offered. With the co-operation of other departments these courses are designed to give a training that will enable a graduate to install and supervise a system of physical training in public schools and colleges. Students taking this course will be given an opportunity for practical experience in instruction by appointment as class leaders in floor work and as assistants in physical examinations. A certificate of graduation from the department of Physical Culture will be granted all those who combine the theoretical work with the practical, provided that he has acquired the necessary 128 credits required for graduation from the College of Liberal Arts, and provided that he has done his major work in the department of Zoology as stated above.

All women will be required to wear black bloomers and blouse while working in the gymnasium. The men must wear suits satisfactory to the Physical Director.

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SCHEDULE.

PHYSICAL CULTURE.

PLACE.

Section A. Three days, preferably, Tu., Th., F., 3:30. Section B. Three days, preferably, M., W., F., 3:30. Section C. Three days, preferably, Tu., Th., F., 4:30.

Section D. Three days, preferably, M., W., F., 4:30.

RUDBERG.

Advanced Foor Work: Section A, Tu., Th., F., 3:30. Advanced Floor Work: Section B., Tu., Th., F., 4:30. Elementary Floor Work: Section C. M., W., F., 3:30. Elementary Floor Work: Section D. M., W., F., 4:30. Rowing for Women: M., W., F., 1:30.

CONIBEAR.

Cross country running for men, any three days per week at either 3:30 or 4:30.

POLITICAL AND SOCIAL SCIENCE.

J. Allen Smith, Professor.

VANDERVEER CUSTIS, Assistant Professor.

1. THE ELEMENTS OF ECONOMICS. First or Second Semester. First Semester: Section A (Engineers), 8; Section B, 8; Section C (Engineers), 11; Section D, 1; Section E, 1. Second Semester: Section F, 8; Section G, 1. An introductory study of the principles governing the production and distribution of wealth, with special reference to some of the more important aspects of modern industry. [Custis and Instructor.]

3. PRINCIPLES OF SOCIOLOGY. First Semester. 9. 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 important social institutions, such as the family, the religious organization, and the political organization. Prerequisite, 1 or Philosophy, 1a. [Custis.]

4. SOCIAL PROBLEMS. Second Semester. 9. A study of some of the most important problems before American society today,

such as: poverty, pauperism, intemperance, and crime, and the methods of dealing with them. Prerequisite, 1. [Custis.]

5. ECONOMIC GEOGRAPHY. First Semester. 2. A study of the resources and industrial conditions of the leading commercial nations, with reference to their influence upon international trade. Prerequisite, 1. [Instructor.]

6. THE ECONOMIC HISTORY OF THE UNITED STATES. Second Semester. 2. 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 settlement of the West. Prerequisite, 1. [Instructor.]

7. THE DISTRIBUTION OF WEALTH. First Semester. 10. 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, 1.

[Custis.]

8. INDUSTBIAL ORGANIZATION. Second Semester. 10. A study of modern industry with special reference to trusts and other forms of combination. Among the subjects taken up will be the development of the modern business corporation; the causes and methods of combination, special attention being given to the promotion and capitalization of trusts; the advantages and disadvantages of industrial combinations to shareholders, to laborers, to consumers, and to society at large; and the relation of such organizations to the state. Prerequisite, 1. [Custis.]

10. PUBLIC FINANCE AND TAXATION. Second Semester. 11. A study of the principles governing public expenditure and revenue. Special attention will be given to the subject of taxation with a view to determining the merits and defects of the present system, in regard to financial efficiency and social welfare, and the way in which improvement may be made. Prerequisite, 1.

[Instructor.]

12. PRINCIPLES OF ACCOUNTING. Second Semester. 1. The course deals with the methods of ascertaining the values and

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earnings of industrial and governmental enterprises and the way in which the accounts of such enterprises should be kept. It is not primarily designed to give practice in bookkeeping but should enable the student to understand the general principles involved and to interpret and intelligently criticise such accounts as are ordinarily available. Prerequisite, 1. [Instructor.]

14. INSURANCE. Second Semester. 8. In this course attention will be given to the business rather than the legal aspects of the subject. The various kinds of insurance, such as fire, life, and marine insurance will be taken up and examined. Among the subjects considered will be the economic value of insurance, the workings of the insurance companies, and the best methods of public regulation in the interests of the policy holders, the shareholders where these are a separate class, and the public. Prerequisite, 1. [Instructor.]

15. MONEY AND BANKING. First Semester. 9. 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. [Smith.]

16. TEANSPORTATION. Second Semester. 9. A study of modern methods of transportation. Some attention will be given to roads, canals and ocean routes, but these will be viewed mainly in relation to the railway system. The various questions arising in connection with the construction, operation and regulation of the railway business will be discussed. Prerequisite, 1.

[Smith.]

17. LABOR. First Semester. Two hours. M., W., 11. 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. 1.

[Smith.]

18. MUNICIPAL GOVERNMENT. Second Semester. Two hours. M., W., 11. The development of municipal government in the United States and its relation to the state government; present tendencies in municipal organization; municipal problems. Prerequisite, 1. [Smith.]

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19, 20. CONSTITUTIONAL GOVERNMENT. 10. A study of the development of the modern state. Special attention will be given to the origin and growth of American political institutions. Prerequisite, 1. [Smith.]

21, 22. POLITICAL THEORIES. Two hours. Tu., F., 11. An examination of the more important doctrines which have influenced political development in England and the United States. Prerequisite, 19 and 20. [Smith.]

24. PUBLIC INTERNATIONAL LAW. Second Semester. Two hours. The history and development of Public International Law with special reference to American diplomacy. [Condon.]

RHETORIC AND ORATORY.

ARTHUE 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 and Second Semester. Section A, 8; Section B, 9; Sections C and D, 10; Sections E and F, 11; Sections G and H, 1; Section I, 2. Short daily and weekly themes together with a study of the principles of Phetoric. Text: Part I of Genung's "Working Principles of Rhetoric." Each student will meet the instructor for private consultation at least once every week. Required of freshmen in the College of Liberal Arts. Students who can give evidence, by examination, of superior training in English Composition may omit course 1.

[Milliman and Greenlee.]

2. ENGLISH COMPOSITION. Second Semester. 9. Open to students who have completed course 1. Ten sections. Daily and fortnightly themes, with private conferences. Part II of Genung's "Working Principles of Rhetoric," and specified readings from modern English prose. Required of freshmen in the College of Liberal Arts. [Milliman and Greenlee.]

1a. ENGLISH COMPOSITION. First and Second Semesters. Section A, 8; Sections B and C, 9; Section D, 2. This course is designed to so fit the student in the use of good English as to enable him to express his thoughts smoothly and correctly. Toward this end he will be expected to prepare both daily and weekly themes. Each student will meet the instructor once a week for private consultation on his theme work. Genung's "Working Principles of Rhetoric" will be used as the guide in all kinds of construction English, especially in the art of letter writing and other business forms. Required of all freshmen in the College of Engineering and the School of Mines. [Priest, Greenlee and Instructor.]

5, 6. THE ESSAY. Two hours. M., W., 11. A study of the essay as a type of advanced composition. Fortnightly themes with conferences. [Daggy.]

7, 8. DRAMATIC COMPOSITION. Two hours. 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.

[Daggy.]

9. ADVANCED ARGUMENTATION. First Semester. Afternoons. Practice in briefing selected masterpieces of argumentation. Each student will also present an original brief and argument on some topics of his own selection. Text: "Principles of Argumentation," revised edition. Prerequisite, 2. [Milliman.]

10. DEBATING. Second Semester.⁴ Afternoons. Practice in preparation and delivery of debates. Prerequisites 2, 9 and 13. [Milliman.]

13. ORAL EXPRESSION. Each Semester. Section A, 10; Section B, 1. 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.

[Daggy.]

15, 16. DRAMATIC READINGS. Two hourse. Tu., F., 11. 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. Topics and critiques on various phases of contemporary dramatic art. Prerequisite, 13.

[Daggy.]

17. ENGLISH OBATORY. First Semester. 8. A study of the relation of representative orators to the development of the political and social institutions of England from the sixteenth century to the present day. The principal orations of Eliot, Wentworth, Walpole, Chatham, Burke, Mansfield, Fox, Erskine, Pott, Cobden, Bright, and Gladstone are read and analyzed.

[Daggy.]

18. AMERICAN OBATORY. Second Semester. 8. A study of the orations of Otis, Henry, Hamilton, Webster, Hayne, Calhoun, Sumner, Phillips, Beecher, Curtis, Grady, and other representative orators. [Daggy.]

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

SPANISH.

CAROLINE HAVEN OBER, Professor. CHARLES MUNRO STRONG, Instructor.

In this department considerable time is given to colloquial Spanish. The close relations of the United States with Central and South America, and the various 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; Section B, 9; Section C, 1. Lessons in Spanish on everyday topics, training of the ear and tongue. Essentials of Spanish grammar; readings from modern Spanish authors. [Ober and Strong.]

1a. ELEMENTARY. Second Semester. 10. The same work as in course 1, offered for the benefit of students entering the University at this time. [Strong.]

2a. ELEMENTARY. First Semester. 10. Continuation of Course 1a. [Strong.]

3, 4. PRACTICAL. 10. Business correspondence, commercial terms and conversation, readings selected chiefly from Spanish newspapers and magazine articles of the day. Prerequisite, 2 or 2a. [Ober.]

5, 6. LITERARY. 9. Knapp's Spanish Readings. Spanish poetry. Ford's Spanish Anthology. Essays written on literary subjects. Prerequisite, 2 or 2a. [Strong.]

7, 8. ADVANCED. M., Tu., W., 11. 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. [Ober.]

9, 10. SPANISH NOVEL. Two hours. Tu., Th., 8. 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. [Ober.]

11, 12. HISTORY OF SPANISH LITERATURE. Two hours. Prerequisite, 4 or 6. [Ober.]

13, 14. Don QUIJOTE. Two hours. Open only to advanced students. [Ober.]

15, 16. Advanced Prose Composition. One hour. F., 11. Prerequisite, 4 or 6. [Ober.]

17, 18. TEACHEES' COURSE. First Semester. Two hours. W., F., 8. Discussion of methods of teaching Spanish. Outlines of practical lessons. Practice work. Conversation. (This course

may be given in place of Spanish 11, 12, or Spanish 13, 14, the choice depending on the preparation of the students applying.) [Ober.]

19, 20. SPANISH READINGS. Advanced reading course. Individual work in the library with frequent written reports. Designed to give greater familiarity with modern Spanish literature and ease in reading Spanish works. Open only to advanced students. [Ober.]

ZOOLOGY.

TREVOR KINCAID, Professor.

CHARLES WILLIAM PRENTISS, Assistant Professor.

In this department the more elementary courses are designed with special 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 thorough 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 conditon, while the lakes whose shores form portions of the boundaries of the campus swarm with fresh water organisms.

SUBJECTS.

1, 2. ELEMENTS OF ZOOLOGY. M., W., 11. Laboratory, M., W., or Tu., Th., 2-4. A general review of zoological science, involving a study of the structure, 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.

[Kincaid.]

3, 4. VERTEBBATE ANATOMY. M., W., 11. Laboratory, M., Th., 1-4. The comparative structure of the vertebrate organs studied by dissection of six backboned animals, and the evolution of the various systems traced from the lowest fishes up to man. Prerequisite, 1 and 2 or their equivalent. [Prentiss.]

5. HISTOLOGY. First Semester. M., Th., 10. Laboratory, Tu., Th., or W., F. The investigation of the microscopic structure of animal tissue from the derivative standpoint, including the study of the fundamental types of cell and the methods used in the preparation of microscopic slides. Prerequisite 1 and 2 or their equivalent. [Kincaid.]

6. VERTEBRATE EMBRYOLOGY. Second Semester. M., Th., 10. Laboratory, M., W., or T., Th., 1-4. 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. [Kincaid.]

7. GENERAL PHYSIOLOGY. First Semester. Tu., Th., 9. Laboratory, Tu., Th., '10-12; Tu., Th., 2-4. The animal tissues and organs will be studied from the standpoint of their structure in man. The lectures will deal chiefly with the functions of the human organs and their hygiene. [Prentiss.]

8. COMPARATIVE PHYSIOLOGY. Second Semester. Tu., Th., 9. Laboratory, Tu., Th., 2-4. The physiology of muscle and nerve, of the circulatory and respiratory organs studied from the comparative standpoint.' Prerequisite, course 7. [Prentiss.]

9. MAMMALIAN ANATOMY. Second Semester. Tu., Th., 8. Laboratory, M., Th., 2-4. The special anatomy of the skeleton, muscles, blood vessels and nerves, with reference to human anatomy. Preparatory to a medical course. [Prentiss.]

10. FOREST ZOOLOGY. First Semester. Tu., Th., 8. A discussion of the animal life characteristic of forest, including the classification, habits, economic relations, propagation and protection of forest animals. [Kincaid.]

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11. FOREST ENTOMOLOGY. Second Semester. Tu., Th., 8. A course dealing with the relation of insects to the forest, including the classification and habits of forest insects, and the practical handling of insects injurious to forest welfare. Laboratory, four hours per week. [Kincaid.]

12. ETHNOLOGY. First Semester. Tu., F., 11. The study of the human species from the zoological standpoint, including a discussion of the races of mankind, their origin, migrations, distribution and customs. Illustrated by means of lantern slides. No prerequisite. [Kincaid.]

13. EVOLUTION. Second Semester. Tu., F., 11. A series of lectures upon the more important biological problems related to the general theory of organic evolution, including variation, selection, mutation and heredity. Illustrated by steroptican views. Prerequisite Zoology 1, Botany 1, or their equivalent.

[Kincaid.]

14. NORMAL COURSE. Second Semester. Two hours. M., W., 9. Designed to meet the needs of students who expect to teach zoology in the high schools of the state. [Kincaid.]

15, 16. ANIMAL ECOLOGY. A study of the adaptations of animals, including their habits, means of protection and relation to environment. Lectures, laboratory work and field operations. Hours and credit to be arranged. [Kincaid.]

17, 18. RESEABCH. 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 credits to be arranged. [Kincaid, Prentiss.]

COLLEGE OF ENGINEERING.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., President.

ALMON HOMEB FULLER, C. E., Professor of Civil Engineering, Dean.

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

JOHN THOMAS CONDON, LL. M., Professor of Law.

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

- MILNOB ROBERTS, A. B., Professor of Mining Engineering and Metallurgy.
- FREDERICK ARTHUR OSBORN, Ph. D., Professor of Physics and Director of the Physics Laboratories.
- ROBERT EDOUARD MORITZ, Ph. D., Professor of Mathematics and Astronomy.
- CARL EDWARD MAGNUSSON, Ph.D., E. E., Professor of Electrical Engineering.
- EVERETT OWEN EASTWOOD, B. S., M. A., Professor of Mechanical Engineering.
- SAMUEL CHRISTOPHER LANCASTER, Professor of Highway Engineering.
- VICTOR M. PLACE, A. B., Professor of Physical Culture.
- CHARLES CHURCH MORE, C. E., Associate Professor of Civil Engineering.
- JAMES EDWARD GOULD, Ph. B., Assistant Professor of Astronomy and Mathematics.

HENRY KREITZER BENSON, Ph. D., Assistant Professor of Chemistry.

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.

IBWIN WALTEB BRANDEL, Ph. D., Assistant Professor of Chemistry.

- CHARLES EVAN FOWLER, M. Am. Soc. C.E., Lecturer on Engineering Contracts and Specifications.
- JAMES DELMAGE Ross, Lecturer and Consulting Electrical Engineer on Central Stations.
- JOHN HARISBERGER, Lecturer and Consulting Electrical Engineer on Power Transmission.
- CLARENCE E. FLEAGER, Lecturer and Consulting Electrical Engineer on Telephones.
- 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.
- HENRY LEE BOWLBY, B. S., Instructor in Civil Engineering.
- CHARLES W. HARRIS, C. E., Instructor in Civil Engineering.
- GEORGE SAMUEL WILSON, B. S., Instructor in Mechanical Engineering.
- SAMUEL THOMAS BEATTIE, Instructor in Woodwork.
- GEORGE IRVING GAVETT, B. S. (C. E.), Instructor in Mathematics.
- WILLIAM VEBNON LOVITT, A. B., Instructor in Mathematics.
- CHARLES E. WEAVER, Ph. D., Instructor in Geology.

SANDY MORROW KANE, Instructor in Metalwork.

- CLARENCE RAYMOND COREY, E. M., Instructor in Mining and Metallurgy.
- JESSE AARON JACKSON, Instructor in Civil Engineering.
- RUPERT P. SNOKE, Assistant in Descriptive Geometry.

RAYMOND A. HOPKINS, Assistant in Mechanical Drawing.

RAY MONCRIEFF, Assistant in Descriptive Geometry.

CHESTER G. WELLS, Assistant in Surveying.

GEORGE STRANDBERG, 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 elec-

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trical 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 electrical 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.

At no time in the history of our country has there been a greater demand for improved highways. Comparatively few men of this country have given the matter of highway construction the study which the subject deserves and there is great demand for men trained in the art of road building. In order to meet this need the University of Washington offers training in this particular branch of engineering.

It is intended to make the construction of roads one of the interesting features of the Alaska-Yukon-Pacific Exposition. Extensive work is now planned by the Park Board of the city of Seattle in constructing a system of roads and paths connecting the park and boulevard system which has been planned by Messrs. Olmstead Brothers; this will afford excellent opportunity for study and observation.

GOVERNMENT TIMBER TESTING SERVICE.

The United States Government through its Forest Service has designated the University of Washington as the site of a Government Timber Testing Station. Two timber testing engineers are stationed here and actual work in the investigation of the mechanical properties of Northwestern timber is regularly carried on. Engineering students are 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 pages 40 to 51.

ADMISSION.

The requirements for admission to the Freshman class of the College of Engineering are:

English 4	ł
Algebra 1	11/2
Plane Geometry 1	L
Solid Geometry	₩2
Physics 1	L
Chemistry 1	L
Modern Language 2	2
U. S. History and Civics 1	L
Elective	3

For more specific information concerning the preparation necessary to meet the above requirements and list of electives, see page 56 and following.

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 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 must do systematic reading in the engineering periodicals and must submit both oral and written reports.

The juniors attend certain meetings of the seminary when requested by their class advisers, and 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, electrical, mechanical 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 164, and following.

Course in Civil Engineering.

First Semester-

Second Semester-

FRESHMAN YEAR.

Hours.	Hours.
Plane Trigonometry and Higher Algebra, 1a 4 Chemistry, 1a 4 Engineering Drawing, 1a 4	Analytic Geometry and Higher Algebra, 2a 4 Chemistry, 1b 4 Engineering Drawing, 1b 4
English Composition, 14 Shop, 1a 2 Physical Culture, 12 2	Plane Surveying, 3a4 Shop, 1b 2 Physical Culture, 22 2
16 + 4	16 + 4

SOPHOMOBE 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
Rngineering Drawing, 1c 2	Physical Culture, 4 2
Physical Culture, 3 2	_
<u> </u>	16 + 2
17 + 2	

JUNIOR YEAR.

Mecnanics, 5a 4	Mechanics, 5b 5
Political Science, 1a 4	Hydraulics, 6a 4
Railroads, 4a 4	Railroads, 4b 4
Geology, 1a 4	Masonry Construction, 8 4
	-
16	17

Course in Civil Engineering - Continued.

First Semester-	Second Semester—
Bridges, 7a 4	Bridges, 7b 4
Hydraulics, 6c 4	Contracts and
Least Squares, 11 2	Specifications, 11 1
Structural Materials, 10a 2	Thesis 3
Options (Groups 1, 2, or 8). 5	Options (Groups 1, 2, or 3) 6
<u> </u>	

Options will be chosen with the consent of the class adviser from the following groups :

Group 1:	Group 1:
Astronomy, 3 2	Astronomy, 4 2
Hydraulics, 6b 1	Geodesy, 8d 2
Roads and Pavements, 9a 2	Industrial Elect., 3, or 3
	English Themes 2
Group 2:	Group 2:
Highway Location, 9b 2	Highway Construction, 9d 2
Highway Construction, 9c 2	Highway Economics, 9f 2
Highway Metals, 9e 1	Parks and Boulevards, 9g 2
Group s:	Group 3:
Bridges, 7c 2	Bridges, 7d 2
Mechanics, 5c 2	Mechanics, 5d 2
Hydraulics, 6b 1	Industrial Electricity, or 3
	English Themes

Course in Electrical Engineering.

First Semester-

Second Semester-

FRESHMAN YEAR.

Hours.	Hours.
Plane Trigonometry and	Analytic Geometry and
Higher Algebra, 1a 4	Higher Algebra, 2a 4
Chemistry, 1a 4	Chemistry, 2a 4
Engineering Drawing, 1a 4	Engineering Drawing, 1b 4
English Composition, 1 4	Plane Surveying, 3a 4
Shop. 1a	Shop. 1b 2
Physical Culture, 1 2	Physical Culture, 2 2
	*
16 + 4	• 16 + 4

SOPHOMORE YEAR.

Hours.	Hours.
Analytic Geometry, 5a 2	Calculus, 6a 4
Differential Calculus, 5b 4	Industrial Chemistry, 7 4
Physics, 1a	Physics. 2a
Machine Design, 5a 8	Machine Design, 5b 2
Kinematics, 10 2	Elements of Steam Engineer-
Shop, 3a 2	ing, 6 2
Physical Culture, 3 2	Shop, 4a 2
• • • • • • • • •	Physical Culture, 4 2
17 + 4	
	17 + 4

JUNIOB YEAR.

Hours.	Hours.
Mechanics, 5a 4	Mechanics, 5b
Political Science, 1a 4	Hydraulics, 6a 4
Electrical Engineering, 1a, 1c 3	Electrical Engineering, 1b, 1d 6
Electrical Measurements, 4a., 4	Electrical Measurements, 4b. 1
Experimental Engineering, 13 2	
· · · · -	16
17	

SENIOR YEAR.

Hours.	Hours
Alternating Currents, 6a, 6c. 5 Electric Railways, 2 2 Telephones, 9a 2 Commercial Testing, 7 3	Alternating Currents, 6b, 6d. 5 Central Stations, 8a 2 Power Transmission, 8b 2 Elective 2
Steam Turbines, 26 2 Dynamo Design, 10a 1 Hydraulics, 6b 1	Thesis 4
 16	

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Course in Mechanical Engineering.

First Semester—

Second Semester-

Hours.	Hours.
Plane Trigonometry and	Analytic Geometry and
Higher Algebra, 1a 4	Higher Algebra, 2a 4
Chemistry, 1a 4	Chemistry, 2a 4
Engineering Drawing, 1a 4	Engineering Drawing, 1b 4
English Composition, 1a 4	Plane Surveying, 3a 4
Shop. 1a 2	Shop, 1b 2
Physical Culture, 1 2	Physical Culture, 2 2
-	
\cdot 16 + 4	16 + 4

SOPHOMORE YEAR.

Hours.	Hours.
Analytic Geometry, 5a 2	Calculus, 6a 4
Differential Calculus, 5b 4	Industrial Chemistry, 7 4
Physics, 1a	Physics. 2a
Machine Design, 5a 3	Machine Design, 5b, 2
Kinematics, 10 2	Elements Steam Engneer-
Shop. 3a 2	ing. 6 2
Physical Culture, 3 2	Shop. 4a 2
	Physical Culture, 4,
17 + 4	
	17 + 4

JUNIOR YEAR.

Hours.	Hours.
Mechanics, 5a 4	Mechanics, 5b 5
Political Science, 1a 4	Hydraulics. 6a 4
Electrical Eng., 1a 2	Electrical Eng., 1b. 1d 3
Physics, 3a	Valve Gears, 8
Engines and Boilers, 7a 2	Engine and Boiler Design, 7b. 2
Experimental Engineering, 13a 2	
Shop, 4b 2	16
—	
16 + 2	

SENIOR YEAR.

Hours.	Hours.
Hydraulics, 6b 1	Gas Engines, 15 2
Machine Design, 5c 2	Machine Design, 5d 2
Experimental Engineering, 13b 2	Experimental Engineering, 13c 2
Graphic Statics, 12 3	Heating and Ventilating, 16 2
Thermodynamics, 11 2	Elective 2
Steam Turbines, 26 2	Contracts and Specifica-
Elective 2	tions. 11 1
Structural Materials, 10a 2	Thesis 4
16	15

Course in Chemical Engineering.

First Semester—	Second Semester—
FRESH	MAN YEAR.
Hours. Plane Trigonometry and Higher Algebra, 1a4 Chemistry, 1a4 Engineering Drawing, 1a4 English Composition, 14 Shop, 1a2 Physical Culture, 12 $16 \div 4$	Hours. Analytic Geometry and Higher Algebra, 2a
10 1 1	40 T

SOPHOMORE YEAR.

Hours.	Hours.
Analytic Geometry, ba 2	Calculus, 6a
Differential Calculus, 5b 4	Physics, 2a 5
Physics, 1a 6	Quantitative Analysis, 6 4
Qualitative Analysis, 5 4	Industrial Chemistry 4
Physical Culture, 3 2	Physical Culture, 4 2
	
16 + 2	17 + 2

JUNIOR YEAR.

Hours. Hours. Mechanics, 5a 4 Organic Chemistry, 34 4 Mineralogy, 1 4 Mineralogy, 5 1 15 15	Hours. Hours. 5 Organic Chemistry 4 Metallurgy, 2 4 Hydraulics, 6a 4 17
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SENIOR YEAR.

Hours.	Hours.
Water Supply, 6c	Elective 4 Industrial Electricity 4 Thesis 4 Electro Chemistry 4
	16
16	

DEPARTMENTS OF INSTRUCTION.

CIVIL ENGINEERING.

ALMON HOMEB FULLEE, Professor. SAMUEL CHRISTOPHER LANCASTEE, Professor. CHARLES CHURCH MORE, Associate Professor. CHARLES EVAN FOWLEE, Lecturer HENBY LEE BOWLBY, Instructor. CHARLES W. HABRIS, Instructor. JESSE AABON JACKSON, Instructor.

SUBJECTS.

1a. ENGINEERING DRAWING. First Semester. Section A, M., W., 1, and Tu., Th., 10-12; B, Tu., Th., 1, and Tu., Th., 10-12; C, M., 8, Tu., 9, and M., Th., 2-4; D, M., F., 10, and M., Th., 2-4; E, Tu., Th., 8, and Tu., Th., 10-12; F, W., F., 8, and Tu., Th., 10-12. 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.

[Harris and Jackson.]

1b. ENGINEERING DRAWING. Second Semester. Continuation of Engineering Drawing 1a. Curved surfaces, plane sections and section lining; intersection of simple geometric forms; rotation of points, lines and planes; warped surfaces.

[Harris and Jackson.]

1c. ENGINEERING DRAWING. Two hours. First Semester. Shades, shadows and linear perspective. Prerequisite, 1b. [Bowlby.]

3a. PLANE SURVEYING. Second Semester. Section A, M., Th., 9, F., 1-5; B., W., F., 9, F., 1-5; C, Tu., Th., 8, S.,8-12; D, W., F., 8, Tu., 1-5; E, M., Th., 2, S., 8-12; F, W., F., 2, Tu., 1-5. Theory of chain, compass, and transit surveying, leveling, the adjustment and use of instruments, methods used in the United States Public

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COLLEGE OF ENGINEERING

Land surveys, computations of area, maps. Prerequisites, Drawing 1 and Mathematics 1a.

[Bowlby, Jackson and Assistants.]

3b. CITY AND MINE SURVEYING. Three hours. First Semester. Section A, M., 8, Tu., 1-5; B, Tu., 9, Th., 1-5. Study of the precision necessary to be obtained; survey of a convenient portion of the city, and field and office work of laying out a new addition. Mining survey methods. Pen topography. Prerequisite, 3a.

[Bowlby.]

3c. TOPOGRAPHIC SUBVEYING. Three hours. Second Semester. Tu., 9, and Th., 1-5. Colored topography; base line measurements; transit triangulation; plane table and stadia work; maps. Prerequisite, 3b. [Bowlby.]

3d. ELEMENTS OF GEODESY. Two hours. Second Semester. Th., 11. M., 1-4. General study of the figure of the earth and of the methods and instruments used in precise surveys over large areas; field work. Prerequisites, 3c, Mathematics 11, preceded or accompanied by Astronomy 1, 2. [Bowlby.]

3e. FOREST SURVEYING. First Semester. Instruction in the use of drawing instruments and practice in linear drawing; free hand lettering; tracing of maps. Theory of chain, compass, level and transit surveys. Methods used in the United States Public Land Surveys. Platting of notes and calculation of areas. This course is for Seniors in the School of Forestry. [Bowlby.]

3f. FOREST SURVEYING. Second Semester. Thorough drill in the use of the plane table, aneroid barometer, traverse board, Brunton pocket transit, hand level, and transit and stadia in the making of topographical surveys. Use of conventional signs as adopted by the United States Forest Service. Actual surveys of timbered land and a study of the advantages and disadvantages of the various methods of making them. Prerequisite, Forest Surveying 3e. [Bowlby.]

4a. RAILBOAD LOCATION. First Semester. M., Th., 10, and S.,
8-2. Theory of circular curves, spirals and turnouts. Reconnaissance, preliminary location and construction surveys. Maps, profiles, cross-sections and earthwork computation. Prerequisite, 3c. [Bowlby.]

4b. RAILBOAD ECONOMICS. Second Semester. 10. Continuation of 4a. Study of the conditions controlling the economic relation of location, construction and maintenance. Details of construction. [Bowlby.]

5a. MECHANICS. First Semester. Section A, 11; B, 1; C, 9; D, 10; E, 8. Statics and Dynamics. Special attention is paid to practical applications. Original problems form a prominent feature. Lectures, recitations and solution of problems. Prerequisites, Mathematics 6a, and Physics, 1a and 2a.

[More and]

5b. MECHANICS OF MATERIALS. Five hours. Second Semester. Section A, 11, and M., 1-4; B, 1, and M., 2-5; C, 9, Tu., 1-4; D, 10, and Tu., 1-4; E, 10, and Tu., 1-4. Continuation of 5a, and Mechanics of Materials. Lectures, recitations and solution of problems. [More and]

5c, 5d. ADVANCED MECHANICS. Two hours. Hours to be arranged. An elective course in advanced structural mechanics, in which consideration is given to the general theories of flexure, elasticity and least work, with application to continuous girders, elastic arches, etc. Prerequisites, 5b and 8. [More.]

6a. THEORETIC HYDEAULICS. Second Semester. Section A, Tu., W., Th., 8, and Tu., 2-5; B, Tu., W., F., 11, and Th., 2-5; C, Tu., Th., F., 10, and F., 2-5; D, W., Th., F., 9, and M., 2-5. Hydrostatic pressure; depth and stability of flotation, steady flow of water through pipes and orifices, over weirs and in open channels; energy, impulse and reaction of a jet. Preceded or accompanied by 5b. [Harris].

6b. HYDRAULIC MOTORS. One hour. First Semester. W., 3-5. Theory of impulse wheels and reaction turbines; a practical test of an existing plant; design of a reaction turbine. Prerequisite, 6a. [Harris.]

6c. HYDRAULIC ENGINEERING. First Semester. 8, and M., 2-5. The design and construction of water supply, sewerage and irrigation systems. Lectures, recitations and the design of a typical system. [Harris.]

7a, 7b. BRIDGES. M., Th., 10, and W., F., 1. 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 curved chord, pin-connected bridge. Design, with working drawings, bill of material, and estimate of cost of a plate girder railroad bridge. Prerequisites 5b, 8. [Fuller.]

7c, 7d. HIGHER STRUCTURES. Two hours. Draw-bridges, cantilever bridges, suspension bridges, metallic and reinforced concrete arches; stresses and deflections. Lectures, recitations and graphic determinations. Must be preceded or accompanied by 7a, 7b. [Fuller.]

8. MASONEY CONSTRUCTION. Second Semester. M., Th., 9, and W., F., 2-5. A study of the properties of cement, concrete and reinforced concrete, piers, abutments, retaining walls, dams and masonry arches. Lectures, recitations, and design. Prerequisites, 2b, preceded or accompanied by 5b. [More.]

9a. ROADS AND PAVEMENTS. Two hours. First Semester. M.,
 W., 11. Fundamental principles of the location, construction and maintenance of country roads and city streets. Lectures, recitations and assigned readings. Prerequisites, 3c and 8.
 [Bowlby.]

9b. HIGHWAY LOCATION. Two hours. First Semester. M., W., 10:40. Theory of location as applied to country roads, city streets, drives and boulevards. A study of the difference between railway and highway location. Lectures, recitations and assigned readings. Prerequisites, 4b and 8. [Lancaster.]

9c. HIGHWAY CONSTRUCTION. Two hours. First Semester. F., 9:45; F., 1:30-4-:30. A study of the details of highway construction. The proper organization and methods of keeping costs and accounts to insure a wise expenditure of all funds and obtain the confidence of the community. Also a study of drainage, grading and the treatment of the wearing surface of every type of road whether of earth or the best types of gravel and crushed stone.

[Lancaster.]

9d. HIGHWAY CONSTRUCTION. Two hours. Second Semester. T., 9:45; T., 1:30-4:30. Continuation of 9c. Taking up the construction of different types of city streets and pavements, embracing a study in the field of actual construction on the grounds of the Alaska-Yukon-Pacific Exposition and the University campus. Discussion of methods employed by other states engaged in road construction. [Lancaster.]

9e. HIGHWAY METALS. One hour. First Semester. W., 1:30-4:30. A study of the proper selection of materials for use in metalling the surface of roads to meet the varying conditions of traffic. Location of quarries and installation of machinery for crushing rock. Laboratory work; testing rock to determine its hardness, toughness and cementing value. [Lancaster.]

9f. HIGHWAY ECONOMICS. Two hours. Second Semester. M., F., 9:45. The economic justification for improved highways. Collection of highway statistics. A study of the various state road laws. The effects of wagon tires of varying widths. Lectures, recitations and research. [Lancaster.]

9g. PARKS AND BOULEVARDS. Two hours. Second Semester. M., W., 10:40. A study of the most noted parks and boulevards of this country and Europe. Relation of area of parks and pleasure grounds to area of cities. Illustrated lectures, recitations and assigned readings. Papers and lectures by eminent authorities. [Lancaster.]

10a. STRUCTURAL MATERIALS. Two hours. First Semester. Tu., Th., 1-4. A study of the physical properties of wood, iron, steel, stone, brick, cement, concrete, etc. Lectures and laboratory work. Prerequisite, 5b. [Fuller and More.]

11. CONTRACTS AND SPECIFICATIONS. One hour. Second Semester. F., 11. Lectures on the law of contracts and a study of engineering specifications. [Condon and Fowler.]

ELECTRICAL ENGINEERING.

1a. ELECTRICAL ENGINEERING. Two hours. First Semester. Section A, Tu., Th., 8; Section B, W., F., 8. Theory of the magnetic circuit; construction, operation and characteristics of direct current generators and motors. The theory is illustrated and supplemented by a large number of quantitative problems taken from modern commercial machines. [Johnson.]

1b. ELECTRICAL ENGINEERING. Two hours. Second Semester. Section A, Tu., Th., 8; Section B, W., F., 8. Continuation of course 1a, and including storage batteries and the principles of photometry. [Johnson.]

1c. ELECTRICAL ENGINEERING LABORATORY. One hour. First Semester. Experimental study of direct current machinery. To be taken in connection with course 1a. [Johnson.]

1d. ELECTRICAL ENGINEERING LABORATORY. Second Semester. Sec. C, Th., 1-5 and S., 8-12; Sec. D, W., F., 1-5. Continuation of course 1c and taken in connection with course 1b.

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1e. ELECTBICAL ENGINEERING LABOBATORY. One hour. Second Semester. A short course for mechanical engineers.

[Johnson.]

1f. ELECTRICAL ENGINEERING. Three hours. Second Semester. M., W., 11. Tu., 3-5. This course deals with the more important industrial application of electricity and is especially arranged to meet the needs of civil and mining engineers.

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2. ELECTRIC RAILWAYS. Two hours. First Semester. Tu., Th., 11. Electrical equipment, roadbed, rolling stock, construction and operation of direct current, single phase and poly-phase systems. [Magnusson.]

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4a. ELECTRICAL MEASUREMENTS. First Semester. M., W., 1. Sec. C, Tu., 1-5; Sec. D, Th., 1-5. Prerequisites, Physics, 1a, 2a. [Brakel.]

4b. ELECTRICAL MEASUREMENTS. One hour. Second Semester. Sec. C, W., 1-5; Sec. D, Th., 1-5. Prerequisite, 4a. [Brakel.]

4c. ELECTRICAL MEASUREMENTS. Two hours. First Semester. Th., 11; F., 1-5. For mechanical engineers. [Brakel.]

6a, 6b. ALTEBNATING CURRENTS. Three hours. Section A, M., W., F., 9; B, M., W., F., 11. Theory and application of alternating currents, power measurements, alternators, transformers, induction motors, synchronous motors, rotary converters and accessory apparatus. [Magnusson.]

6c, 6d. ALTERNATING CURRENTS LABORATORY. Two hours. Section A, M., 1-5; B, Tu., 1-5. Experimental study of alternating current machinery. [Magnusson.]

7. COMMERCIAL TESTING. Three hours. First Semester. Section A, Tu., F., 1-4. Section B, M., Th., 1-4. Practical testing of machines and appliances in commercial use, locating grounds, inspecting and testing of new installations. [Johnson.]

8a. CENTRAL STATIONS AND ELECTRIC LIGHTING. Two hours. Second Semester. Tu., Th., 8. Location, design and operation of central stations. Electric lighting systems.

[Ross and]

8b. POWER TRANSMISSION. Two hours. Second Semester. M., F., 10. Design, construction and operation of electric transmission system. [Harisberger and]

9a. TELEPHONES. Two hours. First Semester. Section A. M., Th., 10; B, Tu., F., 10. Theory, construction and operation of telephones. General central station telephone practice.

[Johnson and Fleager.]

9b. TELEPHONES AND TELEGRAPHS. Two hours. Second Semester. Tu., 10; Th., 1-4. Details of central station apparatus. Testing and locating faults. Multiplex and wireless telegraphs. Prerequisite, 9a. [Johnson.]

10a. DESIGN OF ELECTRICAL APPARATUS. One hour. First Semester. W., 1-3. Complete design of one direct current dynamo.

[Magnusson.]

10b. DESIGN OF ELECTRICAL APPARATUS. Two hours. Second Semester. W., 1-5. Design of switchboards and transformers, or a. c. generators or motors. [Magnusson.]

The special lectures in courses 8a, 8b, 9a, 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. GEOEGE SAMUEL WILSON, Instructor. SAMUEL THOMAS BEATTIE, Instructor in Woodwork. SANDY MARROW KANE, Instructor in Metalwork.

1a. CARPENTRY AND WOOD-TURNING. One four-hour exercise each week in the first semester. Section A, Th., 1-5; B, M., 1-5; C, F., 1-5; D, W., 1; E, Tu., 1-5; F, Sat., 8-12. The student will receive training in the use and care of wood-working tools. Instruction and practice will be given in sawing, planing, chiseling, champfering, grooving, framing, tenoning, mortising, dovetailing, splicing, gluing. Exercises in turning include consideration of speeds, use of gouges, chisels, nosing tools, side tools, parting tools, and calipers. [Beattie.]

1b. PATTEEN MAKING AND CABINET WORK. One four hour exercise each week of the second semester. Same schedule as 1a. The pattern making includes the construction of core boxes and such patterns as pipe fitting, valves, pulleys and machine parts. This is followed by a series of exercises in cabinet-work embracing the application to more difficult and advanced work of the principles previously given. Mining engineers are given practice in framing of mine timbers, working from drawings and blue prints. [Beattie.]

3a. FORCE AND FOUNDEY. One four-hour exercise each week of the first semester. Section C, Sat., 8-12; D, Tu., 1-5; E, Th., 1-5; F, Sat., 8-12. The student is given systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. In the foundry the student is given work in iron and brass; bench and floor moulding, core-making, and is instructed with the view toward proficiency in management of the cupola. [Kane.]

4a. MACHINE WORK. One four-hour exercise each week of the second semester. Same schedule as 3a. The course begins with exercises in chipping, filing and scraping. These are followed by work on the lathe in both iron and brass including straight and taper turning, centering, chucking, screw cutting, boring, drilling and tapping, knurling and polishing. A few exercises on other machines are given. [Kane.]

4b. MACHINE WORK. One four-hour exercise each work of the first semester. M., 1-5. Continuation of 4a, including more difficult work on the lathe, and the use of the milling machine, grinder, planer and shaper. [Kane.]

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. In general explanation and instruction will be given the class collectively before each exercise embodying new work or new principles. This will be supplemented by individual instruction.

5a. ELEMENTS OF MACHINE DESIGN. Three hours. First Semester. Section C, Th. 11 and W., F., 1-4; D, Tu., 9, and W., F., 1-4. A study of the design of machine details, giving practice in the application of modern formulæ and manufacturer's standards. Design of bolts, riveted joints, boiler staying, bearings, etc. Prerequisites, Des. Geom. 2a. [Wilson.]

5b. ELEMENTS OF MACHINE DESIGN. Two hours. Second Semester. W., F., 1-4. 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. [Wilson.]

5c. DESIGN OF SPECIAL MACHINERY. Two hours. First Semester. W., F., 1-4. 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. [Wilson.]

5d. ADVANCED MACHINE DESIGN. Two hours. Second Semester. W., F., 1-4. Special problems in the design of machine tools, and automatic machinery will ge given, suited to the abilities and inclination toward specialization of the students. Prerequisites, 5c, 10, Mech. 5b. [Wilson.]

5f. ELEMENTS OF MACHINE DESIGN. One hour. Second Semester. First five weeks. M., 9-12; Tu., W., 1-4. For students taking Mining Engineering, an abridgement of 5a. [Wilson.]

6. ELEMENTS OF STEAM ENGINEERING. Two hours. Second Semester. Section A, Tu., Th., 8; B, Tu., Th., 9. 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. [Eastwood.]

7a. ENGINES AND BOILERS. Two hours. First Semester. W., F., 9. 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.

[Eastwood.]

7b. DESIGN OF ENGINES AND BOILERS. Two hours. Second Semester. W., F., 1-4. 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, 5b, 7a, and Mech. 5b. [Eastwood.]

VALVE GEARS. Two hours. First Semester. Tu., 9; W., F.,
 8-10. A course in the theory and practice of designing the various kinds of valve gears for steam engines. Prerequisite, 6 or 7a.
 [Wilson.]

10. KINEMATICS. Two hours. First Semester. Section A, M., Th., 9; B, W., F., 9. A study of the operation of machines involving the transmission of forces and the production of determinate motions. Preceded or accompanied by Mach. Des. 5a.

[Wilson.]

11. THEEMODYNAMICS. Two hours. First Semester. M., F., 10. A consideration of the fundamental principles underlying the transformation of heat into work, with reference to the steam engine, the gas engine and hot air engine, including the discussion of the properties of gases and vapors and the operation of refrigerating machinery; a study of the use and efficiency of the simple, compound, and multiple expansion engine. The solution of numerous problems arising in practice are required. Prerequisites, Physics, 1a, 2a; Math. 6a; M. E., 7a.

[Eastwood.]

12. GRAPHIC STATICS OF MECHANISM. Three hours. First Semester. W., 11; M., W., F., 8-10. 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. [Eastwood.]

13a. EXPERIMENTAL ENGINEERING. Two hours. First Semester. Section A, W., 8, Th., 1-3; B, M., 8, Tu., 1-3. Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine are made. One complete engine and boiler test with report is required. Prerequisites, 6, or 7a; Physics, 1a, 2a. [Wilson.]

13b. EXPERIMENTAL ENGINEERING. Two hours. First Semester. F., 11, M., 1-3. 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. [Wilson.]

13c. EXPERIMENTAL ENGINEERING. Two hours. Second Semester. Tu., Th., 1-3. 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. [Eastwood and Wilson.]

15. GAS ENGINES. Two hours. Second Semester. Tu., Th., 11. A study of the development of gas engineering, including the different types of gas engines, and gas producers and methods of testing. Prerequisite, 6, or 7a. [Wilson.]

16. HEATING AND VENTILATING. Two hours. Second Semester. Tu., F., 10. A course of lectures and recitations considering the various systems of heating and ventilating, methods of design and tests. [Eastwood.]

20. RAILWAY MECHANICAL ENGINEERING. Two hours. First or Second Semester. Hours to be arranged. Mechanical engineering as related to the machinery and maintenance of railways.

[Wilson.]

25. POWER PLANTS. Two hours. Second Semester. M., Tu., 10. A study of the design of power plants involving their location, buildings, prime movers, power transmission, etc.

[Eastwood.]

26. STEAM TURBINES. Two hours. First Semester. Tu., Th., 9. The theory, construction and design of steam turbines.

[Eastwood.]

30. NAVAL ARCHITECTURE. First Semester. Two hours. Hours to be arranged. Elective. A course in theoretical naval architecture, involving the calculations common to ship construction, including areas, volumes, weights, stability, streams, resistance and powering. Instructions will be given by lectures and recitations accompanying regular drafting room work.

[Eastwood.]

31. SHIP DRAWING AND DESIGN. Second Semester. Two hours. Hours to be arranged. Elective. An application of the

principles of Naval Architecture to the design of a steamship for a definite purpose. Having given the conditions under which the vessel is to operate, the student determines the type best suited for the purpose and the dimensions and form of the hull. The work is continued by fairing the lines, determining the general arrangement, and the scantlings in accordance with the rules of the American Bureau of Shipping. [Eastwood.]

CHEMICAL ENGINEERING.

HORACE BYERS,* Professor. HENRY KREITZER BENSON, Acting Professor. IRWIN WALTER BRANDEL, Assistant Professor.

1a, 2a. ENGINEERING CHEMISTRY. M., W., F., 11. Laboratory sections A and B, Tu., W., 2-4; C and D, Tu., Th., 10-12; E and F, M., F., 9-11. 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry. [Byers and Assistant.]

1, 2. GENERAL CHEMISTEY. M., W., F., 11. Many students come from accredited High Schools in which chemistry is not offered. To meet the needs of these students a course is offered consisting of three lectures or quizzes and six hours laboratory work per week. Text books: Smith's General Chemistry and Laboratory Manual. Laboratory sections as in 1a, 2a.

[Benson and Assistant.]

3, 4. ORGANIC CHEMISTRY. M., Tu., Th., 10. 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. Holleman's text-book is followed as a lecture syllabus. Laboratory work based on Gatterman. Prerequisite, 1, 2.

[Brandel.]

^{*}Absent on leave, 1907-8.

5. ADVANCED QUALITATIVE ANALYSIS. First Semester. M., Th., 9. Laboratory Tu., Th., 1-4. 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.

[Byers.]

5b. ELEMENTABY QUALITATIVE ANALYSIS. Two hours. First Semester. Tu., F., 9. A continuation of 1, 2, to be accepted in lieu of 1a and 2a. The course consists of two lectures and six laboratory hours per week. Text book: Byers and Knight.

[Brandel.]

6. QUANTITATIVE ANALYSIS. First Semester. Th., 9. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week. [Brandel.]

7. INDUSTRIAL CHEMISTRY. Second Semester. M., W., F., 9. Laboratory, M., 1-5. 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.

[Benson.]

8. PHYSICAL CHEMISTRY. First Semester. W., F., 8. Laboratory W. and F. afternoons. 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. Prerequisites, Chemistry 6, and College Physics. [Benson.]

9. ELECTRO CHEMISTRY. Second Semester. W., F., 8. Laboratory W. and F. afternoons. 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 the illustrations of the subject-matter of the lectures. Prerequisites, Chemistry 8 and College Physics. [Benson.]

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 subjects chosen. The work in the first semester will be essentially the same for all students. [Byers.]

MATHEMATICS.

ROBERT EDOUARD MORITZ, Professor.

JAMES EDWARD GOULD AND FRANK MARION MORRISON, Assistant Professors.

GEORGE IRVING GAVETT AND WILLIAM VERNON LOVITT, Instructors. ERIC TEMPLE BELL, Graduate Assistant.

1a. PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. Eight sections. 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. [Gould, Gavett, Bell.]

2a. ANALYTIC GEOMETRY AND HIGHER ALGEBRA. Second Semester. Six sections. Must be preceded by 1a. The fundamental conceptions and theorems in plane analytic 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 analytic geometry, viz: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations, etc.

[Gould, Gavett, Bell.]

5a. ANALYTIC GEOMETRY. Two hours. First Semester. Section A, Tu., Th., 8; B, W., F., 8; C, M., Th., 10; D, Tu., F., 10. Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. Prerequisites, 1a and 2a. [Gavett, Bell.]

5b. DIFFERENTIAL CALCULUS. First Semester. Section A and B, 10; C and D, 8. A study of the infinitesimal calculus, with special reference to the needs of engineers. Prerequisites, 1a and 2a. [Morrison, Lovitt, Gavett, Gould.]

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Sections A and B, 10; C and D, 8. Continuation of course 5b. [Morrison, Lovitt, Gould.]

11. METHOD OF LEAST SQUARES. Two hours. First Semester. Tu., F., 11. An exposition of the theory of errors with numerical applications, Prerequisites, 6a or 7. [Gavett.]

ASTRONOMY.

LIOBERT EDOUARD MORITZ, Professor. JAMES EDWARD GOULD, Assistant Professor.

3, 4. SPHEBICAL ASTRONOMY. Two hours. M., Th., 9. Lectures and work in the observatory. A study of spherical trigonometry and its applications to spherical astronomy, together with a preliminary study of such fundamental facts and principles as relate to the various determinations of azimuth, latitude, and time. Determination of azimuth, latitude, longitude and time by means of the sextant and theodolite. [Gould.]

0 University of Washington

PHYSICS.

FREDERICK ABTHUE OSBORN, Professor. HENRY LOUIS BRAKEL, Instructor.

1a. MECHANICS, SOUND AND LIGHT. Six hours. First Semester. 11. Laboratory one four-hour period each week.

[Osborn and Brakel.]

2a. ELECTRICITY AND HEAT. Five hours. Second Semester. 11. Laboratory one three-hour period each week.

[Osborn and Brakel.]

GEOLOGY.

HENRY LANDES, Professor. CHARLES EDWIN WEAVER, Instructor.

1a. GENERAL GEOLOGY. First Semester. M., 8, Tu., 9, Th., 11, and laboratory on M. afternoon. A semester's course for engineering students. Lectures and recitations. [Landes.]

5. MINERALOGY. First Semester. W., F., 9. Two laboratory periods, Tu., F., 1-3:30. Descriptive and determinative mineralogy. Practice in the determination of unlabeled minerals by means of their physical properties and by blowpipe analysis.

[Weaver.]

6. OPTICAL CEYSTALLOGRAPHY. Second Semester. W., F., 9. Pwo laboratory periods, Tu., F., 1-3:30. Chemical and optical properties of crystallized matter. Demonstrations of the different methods of investigation of the rock forming minerals in thin sections under the microscope. Use of the polarizing microscope and preparation of thin sections. [Weaver.]

METALLURGY.

MILNOB ROBERTS, Professor. CLARENCE RAYMOND COREY, Instructor.

1. FIRE ASSAVING. First Semester. M., 9, Tu., Th., 1-5. [Corey.]

2. GENEBAL METALLUBGY. Second Semester. Tu., Th., F., 11; Th., 1-4. [Corey.]

5. WET ASSAYING. First Semester. M., 10; M., F., 1-4. [Corey.]

6. METALLURGICAL ANALYSIS. Second Semester.

[Corey.]

POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, Assistant Professor.

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester. Section A, 8; C, 11. [Custis.]

RHETORIC.

LOREN DOUGLAS MILLIMAN, Assistant Professor. IDA KATHERINE GREENLEE, Instructor.

1. ENGLISH COMPOSITION. Nine sections. [Milliman and Greenlee.]

PHYSICAL CULTURE.

VICTOR MORTON PLACE, Professor.

APPABATUS AND FLOOR WORK. Sections A and F, W., F., 4:30; B and O, Tu., Th., 4:30; D, Tu., Th., 4:30; E, M., W., 4:30.
SCHOOL OF MINES.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., President.

- MILNOR ROBERTS, A.B., Professor of Mining Engineering and Metallurgy, Dean.
- HENBY LANDES, A. M., Professor of Geology and Mineralogy.

ALMON HOMEB FULLER, C. E., Professor of Civil Engineering.

JOHN THOMAS CONDON, L. L. M., Professor of Law.

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

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

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

- ROBERT EDOUARD MORITZ, Ph. D., Professor of Mathematics and Astronomy.
- EVERETT OWEN EASTWOOD, B. S., C. E., Professor of Mechanical Engineering.
- VICTOR MORTON PLACE, A. B., Professor of Physical Culture.
- CHARLES CHURCH MORE, C. E., Associate Professor of Civil Engineering.
- JAMES EDWARD GOULD, Ph. B., Assistant Professor of Mathematics.
- HENRY KREITZEB BENSON, Ph. D., Assistant Professor of Chemistry.
- VANDERVEER CUSTIS, Ph. D., Assistant Professor of Economics.
- FRANK MARION MORBISON, A. B., Assistant Professor of Mathematics.
- LOREN DOUGLAS MILLIMAN, A. B., Assistant Professor of Rhetoric.
- IEVIN WALTER BEANDEL, Ph. G., Ph. D., Assistant Professor of Chemistry.
- ROBERT EVSTAFIEFF ROSE, Ph. D., Acting Assistant Professor of Chemistry.

- CHARLES M. HARRIS, C. E., Instructor in Civil Engineering.
- GEOEGE SAMUEL WILSON, B. S., Instructor in Mechanical Engineering.
- HENRY LOUIS BRAKEL, A. M., Instructor in Physics.
- FRANK EDWARD JOHNSON, E. E., Instructor in Electrical Engineering.
- HENRY LEE BOWLBY, B. S., Instructor in Civil Engineering.
- SAMUEL THOMAS BEATTIE, Instructor in Shop Work.
- CLARENCE RAYMOND COREY, E. M., Instructor in Mining and Metallurgy.
- GEORGE JAMME, Lecturer on Coal Mining.
- HARVEY L. GLENN, B. S., Lecturer on Assaying of Bullion.
- ROGER TAYLOB, B. S., Lecturer on Copper Smelting.
- GEOBGE IBVING GAVETT, B. S., C. E., Instructor in Mathematics.

WILLIAM VEBNON LOVITT, A. M., Instructor in Mathematics.

CHABLES EDWIN WEAVER, Ph. D., Instructor in Geology.

SANDY MORBOW KANE, Instructor in Metalwork.

JESSE AARON JACKSON, Instructor in Civil Engineering.

JAMES H. HANCE, B. S., Graduate Assistant in Mining.

GEORGE W. NELSON, Assistant in Metallurgy.

ADMISSION.

The requirements for admission to the Freshman class of the School of Mines are:

English	. 4
Algebra	. 1½
Plane Geometry	. 1
Solid Geometry	• 1/2
Physics	. 1
Chemistry	. 1
Modern Language	. 2
History	. 1
Civil Government	. 1/2
Elective	. 21/2
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For more specific information concerning the preparations necessary to meet the above requirements and for list of electives see page 52 and following.

Students may be admitted:

(1) By presenting a certificate of graduation from an accredited chool (for list see page 66), 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 vacation in actual work in a mine, mill or smelter. Students in Course II may present geological field work as a partial substitute.

DEGREES.

The four year courses of the School of Mines lead to the degree of Bachelor of Science (B.S.) in mining engineering. The degree of Engineer of Mines (E.M.) is given to graduates in mining engineering who have practiced their profession for at least three years and who present a satisfactory thesis.

DEGREE WITH HONORS.

A degree with honors may be conferred upon any student whe has been recommended by the faculty of the School of Mines.

COURSES OF THE SCHOOL OF MINES.

1. Course in Mining.

First Semester-

Second Semester-

FRESHMAN YEAR.

Hours.	Hours.
Math., 1a (Plane Trig. Higher	Math., 2a (Anal. Geom.
Algebra) 4	Higher Algebra) 4
Chemistry, 1a (Gen. Inorg.). 4	Chemistry, 2a (Gen. Inorg.). 4
Civil Eng., 1a (Eng. Drawing) 4	Civil Eng., 1b (Eng. Drawing) 4
Rhetoric, 1 (Engl. Comp.) 4	Civil Eng., 3a (Plane Surv.), 4
Mech. Eng., 1a (Woodwork). 2	Mining A
Physical Culture, 1 2	Mech. Eng., 1b (Mine Timber) 2
• • • • • • • • • • • • • • • • • • •	Physical Culture, 2 2
16 + 4	· · · · · · · · · · · · · · · · · · ·
	16 + 4

SOPHOMORE YEAR.

Hours.	Hours.
Geology, 5 (Mineralogy) 4	Geology, 6 (Crystallography). 4
Math., 5a (Anal. Geom.) 2	Math., 6a (Calculus) 4
Math., 5b (Diff. Calculus) 4	Chem., 6b (Quant. Anal.) 4
Physics, 1a 5	Physics, 2a 5
Civil Eng., 3b (Mine Surv.) 3	Physical Culture, 4 2
Physical Culture, 3 2	
	17 + 2
18 + 2	

JUNIOR YEAR.

Hours.	Hours.
Metallurgy, 1 (Fire Assaying) 4 Geology, 1a Civil Eng., 5a (Mechanics) 4 Political Science, 1a4 Meca. Eng., 8a (Forge, Foundry) 2 16 + 2	Metallurgy, 2 (Gen. Met.) 4 Civil Eng., 3c (Topog. Surv.) 2 Civil Eng., 5b (Mechanics) 5 Civil Eng., 6a (Hydraulics) 4 Mech. Eng., 5b (Machine Design)
	$\frac{16}{16} + 2$

SENIOR YEAR.

Hours.	Hours
Mining, 1 (Ore Dressing) 4	Mining, 2 (Mining) 4
Mining, 5 (Field Work) 1	Mining, 6 (Mining Law) 1
Metallurgy, 3 (Gold, silver). 3	Mining, 7 (Mine Examination) 1
Metallurgy, 5 (Wet Assaying) 3	Mining, 8 (Thesis) 2
Metallurgy, 7 (Metal Prob-	Geology, 8 (Economic) 4
lems) 1	Geology, 11 (Field Work) 1
Geology, 7 (Petrography) 4	Elective (Engineering) 3
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16	16

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II. Course in Geology and Mining.

First Semester-

Second Semester-

Hours.

FRESHMAN YEAR.

Hours.

Math., 1a (Plane Trig. Higher	Math., 2a (Anal. Geom. High-
Algebra) 4	er Algebra) 4
Chemistry, 1a (Gen. Inorg.). 4	Chemistry, 2a (Gen. Inorg.) 4
Civil Eng., 1a (Eng. Drawing) 4	Civil Eng., 1b (Eng. Drawing) 4
Rhetoric, 1 (Engl. Comp.) 4	Civil Eng., 3a (Plane Surv.). 4
Mech. Eng., 1a (Woodwork) 2	Mining A
Physical Culture, 1 2	Mech. Eng., 1b (Mine Timber) 2
	Physical Culture, 2 2
16+4	
	16 + 4

SOPHOMORE YEAR.

Hours.	Hours.
Geology, 5 (Mineralogy) 4	Geology, 6 (Crystallography) 4
Math., 5a (Anal. Geom.) 2 Math. 5b (Diff Coloridae)	Math., 6a (Calculus) 4
Physics, 1a	Physics. 2a
Civil Eng., 3b (Mine Surv.). 3	Physical Culture, 4 2
Physical Culture, 3 2	
	17 + 2
18 + 2	

JUNIOR YEAR.

Hours.	Hours.
Metallurgy, 1 (Fire Assaying) 4	Metallurgy, 2 (Gen. Met.) 4
Geology, 1a 4	Geology, 6 (Physiography) 4
Mining, 4 (Coal Mining) 2	Civil Eng., 3c (Topog. Surv.) 3
Political Science, 1a 4	Geology, 12 (Field Work) 1
Elective (Science) 2	Elective (Science) 4
Mech. Eng., 3a (Forge,	Mech. Eng., 4 a (Machine
Foundry) 2	Shop) 2
16 + 2	16 + 2

SENIOR YEAR.

Hours.	Hours
Mining, 1 (Ore Dressing) 4	Mining, 2 (Mining)
Mining, 3 (Field Work) 1	Mining, 6 (Mining Law) 1
Metallurgy, 5 (Wet Assaying) 3	Mining, 7 (Mine Examina-
Geology, 7 (Petrography) 4	tion) 1
Geology, 9 (Paleontology) 4	Geology, 8 (Economic) 4
	Geology, 11 (Field Work) 2
16	Zoology, 12 (Evolution) 2
	Mining, 8 (Thesis) 2

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SCHOOL OF MINES

III. SHORT COURSE FOR MINING MEN.

From January 5th to April 2nd 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. Instruction is given by lectures, laboratory exercises and visits to mines and plants in operation. The past experience and future aims of each student are taken into consideration, and the character of his work arranged accordingly.

During the first week of the course the instruction is of a general nature. Thereafter the students select those courses which best fit their needs. It is expected that a student shall elect only those courses which he can attend with considerable regularity. Students who satisfactorily complete a course of study are given a certificate stating the amount and character of work done. When a subject corresponds to one of the studies in the 4-year courses, University credits will be given for it. 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. Miners and prospectors who have ore samples to be assayed or tested by millrun may perform their own tests with the assistance of the professors in charge, as soon as the necessary skill has been attained.

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. Deposits are made to cover the actual cost of supplies drawn by each student, the balance of the deposit being returned at the end of the course. The total expenses are as follows: Registration fee, three dollars; subject 1, five-dollar fee, five-dollar deposit; subject 3, two-dollar fee; 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.

A. MINERAL INDUSTEY. Tuesday evenings in March, 8 p. m. A series of three lectures illustrated by lantern slides showing views of the mining and metallurgical industries of the Pacific Northwest and Alaska.

1. GENERAL CHEMISTRY AND QUALITATIVE ANALYSIS. Laboratory practice in the determination of the common elements. Three lectures a week, and Saturday laboratory. [Byers.]

2. GEOLOGY. Lectures on the elements of geology, the common varieties of rock, metalliferous vein and ore deposits, etc. Twice a week. [Weaver.]

3. MINERALOGY. Instruction and practice in blowpipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. Twice a week.

[Weaver.]

4. FIRE ASSAVING. Lectures on sampling, preparing ores for assay, furnaces, fuels, reagents, and the fire assay of gold, silver, lead and tin ores. The laboratory work includes the testing of reagents, and the assaying of various ores. One lecture and three afternoons a week in laboratory. [Corey.]

5. MINING. Lectures on prospecting, development, mining systems, timbering, mine transportation, pumping, ventilation and hydraulic mining. Practice with stamp-milling and concentrating machinery, testing of ores, etc. Two lectures and one afternoon. [Roberts.]

6. MINING LAW. A series of lectures on the mining laws of the United States and Alaska. Illustrated by drawings and mine maps. Once a week. [Condon.]

7. Force. Practice in sharpening and tempering drill steel and picks; systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. [Kane.]

8. ADVANCED MINERALOGY. A continuation of descriptive mineralogy with much practice and determinative work. Prerequisite, 3. 9. QUANTITATIVE ANALYSIS. Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. Two afternoons a week. Prerequisite, 1.

10. WET ASSAVING. Assaying of bullion for fineness; assaying of copper by various methods; amalgamation assay. Prerequisite, 1. To be taken with 8.

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DEPARTMENTS OF INSTRUCTION.

MINING ENGINEERING AND METALLURGY.

MILNOB ROBERTS, Professor.

CLABENCE RAYMOND COBEY, Instructor.

GEORGE JAMME, HABVEY L. GLENN and ROGEB TAYLOB, Lecturers. JAMES HAROLD HANCE, Graduate Assistant.

MINING ENGINEERING.

A. MINERAL INDUSTRY. Second Semester. A series of three lectures illustrated by stereopticon views. Tuesday evenings in March, 8 p. m. An outline of the mining and metallurgical industries of the Pacific Northwest and Alaska, illustrated by views of typical mines, mills and smelters. Required of freshmen. [Roberts.]

1. ORE DRESSING. First Semester. Two lectures and two laboratory periods. Lectures on crushing, sampling, concentrating, amalgamating and the arrangement of mills. Mill practice in breaking by hand and machinery, crushing by stamps, rolls and roller mills, amalgamation, panning, screen sizing, classifying, magnetic separation, concentration by jig, vanner, Overstrom table, Wilfley slimer, revolving slime tables and Standard concentrator, and the testing of ores by mill runs checked by sampling and assaying. Prerequisites: Metallurgy 2, Mechanical Engineering 5b. [Roberts, Hance.]

2. MINING. Second Semester. Three lectures and one laboratory period. Lectures on sinking, tunneling, stoping, timbering, systems of mining, power generation, air compression, hoisting, transportation, drilling, explosives and cost keeping. Practice in machine drilling, blasting, ventilation, air compression and the planning of systems of mining and timbering.

[Roberts, Corey, Jamme.]

3. MILLING. First Semester. Two hours. One lecture and one laboratory period. Lectures and laboratory work on the details of a particular branch of ore dressing; for example, the concentration of fine sands and slimes. To be preceded or accompanied by Mining 1. [Roberts.]

4. COAL MINING. First Semester. Two hours. Lighting, ventilation, haulage and all phases of the mining and preparation of coal for the market, with especial reference to the geological structure of the coal fields of the Pacific Coast and the local methods of mining. Occasional visits to coal mines.

[Roberts, Jamme.]

5. FIELD WORK. First Semester. One hour. One laboratory period (or its equivalent in total time required) and monthly seminar. Individual visits to a mine, mill, smelter or engineering work, to be followed by a report on field notes and sketches; or, the preparation of drawings and reports from notes taken during the preceding summer. [Roberts and Corey.]

6. MINING LAW. Second Semester. One hour. Lectures with required reading on the mining laws of the United States and especially those of Washington and Alaska. [Condon.]

7. MINE EXAMINATION. Second Semester. One hour. Ten days during the Easter holidays. The examination of a mine or mining district, to be made by the senior class in connection with Mining 2. Field notebooks to be checked daily.

[Roberts and Corey.]

8. THESIS. Second Semester. Two hours. Subjects to be assigned. Weekly consultation. [Roberts and Corey.]

SCHOOL OF MINES

METALLUBGY.

1. FIRE ASSAVING. First Semester. One lecture and three laboratory periods. M., 9; Tu., Th., 1-5. The testing of reagents, the crushing, sampling, and assaying of ores, furnace and mill products for lead, silver, gold, copper and tin; also, the assay of base and dore bullion. Prerequisite, Chemistry 6.

[Corey, Glenn.]

2. GENERAL METALLUBGY. Second Semester. Three lectures and one laboratory period. Tu., Th., F., 11; Th., 1-4. Lectures and laboratory experiments on the properties of metals and alloys, fuels, refractory materials, furnaces and the extraction of the common metals (except iron) from their ores; the latter half of the course confined to the smelting and refining of copper, lead, gold and silver. Required visits to smelters. Prerequisites, Geology 4, Chemistry 6, Metallurgy 1. [Roberts, Taylor.]

3. GOLD AND SILVER. First Semester. Three hours. Tu., F., 10; W., 1-4. A continuation of Metallurgy 2. Devoted especially to the lixiviation and amalgamation of gold and silver ores. Prerequisites, Metallurgy 1 and 2. [Corey.]

4. METALLOGRAPHY. Second Semester. Two hours. The constitution and microstructure of metals and alloys with special reference to iron and steel. Prerequisites, Chemistry 7 and Metallurgy 2. [Roberts.]

5. WET ASSAVING. First Semester. Three hours. M., 10; M., F., 1-4. The technical methods for the determination of copper, lead, zinc, etc., in ores and furnace products. Prerequisite, Chemistry 6. [Corey.]

6. METALLURGICAL ANALYSIS. Second Semester. Three hours. Laboratory practice in typical methods of analysis of coals, slags and industrial products, etc. Prerequisites, Chemistry 6 and Metallurgy 5. [Corey.]

7. METALLURGICAL PROBLEMS. First Semester. One hour. Th., 10. Physical Chemistry for the metallurgist, slag calculations, etc. Prerequisites, Mathematics 1a, 2a; Physics, 1a, 2a; Chemistry 6; and Metallurgy 2. [Corey.]

CIVIL ENGINEERING.

ALMON HOMEE FULLER, Professor. CHARLES EVAN FOWLER, Lecturer. SAMUEL CHRISTOPHER LANCASTER, Professor. CHARLES CHURCH MORE, Associate Professor. HENRY LEE BOWLEY, Instructor. CHARLES W. HARRIS, Instructor.

JESSE AABON JACKSON, Instructor.

SUBJECTS.

1a. ENGINEERING DRAWING. First Semester. Six sections. 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.

[Harris, Jackson.]

1b. ENGINEERING DRAWING. Second Semester. Continuation of Engineering Drawing 1. Curved surfaces, plane sections and section lining; intersection of simple geometric forms; rotation of points, lines and planes; warped surfaces.

[Harris, Jackson.]

3a. PLANE SURVEYING. Second Semester. 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. [Bowlby, Jackson.]

3b. CITY AND MINE SUBVEYING. Three hours. First Semester, until Christmas recess. Study of the precision necessary to be obtained; survey 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. Prerequisite, 3a. [Bowlby.]

3c. TOPOGRAPHIC SURVEYING. Second Semester. Two hours. Mining students enter this course after Easter recess, omitting the work in colored topography. Base line measurements; transit triangulation; plane table and stadia work; maps.

[Bowlby.]

5a. MECHANICS. First Semester. Statics and dynamics. Special attention is paid to practical applications. Original problems form a prominent feature. Prerequisites, Mathematics 6a and Physics, 1a and 2a. [More.]

5b. MECHANICS. Five hours. Second Semester. Continuation of 5a and Mechanics of Materials. Lectures, recitations and solution of problems. [More.]

6a. THEORETIC HYDRAULICS. Second Semester. Pressure; depth and stability of flotation, center of pressure, steady water through pipes and orfices, over weirs and in open channels; energy, impulse and reaction of a jet. Preceded or accompanied by 5b. Laboratory work. [Harris.]

MECHANICAL ENGINEERING.

EVERETT OWEN EASTWOOD, Professor. GEORGE SAMUEL WILSON, Instructor. SAMUEL THOMAS BEATTIE, Instructor in Woodwork. SANDY MOBROW KANE, Instructor in Metalwork.

SUBJECTS.

1a. CARPENTRY AND WOOD TURNING. One four-hour exercise each week of the first semester. The student will receive training in the use and care of wood-working tools. Instruction and practice will be given in sawing, planing, chiseling, champfering, grooving, framing, tenoning, mortising, dovetailing, splicing and gluing. Exercises in turning include consideration of speeds, and use of gourges, chisels, nosing tools, side tools, parting tools, and calipers. [Beattie.]

1b. PATTEEN MAKING AND MINE TIMBEBING. One four-hour exercise each week of the second semester. Same schedule as 1a. The pattern making includes the construction of core boxes and

such patterns as pipe fitting, valves, pulleys and machine parts. This is followed by a series of exercises in the framing of mine timbers according to various systems. [Beattie.]

3a. FORGE AND FOUNDRY. One four-hour exercise each week of the first semester. The student is given systematic training in the making and care of fires, and the application of various heats, drawing, punching, riveting, bending, twisting, upsetting, welding iron and steel, and making and tempering machine tools. In the foundry the student is given work in iron and brass; bench and floor moulding, coremaking, and is instructed with the view toward proficiency in management of the cupola. [Kane.]

4a. MACHINE WORK. One four-hour exercise each week of the second semester. Same schedule as 3a. The course begins with exercises in chipping, filing and scraping. These are followed by work on the lathe in both iron and brass including straight and taper turning, centering, chucking, screw cutting, boring, drilling and tapping, knurling and polishing. A few exercises on the other machines are given. [Kane.]

5b. ELEMENTS OF MACHINE DESIGN. Two hours. Second Semester. A continuation of Course 5a, consisting in the design of gearin, cone pulleys and belt transmission. Practice in tracing and blue printing will comprise a part of this work. Prerequisite, 5a. Until Easter recess for mining students. [Wilson.]

SCHOOL OF MINES

MATHEMATICS.

ROBERT EDULARD MORITZ, Professor. JAMES EDWARD GOULD and FRANK MARION MORRISON, Assistant Professors.

GEOBGE IRVING GAVETT and WILLIAM VEBNON LOVITT, Instructors. ERIC TEMPLE BELL, Graduate Assistant.

SUBJECTS.

1a. PLANE TRIGONOMETRY AND HIGHER ALGEBRA. First Semester. 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.

[Gould, Gavett, Bell.]

2a. ANALYTIC GEOMETRY AND HIGHER ALCEBRA. Second Semester. 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.

[Gould, Gavett, Bell.]

5a. ANALYTIC GEOMETRY. Two hours. First Semester. Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. Prerequisites, 1a and 2a. [Moritz, Morrison.]

5b. DIFFERENTIAL CALCULUS. First Semester. A study of the infinitesimal calculus, with special reference to the needs of engineers. Prerequisites, 1a and 2a. [Gould.]

6a. DIFFERENTIAL AND INTEGRAL CALCULUS. Second Semester. Continuation of Course 5b. [Gould.]

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CHEMISTRY.

HORACE BYERS, Professor. HENRY KREITZER BENSON, Assistant Professor.

SUBJECTS.

1a, 2a. ENGINEERING CHEMISTRY. 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 General Chemistry and Laboratory Manual are used and Byers & Knight in qualitative analysis. Prerequisite, a high school course in chemistry.

[Byers, Benson.]

6. QUANTITATIVE ANALYSIS. Second Semester. Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory periods per week. Prerequisite, 2a or 5b. [Byers.]

GEOLOGY.

HENRY LANDES, Professor. CHARLES EDWIN WEAVER, Instructor.

1a. GENERAL GEOLOGY. First Semester. A semester's course for engineering students. Lectures and recitations. [Landes.]

5. MINERALOGY. First Semester. Descriptive and determinative mineralogy. Practice in the determination of unlabeled minerals by means of their physical properties and by blowpipe analysis. [Weaver.]

6. OPTICAL CEYSTALLOGRAPHY. Second Semester. Chemical and optical properties of crystallized matter. Demonstrations of the different methods of investigation of the rock forming minerals in thin sections under the microscope. Use of the polarizing microscope and preparation of thin sections. [Weaver.]

7. PETROGRAPHY. First Semester. Principles and methods of investigation of rock forming substances. A study of the distinguishing characteristics of the different groups and species of rocks with practice in their determination by modern petrographical methods. Preparation of thin sections. [Weaver.]

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8. ECONOMIC GEOLOGY. Second Semester. A study of the origin and extent of metalliferous 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. Prerequisites, 1, 5 and 7. [Landes.]

9, 10. PALAEONTOLOGY. The general principles of the study of fossil organisms, with their geologic and geographic distribution. A laboratory study of the most important forms of fossil invertebrates. Excursions in the field in the vicinity of Puget Sound. [Weaver.]

11, 12. FIELD WORK. Instruction and practice in methods of field observation and in interpretation of results. A study of the geological conditions in the vicinity of Puget Sound with other more extended excursions.

[Weaver and Landes.]

ZOOLOGY.

TREVOR KINCAID, Professor.

12. PROBLEMS IN EVOLUTION. Two hours. Second Semester. 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. First Semester.

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POLITICAL AND SOCIAL SCIENCE.

VANDERVEER CUSTIS, Assistant Professor.

1a. ELEMENTS OF POLITICAL ECONOMY. First Semester.

PHYSICAL CULTURE.

VICTOB MOBTON PLACE, Professor.

APPARATUS AND FLOOR WORK. Section A, Tu., Th., F., 3:30; B, M., W., F., 3:30; C, Tu., Th., F., 4:30; D, M., W., F., 4:30.

SCHOOL OF PHARMACY.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., President.

CHARLES WILLIS JOHNSON, Ph. C., Ph. D., Professor of Pharmaceutical Chemistry, *Dean*.

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

CHARLES WILLIAM PRENTISS, Ph. D., Assistant Professor of Biology (Physiology).

WILLIAM MAURICE DEHN, Ph. D., Assistant Professor of Physiological Chemistry and Toxicology.

- JOHN WEINZIRL, Ph. D., Assistant Professor of Botany (Bacteriology).
- SILAS FRANKLIN SCOTT, Ph. C., M. S., Instructor in Materia Medica and Pharmacy.

MARGARET MAE MCLACHLAN, Ph. G., Assistant in Pharmaceutical Chemistry.

GUY LIVINGSTONE SMITH, Assistant in Pharmacy.

ABTHUE RAGAN PRIEST, A. M., Professor of Rhetoric.

FREDERICK ARTHUB OSBORN, Ph. D., Professor of Physics.

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

ROBERT EDOUARD MORITZ, Ph. D., Professor of Mathematics.

FREDERICK W. MEISNEST, Ph. D., Professor of German.

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 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.

COURSES.

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 as pharmaceutical chemists. (2) A four-year course which includes the professional training of the two-year work and leads to a regular collegiate degree. Students taking the four-year course will be granted the degree of Pharmaceutical Chemist (Ph. C.) upon the completion of the work of the two-year course and the degree of Bachelor of Science (B. S.) when four years of work is completed.

SPECIAL OPPORTUNITIES OF THE FOUR-YEAR COURSE.

The four-year course is outlined to meet the needs of several classes of students. Those students who wish to extend the work of the two-year course will find opportunity in the third and fourth year for specializing in pharmaceutical chemistry thus becoming proficient in the chemistry of alkaloids, volatile oils and other plant principles, the testing of foods and drugs for adulteration both chemically and by use of the microscope, also opportunity for training in modern foreign language, English, mathematics and physics. Students with the four-year degree are not only well prepared to take up the regular practice of pharmacy but may also fill positions as technical and manufacturing chemists and as teachers.

THE FOUR-YEAR COURSE AS A PREPARATION FOR THE STUDY OF MEDICINE

Students who desire a thorough scientific training as a prerequisite for the study of medicine will be allowed to arrange the work of the third and fourth year so as to include zoology, physiology, bacteriology and comparative anatomy. The work of the first two years includes courses in general chemistry, organic chemistry, qualitative and quantitative analysis, physiological chemistry, toxicology and materia medica, which, if not taken before entering upon the study of medicine must be pursued after entering a medical school.

The attention of students preparing for medicine is particularly called to the courses in pharmacy, pharmaceutical preparations and the study of the United States pharmacopoeia. The physician who is constantly prescribing pharmacopoeial and National Fomulary preparations should have a thorough knowledge of the methods and chemistry involved in these preparations so as to avoid chemical and pharmaceutical incompatibilities in prescription mixtures. Work of this kind is all the more important as a pre-medical training because of the fact that the curriculum of a course in medicine is too crowded to allow a thorough study of such subjects. Many of the best Eastern schools of medicine are receiving our graduates and giving them advanced credit for duplicate courses. While this may not save the student any time in obtaining the medical degree it allows opportunity to follow up special lines of study in the college of medicine. In addition to this special training for medical studies the student obtains the general training afforded by modern foreign language, English, mathematics, physics and other elective liberal arts courses.

FOOD AND DRUG LEGISLATION.

The enactment of the "Food and Drugs Act" by Congress, and of similar legislation by most of the states (Washington included), has placed very great importance upon pharmaceutical education. It is at once apparent that pharmacy, or a knowledge of drugs, is at least equally important with chemistry in the administration and enforcement of this legislation. The graduate in chemistry is not wholly qualified to act as food and drug inspection chemist for the government, states, private individuals and corporations, if he is not trained in those subjects included in the collective name of "pharmacy." These allied subjects are Theory and Practice of Pharmacy, Manufacturing Pharmacy, Drug Assaying, Pharmaceutical Botany, study of the U.S. Pharmacopoeia and National Formulary, Pharmacognosy, Materia Medica and Therapeutics, etc. A great many pharmaceutical chemists will be needed to carry out the analytical processes involved in the enforcement of the recent legislation but the number of men adequately trained is very limited. Students with

high school training are urged to consider these opportunities and to prepare themselves for such positions.

The University of Washington School of Pharmacy is in close touch with the government food and drug work and is able to offer courses that will fit students for positions in this important line of work.

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.

The Washington State Pharmaceutical Association at their annual meeting in 1906 passed the following resolution: "It is the desire of the Washington State Pharmaceutical Association that the State Board of Pharmacy, at a time designated by said Board, require, if found to be consistent with the Pharmacy Law, graduation from one of our state pharmacy schools or any school belonging to the American Conference or Pharmaceutical Faculties, as a prerequisite of all candidates for examination as a registered pharmacist. Provided, however, this does not apply to registered pharmacists of other states who were registered before the date of this enactment."

ENTRANCE REQUIREMENTS.

CANDIDATES FOR DEGREES.

To be admitted clear to either the two or four year course of the school of pharmacy 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 eight and one-half are specified and required of all students; the remaining six and onehalf may be selected from the list of optional subjects except that two must be a foreign language.

Specific Subjects.	Optional Subjects.
English, 4 units. Algebra, 1½ units. Plane Geometry, 1 unit. Physics, 1 unit. U. S. History and Civics, 1 unit. Total, 8½ units.	Greek, 1, 2 or 3 units. Latin, 2, 3 or 4 units. German, 1, 2, 3 or 4 units. French, 1, 2, or 3 units. Spanish, 1 or 2 units. Solid Geometry, ½ unit. Trigonometry, ½ unit. History, 1, 2 or 3 units. *Physical Geography, 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 approva of a definite laboratory course.

NOTE.--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.

Students from 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 case of local students.

It will be of assistance to students from non-accredited schools seeking admission by examination to bring with them a certified statement of their studies.

STUDENTS NOT CANDIDATES FOR DEGREES.

Students over nineteen years of age, who have not the regular High School entrance requirements, but can give satisfactory 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 the heading of Certificate Graduates. Students desiring to enter under the above conditions should write to the Dean, giving detailed statement of their previous school training, and making mention of any practical experience in pharmacy they may have received. Such students may become candidates for a degree upon clearing all entrance conditions.

DEGREES.

1. The degree of Pharmaceutical Chemist (Ph.C.) will be granted to any student who has fulfilled the entrance requirements and has completed the two year course as outlined. 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.

DRUG MUSEUM.

The drug museum contains: (1) A collection of practically all official and non-official crude drugs used in pharmacy and med-

icine, (2) a collection of organic compounds known as "New Remedies," (3) a very complete collection of volatile oils and of chemicals (organic and inorganic), and (4) all Pharmacopoeial and many National Formulary preparations.

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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.

REQUIREMENTS FOR GRADUATION.

1. (a) With degree of Pharmaceutical Chemist. (Entrance requirements page 201 and following.)

(b) With Certificate of Graduation. (Entrance requirements page 201 and following.)

FIRST YEAR, FIRST SEM	ESTER.	
*Hours of Credit. 5 Chemistry, 1 5 Pharmaceutical Botany 2 Physiology 4	Hours in Lect. & Rec. 90 18 36	Hours in Laboratory 270 36 72
Total for First Semester 16	144	378
Physical Culture 2	••	Gym. 54
FIRST YEAR, SECOND SEA	IESTER.	
Chemistry, 2 5 Chemistry, 4 and 5 5 Pharmacy, 1 2 Pharmaceutical Botany 4	90 18 36	270 36 72
Total for Second Semester 16	144	378
Physical Culture 2	••	Gym. 54
SECOND YEAR, FIRST SEA	ESTER.	
Chemistry, 7 4 Chemistry, 13 4 Pharmacy, 2 4 Materia Medica, 1 4	18 36 36 72	162 108 72
Total for First Semester 16	162	342

*One hour of lecture or recitation or two to three hours of laboratory constitute one hour of credit.

SCHOOL OF PHARMACY

SECOND YEAR, SECOND SEMESTER.

Chemistry, 8 2	••	108
Toxicology, 16	36	
Pharmacy, 3 4	72	
Pharmacy, 4 4	18	162
Materia Medica, 2 4	72	
Total for Second Semester 16	198	270
Totals of required work 64	648	1368
'Hours in lectures and laboratories		
Hours in gymnasium		108

2. With degree of Bachelor of Science. (Entrance requirements, page 201 and following.)

For graduation with the degree of Bachelor of Science the student is required to do sufficient work in adition to that of the two year course to make *one hundred and twenty* hours of credit. Of the additional work the following courses are required:

Rhetoric, 4 hours.

Trigonometry, 4 hours.

Modern Language, 16 hours.

Physics, 8 hours.

Laboratory Science, 16 hours.

Physical Culture, one year.

The work in laboratory science may be elected in bacteriology, botany, geology, pharmacy, pharmaceutical chemistry, physics, physiological chemistry, physiology, toxicology and zoology.

3. With the degree of Master of Science.

Graduates with the degree of Bachelor of Science, who have been accepted for a higher degree, may present themselves for examination for the degree of Master of Science, after at least one year of graduate study in three subjects (a major subject and two minors).

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DEPARTMENTS OF INSTRUCTION.

PHARMACEUTICAL CHEMISTRY.

CHARLES WILLIS JOHNSON, Professor. WILLIAM MAURICE DEHN, Assistant Professor.

1. INORGANIC CHEMISTRY. First Semester. M., Tu., W., Th., F., S. Three hours general chemistry and two hours qualitative analysis. A lecture and quiz course on the principles of general inorganic chemistry and qualitative analysis with special reference to the needs of students in pharmacy and those preparing for the study of medicine. [Dehn.]

2. ORGANIC CHEMISTRY. Five hours. Second Semester. M., Tu., W., Th., F., 8. 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 given to the properties and preparation of organic compounds used in medicine also to those parts of the subject which form a portion of the study of physiological chemistry. [Dehn.]

3. LABORATORY COURSE IN GENERAL CHEMISTRY. Three hours. First twelve weeks of first semester. M., Tu., W., Th., F., 1:30-4:30. [Dehn.]

4. LABORATORY COURSE IN QUALITATIVE ANALYSIS. Last six weeks of first semester. M., Tu., W., Th., F., 1:30.4:30, and twelve weeks of second semester, W., Th., F., 1:30-4:30.

[Dehn.]

5. LABORATORY COURSE IN ORGANIC CHEMISTRY. Three hours. First twelve weeks of second semester M., Tu., 1:30-4:30, and last six weeks of second semester, M., Tu., W., Th., F., 1:30-4:30.

[Dehn.]

6. ORGANIC PREPARATIONS. Either Semester. A special study will be made of the manufacture and use of various organic compounds of pharmaceutical importance such as new remedies. Credit and hours to be arranged. [Johnson.]

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7. QUANTITATIVE ANALYSIS. First Semester. Th., 11. Experiments in gravimetric and volumetric methods of analysis will be given with the idea of training the student in the fundamental principles of quantitative chemistry and at the same time making them familiar with the analysis of substances of pharmaceutical importance. Laboratory W., Th., F., 1:30-4:30.

[Johnson, McLachlan.]

8. QUANTITATIVE ANALYSIS. (Drug Assaying.) Two hours. Second Semester. Continuation of course 7. Methods of quantitatively estimating the active constituents of crude drugs and their preparations also the assay of a number of inorganic pharmaceutical preparations. Laboratory, M., Tu., 1:30-4:30.

[Johnson, McLachlan.]

9. ALKALOIDS AND PLANT ANALYSIS. First Semester. Th., 9. The class work will consist of the study of the structure and synthesis of alkaloids and of general methods of plant analysis. In the laboratory the various alkaloidal tests will be studied also methods of extracting, purifying and estimating plant principles. Laboratory three afternoons per week 1:30-4:30. Prerequisite, quantitative and organic chemistry. [Johnson.]

10. DRUG ADULTEBATION. Second Semester. Th., 9. The class work will consist of the study of the National and various state food and drug laws also of methods of analysis as used in the laboratory. In the laboratory pharmaceutical and chemical products will be tested for purity and standard of strength. The products to be tested will be purchased on the open market from stores in Seattle and other cities of the state. Laboratory, three afternoons per week. Prerequisite, quantitative and organic chemistry. [Johnson.]

11. FATS AND OILS. First Semester. F., 9. Study of the source, preparation and chemical nature of the various fats and oils of food and pharmaceutical use. The laboratory will include methods of identifying fats and oils and of testing for adulterants. Laboratory, three afternoons per week, 1:30-4:30.

[Johnson.]

12. FOOD ANALYSIS. Second Semester. F., 9. This course, together with courses 9, 10 and 11, is designed for students pre-

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paring for positions as food and drug analysts. Various food products on the market will be analyzed for preservatives and other added ingredients that would be in opposition to the existing food and drug laws. Published methods of the Official Association of Agricultural Chemists will be used as well as liberal reference made to standard books on analysis of foods and drugs. Laboratory, three afternoons per week, 1:30-4:30.

[Johnson.]

13. PHYSIOLOGICAL CHEMISTRY. First Semester. M., Tu., 10. Chemical composition of foods, tissues, secretions and excretions their physiological and pathological changes, with special attention to the composition and clinical analysis of blood and urine. Laboratory, M., Tu., 1:30-4:30. [Dehn.]

14. PHYSIOLOGICAL CHEMISTRY. Second Semester. M., Tu., 10. A continuation of course 13 with special attention to the chemistry of the cell and individual organs and studies of sera and immunity. The laboratory practice will consist largely of select quantitative methods. Laboratory, M., Tu., 1:30-4:30.

[Dehn.]

15. URINARY ANALYSIS. One hour. Second half of first semester. Practical methods of analysis of normal and pathological urines. This course is included in, but may be taken separate from, course 13. Laboratory, M., Tu., 1:30-4:30. [Dehn.]

16. TOXICOLOGY. Two hours. Second Semester. W., F., 9. Lectures and recitations on the physiological actions of various poisons, their antidotes and emergency treatment in cases of poisoning. [Dehn.]

17. TOXICOLOGY. (Detection of Poisons.) One hour. Either Semester. A laboratory course on the detection and estimation of poisons in animal tissues and practice in the preparation of testimony for legal cases. Hours to be arranged.

[Johnson, Dehn.]

18. RESEARCH. A very wide field of research is open to students interested in physiological and pharmaceutical chemistry. Opportunity will be given students pursuing work for advanced degrees to take up special subjects for detailed investigation.

[Johnson, Dehn.]

SCHOOL OF PHARMACY

PHARMACY.

CHABLES WILLIS JOHNSON, Professor. SILAS FRANKLIN SCOTT, Instructor.

1. THEORY AND PRACTICE OF PHARMACY. Two hours. Second Semester. M., 9. The study of the principles of pharmaceutical operations such as comminution, expression, decantation, filtration, maceration, percolation, diffusion, dialysis, crystallization and precipitation. The laboratory work will include the manufacture of such preparations as best illustrate the above processes. Laboratory, Tu., 9-11. [Scott.]

2. PHARMACEUTICAL PREPARATIONS. First Semester. M., W., 9. Continuation of course 1. 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, Th., F., 9-11. [Scott.]

3. U. S. PHARMACOPOEIA AND NATIONAL FORMULARY. Second Semester. M., Tu., Th., F., 10. A careful study of the United States Pharmacopoeia and National Formulary with the special object of explaining the chemistry involved in the manufacture of the various compounds and preparations and in the assay processes. [Johnson.]

4. MANUFACTURING PHARMACY AND PRESCRIPTIONS. Second Semester. Th., 11. Continuation of course 2. The manufacture of some of the more difficult Pharmacopoeial and National Formulary prepartions as well as a number of organic compounds used in pharmacy and medicine. Considerable time will be given to the compounding of prescriptions and to the study of physical, chemical and therapeutical incompatibilities. Laboratory, W., Th., F., 1:30-4:30. [Scott.]

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PHARMACOGNOSY AND MATERIA MEDICA.

SILAS FRANKLIN SCOTT. Instructor.

1. PHARMACOGNOSY. First Semester. M., Tu., W., F., 11. A study of crude drugs, their source, methods of collecting and preserving, identification, active constituents and adulteration. [Scott.]

2. MATERIA MEDICA AND THEBAPEUTICS. Second Semester. M., Tu., W., F., 11. A study of the action of chemicals, drugs and their prepartions on the human organism in health and disease. [Scott.]

PHYSIOLOGY.

CHARLES WILLIAM PRENTISS, Assistant Professor.

7. GENERAL PHYSIOLOGY. First Semester. Tu., Th., 9. The structure of animal tissues and organs with reference to human anatomy will be studied in the laboratory. The functions of organs, and the principles of hygiene will be covered by lectures and required reading. Laboratory, Tu., Th., 10-12, and 2-4.

[Prentiss.]

8. COMPARATIVE PHYSIOLOGY. Second Semester. Tu., Th., 9. The comparative physiology of muscle and nerve and of the respiratory and circulatory systems. A course preparatory to medical work. Prerequisite course 7. Laboratory, Tu., Th., 2-4. [Prentiss.]

SCHOOL OF PHARMACY

BOTANY.

JOHN WEINZIRL, Assistant Professor.

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 studies in cell forms and contents and a general knowledge of classification, with special emphasis on the flowering plants.

11. PHARMACY BOTANY. Two hours. First Semester. F., J. Structure of roots, stems, rhizomes, leaves, barks. Types are studied with a view to locating the elements; later the dry drugs are studied for the recognition of kinds of cells in them. Laboratory, F., 10-12.

12. PHARMACY BOTANY. Second Semester. Th., 11; F., 9. Variations in stems, leaves, roots, parts of flowers, seeds, fruits. Study of types of the various families of phanerogams, and the analysis of plants in the spring with a view to fixing the chief characters of the families. Laboratory, Th., 9-11; F., 10-12.

BACTERIOLOGY.

JOHN WEINZIRL, Assistant Professor.

7, 8. BACTERIOLOGY. M., W., 9. A course in general bacteriology. The first semester is taken up with the study of the structure, functions and distribution of the bacteria; during the second semester the pathogenic bacteria are studied, some time being devoted to immunity, sanitation, and the pathogenic protozoa. Laboratory, Sec. A., M., W., 10-12; Sec. B., M., W., 1-3.

MATHEMATICS.

ROBERT EDOUARD MORITZ, Professor.

1. PLANE TRIGONOMETRY. First or Second Semester. Six sections.

(For advanced courses see general catalogue.)

PHYSICS.

FREDERICK ARTHUB OSBORN, Professor.

1. MECHANICS, SOUND AND HEAT. First Semester. 9. Laboratory work, one two-hour period.

2. ELECTRICITY AND LIGHT. Second Semester. 9. Laboratory work, one two-hour period.

A student may begin his university work in physics either the first or second semester, but he should have had or be taking Mathematics 1.

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.

(For advanced courses see general catalogue.)

GERMAN.

FREDERICK WILLIAM MEISNEST, Professor.

1, 2. First Year. Four sections. Pronunciation, grammar and easy readings.

3, 4. Second Year. Five sections. Grammar review, modern prose and one drama.

(For advanced courses see general catalogue.)

FRENCH.

PIERRE JOSEPH FREIN, Professor.

1, 2. First Year. Five sections. Frazer and Squair's Grammar. Two or three easy texts are read. Practice in pronunciation and in writing from dictation.

(For advanced courses see general catalogue.)

RHETORIC.

ABTHUB RAGAN PRIEST, Professor.

1a. ENGLISH COMPOSITION. First Semester. Four sections. 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.

(For advanced courses see general catalogue.)

THE SCHOOL OF LAW.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., President.

JOHN T. CONDON, LL. M., Professor of Law, Dean.

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.

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

EDMOND S. MEANY, M. S., Professor of Constitutional History.

ABTHUR R. PRIEST, A. M., Professor of Rhetoric and Oratory.

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

PURPOSE.

The purpose of the School of Law is to prepare students for the practice of 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 reserved 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.

SCHOOL OF LAW

DATES OF REGISTRATION AND EXAMINATION.

REGISTRATION. Monday and Tuesday, September 14 and 15, 1908.

EXAMINATIONS. Examinations upon Monday, September 14, are for entrance to Law School and upon Tuesday, September 15, 1908, are for subjects presented by candidates for advanced standing in the Law School.

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. 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 each of the various systems of legal education, to the end that the students 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 most are, in which no safe generalization can be made, the inductive method is pursued by means of a study of the And believing that the Law School should be practical cases. 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.

/ ELEMENTARY LAW. Text-book: Robinson's Elementary Law. Two hours per week; first semester. [Main.]

- CONTRACTS. Text-book: Keener's Cases on Contracts. Four hours per week; first semester. Two hours per week; second semester. [Lantz.]
- TORTS. Text-book: Ames and Smith's Cases on Torts. Two hours per week; entire year. [Condon.]
- **QUASI-CONTRACTS.** Text-book: Scott's Cases on Quasi-Contracts. Two hours per week; second semester. [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. One, Gray's Cases on Property, Second Edition. One hour per week; second semester. [Main.]
 - CRIMINAL LAW. Text-book: Beal's Cases on Criminal Cases. 'Two hours per week; second semester. [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.

[Lantz.]

AGENCY. Text-book: Mechem's Cases on Agency, supplemented by a selection of Washington Cases. Two hours per week; first semester. [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.

[Lantz.]

STATUTOBY INTERPRETATION AND CONSTRUCTION. Selection of Washington Cases, supplemented by lectures. Two hours per week; second semester. [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. [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 lawyers, 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. [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. [Lantz.]

SECOND YEAR.

PROPERTY. (a) Real Property and Mortgages. Text-book: Gray's Cases on Property, 2d edition, Vol. Fl., first semester, and Vol. III., 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.

[Main.]

EQUITY. Text-book: Hutchins' Cases on Equity, suppplemented by a selection of Washington Cases. Two hours per week; entire year. [Hoyt.]

NEGOTIABLE INSTRUMENTS. Text-book: Huffcut's Cases on Negotiable Instruments, supplemented by a study of the Washington Negotiable Instrument Act, and the Washington Cases. Two hours per week; first semester. [Lantz.]
PARTNERSHIP. Text-book: Burdick's Cases on Partnership, supplemented by a selection of Washington Cases. Two hours per week; first semester. [Lantz.]

PRIVATE CORPORATIONS. Text-book: Smith's Cases on Private Corporations. Three hours per week; first semester.

[Main.]

SURETYSHIP. Text-book: Ames' Cases on the Law of Suretyship, supplemented by a selection of Washington Cases. Two hours per week; second semester. [Lantz.]

PRIVATE INTERNATIONAL LAW. Text-book: Minor's Conflict of Laws, supplemented by a selection of Washington and other Cases. Two hours per week; first semester. [Condon.]

MUNICIPAL CORPORATIONS. A study of the Washington Constitution, Statutes and Cases upon this subject, supplemented by Lectures. Two hours per week, second semester. [Main.]

CONSTITUTIONAL LAW. Text-book: McClain's Cases on Constitutional Law, supplemented by a selection of Washington Cases. Two hours per week; second semester. [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. [Hoyt.]

ATTACHMENTS AND GAENISHMENTS. Washington Statutes and a selection of Washington and other Cases. One hour per week; first semester. [Hoyt.]

ADMIRALTY. Text-book: Justice Brown's Cases on Admiralty Law, supplemented by a selection of later cases. One hour per week; first semester. [Lantz.]

MINING LAW. Lectures. One hour per week; second semester.

EVIDENCE. Text-book: Thayer's Cases on Evidence, supplemented by a selection of Washington Cases. Two hours per week; entire year. [Condon.] FEDERAL JURISDICTION. Text-book: Thayer's Federal Jurisdiction, supplemented by a selection of Cases. One hour per week; second semester. [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. [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. [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. [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 typewritten, and securely bound, and is to be kept permanently in the School of Law.

CARKEEK PRIZE FOR THESIS UPON WASHINGTON LAW.

Mr. Vivian M. Carkeek, of the Seattle Bar, a graduate of this Law School, offers an annual prize of twenty-five dollars for the best thesis submitted by members of the senior class, candidates for the degree of Bachelor of Laws, upon any subject of Wash-

ington 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 important 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 pronunciation; 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 University who have taken the full two years' course shall be admitted to the bar without examination.

DEGREE.

The degree of Bachelor of Laws (L.L. 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 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 modern books of reference and a fair selection of 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 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 entrance requirements for the evening 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 obtain the same credits as for graduation from the day school.

COURSE EXTENDED TO THREE YEARS, BEGINNING 1909-10.

By action of the Board of Regents of the University of Washington the Course of Study in the Law School has been extended to three years, commencing with the school year 1909-10.

Announcement will be made later of the details of this course.

INSTRUCTION IN OTHER DEPARTMENTS.

On obtaining the proper certificate from the Dean, students of the Law School may pursue studies, for which they are prepared, in other departments of the University, in so far as such studies do not interfere with their work in the Law School.

SCHOOL OF FORESTRY.

FACULTY.

THOMAS FRANKLIN KANE, Ph. D., President.

FRANCIS GABNER MILLER, M. F., Professor of Forestry, Dean.

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

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

JOHN THOMAS CONDON, L. L. M., Professor of Law.

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

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

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

JOHN FLEMING MAIN, A. B., Professor of Law.

VICTOR MORTON PLACE, A. B., Professor of Physical Culture.

JAMES EDWARD GOULD, A. M., Assistant Professor of Mathematics.

HENRY KREITZER BENSON, Ph. D., Assistant Professor of Chemistry.

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

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

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

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

OLIVER PERRY MORTON GOSS, C. E., Lecturer in Timber Physics.

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

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

GEORGE IRVING GAVETT, C. E., Instructor in Mathematics.

CHABLES EDWIN WEAVER, Ph. D., Instructor in Geology.

ERIC TEMPLE BELL, A. B., Graduate Assistant in Mathematics.

MABEL RILEY SIMPSON, B. S., Graduate Assistant in Botany.

SCHOOL OF FORESTRY

SPECIAL LECTURERS.

EDWARD TYSON ALLEN, Chief Inspector, United States Forest Service, Lecturer in Forest Administration.

ALBERT C. SHAW, Chief Examiner, Law Office, United States Forest Service, Lecturer in Forest Law.

[U. S. Forest Service Expert], Lecturer in Log Scaling. LAFAYETTE HEATH, Cruising Expert, in charge of Timber Cruising.

STATEMENT.

The School of Forestry was established in 1907. It has a twofold purpose; first, to afford instruction in the principles and practice of forestry; second, to promote the interests of forestry in the State of Washington by encouraging the right use of forest resources.

The School has exceptional advantages in its location. The University campus comprises 355 acres, a considerable portion of which is in timber and offers splendid opportunities for field work in silviculture and forest measurements. Other excellent forests are within walking distance of the campus. The University also owns large forest tracts in various parts of the State, where students may conduct extensive research work. The immense national forests within a few hours' ride of Seattle afford practical object lessons in the art of forest management. The city of Seattle is in the center of the timber industry of Washington and the Northwest. In its many sawmills and wood-working industries, the student has unrivaled opportunities for studying wood utilization.

In 1905, the United States Government through its Forest Service designated the University of Washington as the site of a Government Timber Testing Station. A timber testing engineer and assistants are stationed here, and extensive scientific tests of the strengths of western timbers are regularly carried on. Students of forestry are given the privileges of the testing laboratory and have here ample facilities for making investigations in the strength and mechanical properties of wood.

The question, "What are the opportunities for young men in forestry?" is one that is frequently raised. In reply to this very legitimate question, it may be said that the demand for trained foresters is in excess of the supply. The extensive National

Forests in the United States and Alaska are being put under scientific management. The proper handling of this work alone will eventually require the services of many thousands of men especially trained in forestry. Several of the states have large forest holdings, and these are employing an increasing number of foresters. Private owners of timber lands, recognizing the importance of putting their holdings under expert management, are beginning to call for men trained for this purpose. Thus it is that while the practice of forestry is still in its infancy in the United States, the call for professional foresters is already comparatively large.

ADMISSION.

The requirements for admission to the Freshman class of the School of Forestry are:

	Credits.
English	. 4
Algebra	. 1½
Plane Geometry	. 1
Solid Geometry	. 1/2
Physics	. 1
U. S. History and Civics	. 1
Botany	. 1
Foreign Language	. 2
Elective	. 3
Total	. 15

For more specific information concerning the preparation necessary to meet the above requirements and for list of electives see page 56 and following.

Students may be admitted:

(1) By presenting a certificate of graduation from an accredited school (for list see page 67) covering the above subjects.

(2) By passing a satisfactory examination in the above subjects.

SCHOOL OF FORESTRY

COURSES OF STUDY.

UNDERGRADUATE COURSE.

This is a four year course leading to the degree of Bachelor of Science in Forestry. It is designed to meet the needs of students who intend to take up the profession of forestry; also of those who expect to enter on a business career in some phase of the lumber industry, but who want the advantages of a university training. Certain subjects may be elected by those who wish a knowledge of forestry as a part of a liberal education. Thorough courses in the collateral sciences, language, mathematics, surveying, political economy, and elementary law are provided as a foundation for the technical courses in forestry.

FRESHMAN	N YEAR.
First Semester— Hours. Foreign Language 4 Botany (5) 4 Mathematics (1a) 4 General Forestry (1) 2 Physical Culture (1) 2	First Semester— Hours. Foreign Language
16	16
SOPHOMOR	E YEAR.
Rhetoric (1)	Rhetoric (2) 4 Chemistry (2) 4 Botany (4) 4 Sliviculture (4) 4 Physical Culture (4) 2
18	18
JUNIOR	YDAR
Physics (1)	Physics (2) 4 Forest Entomology (11) 4 Botany (16) 8 Forest Mensuration (6) 8 Forest History (8) 2 Forest Law 1
18	17
Senior	YEAR.
Forest Management (9) 2 Lumbering (11) 2 Timber Physics (13) 3 Dendrology (15) 2 Mineralogy (5) 4 Forest Surveying (3e) 4	Forest Management (10)4 Forest Utilization (12)2 Forest Protection (14)2 Forest Surveying (3f)4 Elective4

The course as above outlined will be closely adhered to in the main. Within certain limits proper adjustment will be made for the accommodation of such students as may take up the work in the School of Forestry sometime after entering on their university course.

GRADUATE COURSE.

This is a two year course leading to the degree of Master of Science in Forestry. It is designed especially for men who expect to enter the profession of forestry, and who desire a broader foundation for the work than a four year undergraduate course makes possible Students who are graduates of this university or' of other schools of like standing, and who have a satisfactory knowledge of botany, geology, physics, chemistry, trigonometry, and languages are granted this degree on completing the following courses:

Botany (16)	Forest History
Forest Zoology	Forest Protection
Silviculture	Dendrology
Forest Mensuration	Timber Physics
Forest Management	Forest Engineering
Lumbering	Thesis.
Forest Iltilization	

While the completion of the course for the Master's Degree will ordinarily require two years, graduates of this University and of other institutions of equal rank, which offer courses in forestry, may complete it in one year, provided they have had at least twenty hours of technical forestry and the requisite training in the related sciences, mathematics, and language.

DEPARTMENTS OF INSTRUCTION.

FORESTRY.

FRANCIS GABNER MILLER, Professor. OLIVER PERRY MORTON GOSS, Lecturer in Timber Physics.

SUBJECTS.

PRIMARILY FOR UNDERGRADUATES.

1, 2. GENERAL FORESTRY. Two hours. M., Th., 10. An introductory course for those who wish a general view of the subject. In the first semester the scope and needs of forestry, its growth in the United States, and the importance of federal and state forests are considered. The course in the second semester includes a brief discussion of the principal commercial trees, their distribution, character and uses, and of forest influences. Students may enter this course the second semester.

[Miller.]

FOR UNDERGRADUATES AND GRADUATES.

3, 4. SILVICULTUBE. M., W., F., 9. A study of the indiv.dual tree; forest ecology; the forest as a whole; treatment of the forest; forest regions; forest types; silvical characters of trees; seed collecting; nursery practice; transplanting. Field work, 8-12, S. [Miller.]

5, 6. FOREST MENSURATION. Three hours. T., Th., 11. Methods of determining the contents of the individual tree and of the forest; timber estimating and cruising; use of log scales; methods of studying growth; volume and yield tables; lumber grading. Field or laboratory work 1:30-5 W. [Miller.]

8. FOREST HISTORY. Two hours. Second Semester. W., F., 10. Forest policy of the U. S.; forestry in the states and our island possessions; the rise of forestry abroad. (Not given in 1908-9.)

9, 10. FOREST MANAGEMENT. Two hours, First Semester; Second Semester, four hours. M. W., 8. Economic management of forest lands; working plans; forest administration; considera-

tion of the normal forest; regulation of the yield; forest valuation; forest finance. In the second half of the Second Semester the work will be transferred to the field. [Miller.]

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11. LUMBERING. Two hours. First Semester. W., F., 11. This course includes methods of logging; transportation, and milling in the principal lumber regions of the U. S.; lumbering in the Northwest is given special emphasis; buying and selling timber lands; marketing the product. Regular students of forestry are required to submit a comprehensive report of logging operations based upon a personal investigation in the field.

[Miller.]

12. FOREST UTILIZATION. Two hours. Second Semester. W., F., 11. Secondary forest products; utilization of waste; chemical properties of wood; treatment of wood to prolong its durability. [Miller.]

13. TIMBEE PHYSICS. Three hours. First Semester. T., Th., 9. Various stresses which wood must resist; methods of making tests; theory of flexure; relation between moisture and strength; between specific gravity and strength; physical and mechanical properties of wood. Laboratory work to be arranged.

[Goss.]

14. FOREST PROTECTION. Two hours. Second Semester. T., Th., 9. Protection of the forest against trespass, fire, wind, snow, relation of forests to erosion and floods; fixation of sand dunes. (Not given in 1908-9.)

15. DENDBOLOGY. Two hours. First Semester. Tu., F., 10. The life history of trees; laws governing the growth of trees; monographic studies of trees; wood structure; identification and classification of the principal commercial woods. Laboratory to be arranged. (Not given in 1908-9.)

SCHOOL OF FORESTRY

BOTANY.

THEODORE CHRISTIAN FRYE, Professor. MABEL RILEY SIMPSON, Graduate Assistant.

3, 4. FIELD BOTANY. M., Th., 10. Lab., Tu., Th., 1-3. This is the regular course for those who offer one year of botany for entrance. The collection of plants; their preparation for herbaria; analysis. The groups are taken in their season, flowering plants in fall and spring, the mosses, liverworts, and lichens in the middle of the year. [Frye.]

5, 6. CEYPTOGAMIC BOTANY. W., F., 9. Laboratory Tu., Th., 1-3. This course is open to those who offer one year of botany for entrance, or who have taken botany 1 and 2. It is a study of types of plants from the lowest up, with a view to tracing the evolution of the plant kingdom. The work is mainly in the algae, fungi, and bryophytes, but the ferns and flowering plants are taken up with reference to seed formation. [Frye.]

13. PLANT PHYSIOLOGY. First Semester. Two hours recitation, four hours laboratory work. 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. Prerequisites, 1 and 2. [Frye.]

16. STEUCTUBE AND PATHOLOGY OF WOODY STEMS. Second Semester. Two hours recitation, two hours laboratory work. A study of the tissues found in woody stems; their use to the plants; their development; their diseases. [Frye.]

CIVIL ENGINEERING.

HENRY LEE BOWLBY, Instructor.

3e. FOREST SURVEYING. First Semester. Instruction in the use of instruments and practice in linear drawing; free-hand lettering; tracing of maps; theory of chain, compass, level and transit surveys, and instruction in the use and adjustment of the instruments used; methods used in the United States public land surveys; platting of notes, calculation of areas and map making. Open to advanced students in the School of Forestry.

[Bowlby.]

3f. FOREST SURVEYING. Second Semester. Thorough drill in the use of the plane table, aneroid barometer, Brunton pocket transit, traverse board, hand level and transit and stadia in making actual surveys of timbered land and a study of the advantages and disadvantages of the various methods employed; use of conventional signs in a topographic map as adopted by the United States Forest Service. Prerequisite, Forest Surveying, 3e. Open to advanced students in the School of Forestry. [Bowlby.]

CHEMISTRY.

HENRY KREITZER BENSON, Assistant Professor.

1, 2. GENERAL CHEMISTRY. M., W., F., 11. Four hours laboratory work per week. Text books, Smith's General Chemistry and Laboratory Manual. [Benson.]

GEOLOGY.

HENRY LANDES, Professor. GEORGE NELSON SALISBURY, Lecturer in Meteorology. CHARLES EDWIN WEAVER, Instructor.

3. METEOROLOGY. First Semester. Tu., Th., F., 10. Laboratory Tu. afternoon. A general consideration of the atmosphere; winds and storms; the causes and distribution of rainfall; weather; climate; etc. [Landes, Salisbury.] 4. PHYSIOGRAPHY. Second Semester. Tu., Th., F., S. Laboratory hours to be arranged. 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. [Landes.]

5. MINERALOGY. First Semester. W., F., 9. Two laboratory periods, Tu., F., 1-3:30. Descriptive and determinative mineralogy. Practice in the determination of unlabeled minerals by means of their physical properties and by blowpipe analysis.

[Weaver.]

LAW.

JOHN THOMAS CONDON, Professor. JOHN FLEMING MAIN, Professor.

ELEMENTARY LAW. Two hours. First Semester. Text-book: Robinson's Elementary Law. [Main.]

FOREST LAW. One hour. Second Semester. General laws of the United States land department; regulations by which timber is acquired from the United States Government; United States forest laws, and Forest Service regulations by which the right to acquire and use the timber from the National forests is obtained; laws and regulations of Washington by which timber and timber land is acquired from the State; laws and regulations of British Columbia by which timber and timber land is acquired from the Province; general laws in reference to the transfer of timber and timber land between individuals; law of trespass upon timber land; law of conversion of timber and timber products. [Condon.]

MATHEMATICS.

JAMES EDWARD GOULD, Assistant Professor. George Irving Gavert, Instructor. Eric Temple Bell, Graduate Assistant.

1a. PLANE TRIGONOMETEY AND HIGHEB ALGEBRA. Each semester. Sections at 8, 9, and 1. The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers, and their trigonometric representation, De Moivre'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. Crockett's Trigonometry, Crockett's 5 place tables, C. Smith's Treatise on Algebra.

[Gould, Gavett, Bell.]

PHYSICS.

FREDERICK ARTHUR OSBORN, Professor. HENRY LOUIS BRAKEL, Instructor.

1. MECHANICS, SOUND. First Semester. 9. Laboratory, one two-hour period each week. [Brakel.]

2. LIGHT, HEAT AND ELECTBICITY. Second Semester. 9. A continuation of course 1. [Osborn, Brakel.]

PHYSICAL CULTURE.

VICTOR MORTON PLACE, Professor.

- 1, 2. Floor and apparatus work.
- 3, 4. Floor and apparatus work.

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POLITICAL ECONOMY.

J. Allen Smith, Professor. VANDEBVEER CUSTIS, Assistant Professor.

1. THE ELEMENTS OF ECONOMICS. First Semester. Sections at 8, 11 and 1. An introductory study of the principles governing the production and distribution of wealth, with special reference to some of the most important aspects of modern industry. [Smith, Custis.]

RHETORIC.

LOREN DOUGLAS MILLIMAN, Assistant Professor. IDA KATHERINE GREENLEE, Instructor.

1. ENGLISH COMPOSITION. Sections at 8, 9, 10, 11, 1 and 2. Short daily and weekly themes together with a study of the principles of Rhetoric. Text, Part I of Genung's "Working Principles of Rhetoric." Each student will meet the instructor for private consultation at least once every week.

[Milliman, Greenlee.]

2. ENGLISH COMPOSITION. Second Semester. Ten sections. Open to students who have completed course 1. Daily and fortnightly themes, with private conferences. Part II of Genung's "Working Principles of Rhetoric," and specified readings from modern English prose. [Milliman, Greenlee.]

ZOOLOGY.

TREVOR KINCAID, Professor.

10. FOREST ZOOLOGY. First Semester. Tu., Th., 8. A discussion of animal life characteristic of the forest, including the classification, habits, economic relations, propagation and protection of forest animals. [Kincaid.]

11. FOREST ENTOMOLOGY. Second Semester. Tu., Th., 8. Laboratory, four hours per week. A course dealing with the relation of insects common to the forest, including the classification and habits of forest insects, and the practical handling of insects injurious to forest welfare. [Kincaid.]

(For description of courses in foreign languages, see departmental announcements in College of Liberal Arts.)

SPECIAL SHORT COURSE.

The United States Forest Service co-operates with the University in offering a special course of twelve weeks planned for forest rangers and guards desiring to increase their efficiency, or for those who wish to fit themselves for such duties; also for cruisers, logging superintendents, woodland owners and others who wish to acquire a knowledge of the general principles of forestry, and methods by which timberlands are handled to insure continuous crops.

The course opens Tuesday, January 5 and closes Friday, March 26. Several of the special courses are given by experts from the Forest Service. The others are handled by various departments of the University. The work is given by lectures, in the laboratory, and by actual field demonstrations. Applicants must be at least 19 years old and show ability to carry the work with profit to themselves. Admission to classes is without examination.

The expenses are as follows: Deposit, \$3.00; books and stationery, \$5.00; board and lodging with private families, \$15.00 to \$25.00 per month. In addition to the above expenses, the student should allow about \$25.00 to cover expenses of field trips. The total expense for the twelve weeks, exclusive of transportation, should not exceed \$100.00.

SUBJECTS.

1. FOREST MEASUREMENTS.

(1) ESTIMATING. (a) Methods in common use in the Northwest, demonstrated in woods; how to tell defect and allow for it in estimate; grading of standard timber; variation of methods according to different standards of merchantability and kinds of products such as saw logs, mining timbers, cordwood, bolts, etc.

[Heath.]

(b) Valuation survey methods; contents of felled and standing trees; use and construction of volume tables. [Miller.]

(2) SCALING. Principles and comparison of log rules, especially the one used by the Forest Service; actual demnostration by expert scaler, covering instruction in allowance for defect; transposition of timber measures—board measure into cords, etc. Log grading. [Forest Service Expert.] 2. SURVEYING.

(1) LAND SURVEYING. Use of the compass and chain and the Brunton Pocket Transit, with or without tape, in making rough land surveys, including rules governing closing, tying, corners, fractions, lots, meanders, etc.; simple methods of determining a true north and south line, and of obtaining the magnetic declination of the needle at any point; principles of surveying mining claims, and the United States Government system of surveying the public lands; keeping and use of field notes; simple triangulation.

(2) MAPPING. Use of drawing instruments; lettering and use of conventional signs in representing topography. Use of protractor and scale; method of making rough maps wothout instrument or tape; special systems used for Forest Service purposes, such as timber sales, agricultural settlements, and boundary reports.

(3) ENGINEERING. Use of Wye level and hand level; contours; laying out roads and trails, and simple methods by which grades may be kept within a reasonable maximum; simple bridge construction. [Bowlby.]

3. FOREST LAW.

Interpretation of state and federal land, mining, livestock, water and forest laws which affect national forest administration; rulings and decisions; rules of practice before U. S. land offices; what constitutes trespass; what constitutes evidence and how to get it; authority of forest officers; when and how to make arrests. [Shaw, Condon.]

4. NATIONAL FOREST ADMINISTRATION.

(1) POLICIES. Objects of forest administration. Use of the forests; timber sales, privileges, and grazing policies; organization of the Forest Service; duties and qualifications of forest officers.

(2) METHODS. Regulations and instructions governing disposal of timber, range, and all other forest resources; use and disposal of land; rights of way; protection against fire and trespass; improvement work; fiscal matters; principles and details

of each subject including investigations, reports, permits, use of all forms, supervision of work; suggestions and demonstrations. [Allen.]

5. SILVICULTUBE.

Simple tree botany—genera and species of the West, their relationship and identification. Silvical character of each—their demands upon soil, light, climate; reproduction of each, naturally and how to obtain after logging; system of cutting to this end; protection of young timber; seeding habits; seed collecting; nursery practice; transplanting. Work partly in woods jointly with forest measurements. [Miller.]

6. GEOLOGY AND MINERALOGY.

Common minerals, manner of their occurrence and identification; mining, lode and placer work; how to select ore samples and use gold pan; work confined mainly to that which will assist in determining the validity of coal and mineral claims; liability of soils to erosion.

Lectures supplemented by field trips and laboratory work.

[Landes, Weaver.]

7. MISCELLANEOUS LECTURES BY SPECIALISTS.

First aids to the injured; horseshoeing and veterinary science; tree diseases and insects; lumber market and timber values; range problems; forage values and methods of handling sheep and vattle on the range; other allied subjects.

GRADUATE WORK AND ADVANCED DEGREES.

A graduate of any college or university of approved standing, who wishes to do graduate work in this university, may be enrolled as a graduate student upon presentation of satisfactory credentials to the Committee on Advanced Degrees.

Graduate students* are classified as,

(1) Graduate students (candidates for advanced degrees),

(2) Graduate students (not candidates for advanced degrees).

A graduate of this university or of any other institution of equal rank will be given full graduate standing. But in case the student is from a college whose requirements for graduation are not accepted as the equivalent of a degree from the University of Washington, he must complete the necessary amount of undergraduate work before being enrolled as a candidate for an advanced degree.

Graduate students may receive the degree of Master of Arts by complying with the following requirements:

1. At least one year's work must be done in residence in undivided pursuit of the studies elected; or not less than two years in residence, if the candidate is employed as a teacher or regularly engaged in any other occupation or profession. Attendance during four summer schools may be accepted as the equivalent of one year in residence.

2. The candidate must elect a major subject and either one or two minors. He must earn not less than 32 credits, at least one-half being in the major subject, a part of which shall consist of a thesis embodying independent, though not necessarily original research. The thesis requirement may be waived, however, in individual cases with approval of the Committee on Advanced Degrees.

^{*}Graduates of this or other universities who wish to take undergraduate work in any of the technical or professional schools of the university, will be admitted upon fulfilling the requirements of the college in which they wish to enroll, but will not be classified as graduate students.

3. No work done in the major subject can be counted toward the Master's degree until the candidate for such degree has complied with the departmental requirement as to previous work in that subject, which in no case shall be less than twelve hours.

4. The proposed work of a candidate for the Master's degree shall include no courses not designed primarily for upper classmen or graduate students. It shall be outlined by his major professor and submitted by him to the Committee on Advanced Degrees not later than four weeks after the beginning of the first semester's work for such degree. When the work thus outlined has been approved by the Committee, the student may be registered as a candidate for a degree.

5. Upon the completion of the work as outlined, the candidate shall be examined by a committee consisting of his major professor and his other instructors. The time and place of the examination, which shall be open to the faculty, shall be announced on the official bulletin board at least three days in advance. After a conference of the examiners, the result of the examination shall be immediately announced to the candidate, and a formal report of the result shall be communicated to the Committee on Advanced Degrees not later than the Wednesday preceding commencement day.

6. One copy of the thesis in typewritten or printed form (or library hand, in case the thesis is of such character that it cannot be typewritten), prepared and bound according to the conditions prescribed by the Librarian, shall be deposited with the Registrar at the time of payment of the diploma fee.

The degree of Master of Science may be conferred on graduates of the four year Pharmacy course, the College of Engineering, the School of Forestry, and the School of Mines, subject to the general regulations governing the degree of Master of Arts.

THE SUMMER SCHOOL.

The fifth annual summer session of the University of Washington will begin June 22, 1908.

ADMISSION.

Formal entrance examinations are not required for admission. Attendants, however, must give evidence of sufficient maturity and preparation to profit by the work offered.

THE WORK.

The work of the summer session is of a threefold character:

1. The work for high school and upper grade teachers who wish further preparation.

2. Regular college work.

3. Work in graduate departments.

REGISTRATION.

Registration will begin Monday morning, June 22. Prospective students are earnestly requested to be on hand the first day. All fees must be paid to the secretary at the opening of the session.

CREDITS.

A student may earn six credits by securing passing grades in the requisite number of subjects, but under no condition will he be allowed to make more than this number.

TEXT BOOKS.

Text books can be purchased at reduced rates, at the University Cooperative Book-Store.

ASSEMBLIES.

Frequent assemblies of a literary or musical character are held. These entertainments are open to students of the summer school free of charge.

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 dollars (\$10.00) is required of each student registering, and special laboratory deposits are required in certain science departments, such as physics and chemistry, to cover the cost of materials consumed. No part of the money thus derived is applied to pay for the services of any member of the faculty on the regular University pay-roll, but this fund is used for the compensation of the instructors brought in especially for the summer session, and for incidental expenses and the general betterment of the session.

REGISTER OF STUDENTS. 1907-8.

GRADUATE STUDENTS.

CANDIDATES FOR ADVANCED DEGREES.

NAME. GRADUATE OF Barr, Eva Louise, A. B. (German).Woman's College of Baltimore Bell, Eric Temple, A. B. (Mathematics).....Stanford University Borie, Fanchon, A. B. (Education).....University of Washington Bretz, J. Harlen, A. B. (Geology)......Albion College Carr, Laura Whipple, A. B. (German....)....Wellesley College Clark, Virginia Hoffman, A. B. (English

Literature)University of South Dakota Fee, Lewis Henry, A. B. (Physics).....University of Michigan Field, Ada Martitia, A. B. (Botany).....Guilford College Frost, Merle Arthur, A. B. (Political Science)....Olivet College Gullixson, Edna Tileston, A. B. (German).....

Hammond, Philo Fay, A. B. (Physics)...University of Washington Hasson, Helen Arlene, A. B. (History)......Smith College Jackson, Alexander Grant, A. B. (Forestry)..Syracuse University Knapp, Libbeus J., A. B. (Education).....Albion College Lucas, Mayme E., B. S. (Physics)....University of Washington Marlow, Junia Elsie, A. B. (Greek)....University of Washington McCarthy, William George, A. B. (Philosophy)......

McCutchen, Lydia May, A. B. (Political Science).....

Newton, Earl Burdette, A. B. (Botany). University of Washington O'Meara, Mary Gertrude, A. B. (Philosophy).....

......University of Washington

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Name.

Rigg, George Burton, A. B. (Botany)......University of Iowa Roberts, Milnora deBulen, A. B. (French)..Stanford University Rogers, George Arthur, Ph. B. (Forestry)...... University of Wisconsin Rohlfs, Otto Diedrich, B. S. (Mining)...Columbia School of Mines Shelton, Celia Dexter, A. B. (English Literature)..... Shelton, Celia Dexter, A. B. (English Literature)..... Sherman, Hermie, A. B. (Mathematics).University of Washington Sherman, Hermie, A. B. (Mathematics).University of Washington Simpson, Mabel Riley, A. B. (Botany)...University of Wisconsin Smith, Eli Victor, A. B. (Zoology)..Illinois Wesleyan University Trumbull, Harlan Leo, A. B. (Chemistry)..... University of Washington Whittlesey, Walter Bell, A. B. (French)..... University of Washington Wilbur, Bess Rebecca, A. B. (English Literature).....

.....University of Washington

CANDIDATES FOR BACHELORS' DEGREES.

Rathbun, John Charles, A. B. (Civil Engineering).....

Shirley, Pauline, A. M. (German).....Texas Christian University Smalley, Dwight, A. B. (Mining)......University of Colorado

REGISTER OF STUDENTS

SENIORS.

Хаме.	Co	URSE.	Номе А	DDRESS.	<u>م</u> م
Alexander, Mellie Knight	A .	B		Seattle	95
Ames, Nellie Mabel	A.	B		Seattle	57
Ashmun, Raymond Nims	A.	B	н	oquiam .	בצ
Bagshaw, Enoch Williams	Mi	n. Eng		Seattle	
Baker, Grace D	A.	B	Baltimo	re, Md.	
Barnes, Lucy Rowena	A .	B		Seattle	
Bartlett, Phoebe May	A.	в		Seattle	
Bennett, Mary Pearl	A.	В		Seattle	
Birkett, Donald Skelton	A.	в		Seattle	
Bliss, Amelia	A.	B		Seattle	
Brown, Valeria O'Brien	A.	BLo	s Angel	es, Cal.	
Cales, Tony Foster	E.	Е		Bucoda	
Campbell, John Washburn	A.	в		Edwall	
Campbell, Lucy	A.	в		Seattle	
Carr, Francis Easton	Mi	n. EngWe	st Richf	leld, O.	
Chambers, Lydia May	A.	B		Seattle	
Coan, Charles Florus	A.	в		Seattle	
Cox, Royal Edward	E.	E	Ken	newick	
Crim, Lemuel Paul	E.	E		Seattle	
Day, Lilian Isabel	A.	в		Seattle	
Deland, Katherine	A.	B		Seattle	
Dohren, Henry Richard	Me	ch. Eng	Chica	go, Ill.	
Ducasse, Curt John	A.	ВВо	rdeaux,	France	
Dunlap, Nellie Mae	A.	B		Seattle	
Engeland, Eunice A	A.	В		Seattle	
Fallis, Annie Louisa	A.	B		Seattle	
Gibbons, Helen Mar	A.	B		Seattle	
Gillette, Howard Leslie	A.	В		Cheney	
Gregg, Kate Leila	A.	B	Cla	arkston	
Grout, Rose Emily	A .	B		Seattle	
Hammond, Edith May	A.	B		lacoma	
Hance, James Harold	Mi	n. Eng	Elg	in, Ill.	
Harris, Alexander Thomas	E.	E		lacoma	
Heyes, Mary	A .	B		Seattle	
Hurst, Frederick Gordon	Mi	n. EngPl	hiladelph	nia, Pa.	
Jacobsen, Sara	A .	B	Wood	linville	
Jamieson, Josephine Janette	A .	B		pokane	
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NAMB.	Co	UBSE.	HOME ADDRESS.
Jones, Myrtle Estelle	Α.	в	Seattle
Jones, William Morrow Beach	Α.	в	Seattle
Kahan. Rose	Α.	в	Seattle
Karr. Arthur Thompson	А.	в	North Yakima
Kay Mary Emily	А.	В	Alliance, Ohio
Kiemle, Florence	Α.	B	Spokane
Kilgour. Bertha Flora	А.	B	Marlette, Mich.
Kittredge, Marguerite Emily	. A .	в	Seattle
Latimer. Thomas Erwin	. A.	в	North Yakima
Lewis Herbert Henry	. A .	в	Port Blakeley
Lindsay, Brent Albert	.A.	в	Wenatchee
Lowry, Samuel Doak	Me	ch. Eng.	Seattle
Luby Florence Evelyn	. A .	B	Seattle
Luzader Floy Leeuwin	Α.	B	Olympia
MacLachlan Mae M	Ph	armacy .	Sedro-Woolley
Martin Lala Coler	Α.	B	Seattle
McCurdy Urigh Fred	Ph	armacy	Seattle
McDaniels Metta Louise	Α.	B	
McDonald Helen Porter	Δ	B	Seattle
Michelson Edith Sidonie	Δ	B	Seattle
Miller Evelyn	Δ	B	Seattle
Miller Mayme B	Δ	B	Seattle
Murray May Anastacia	Δ	R	Seattle
Nach Lulu May	Ph	armaev	Tacoma
Nafarar Cortendo		B	Seattle
Oshurn Certrude S	. A.	B	Тасотя
Osburn, William Ouiney	Δ	B	Тасота
Parr Myrtle Trans	Δ	B	Seattle
Parlay Mary Elizabeth	Δ.	B	Fargo N D
Philben Honoria	Δ	B	Puvallun
Pone Arthur Beker Stanley	Δ.	B	Scattle
Powell Frederick Channing	Δ.	B	Senttle
Prosch Bestrice	Δ.	B	Seattle
Puggley Edmond Folsom	E.	E.	Soattle
Rathbun John Charles	с.	R	Seattle
Reuhle Godfrey Leonard Alvin	. U. Ph	armacy	Port Townsend
Roberts George Braden	C.	E.	Kalama
Rockfellow Buth		B	Soottla
Bothschild, Ernest Eugene	A.	B	Port Townsond
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REGISTER OF STUDENTS

NAMB.	COURSE.	HOME ADDRESS.
Rudberg, Lavina C	A. B	Seattle
Sanborn, Frances Maude	A. B	Seattle
Sharkey, Fred John	Min. Eng	North Yakima
Shay, Zacharius B	Min. Eng	Willapa
Shirley, Pauline	A. BH	ereford, Texas
Smith, Guy Livingstone	Pharmacy	Bellingham
Snoke, Rupert Parmalee	E. E	Seattle
Staeger, David Arthur	A. B	Dryad
Starr, George East	A. B	Chelan
Stead, Arthur John	C. E	Seattle
Stone, Seymour Iver	A. B	Olympia
Strout, Rena Elizabeth	A. B	Tacoma
Sutherland, Catherine B	A. B	Seattle
Sveinson, Mekkin	A. B	Seattle
Sweet, Alice Maude	Pharmacy	Blaine
Taylor, Josephine	A. B	Bellingham
Thompson, William Plumer	A. B	Seattle
Thorpe, Merle H	A. B	Seattle
Tierney, Ray Lillian Isabel	А. ВТо	wnsend, Mont.
Tomlinson, Grace Evangeline	A. B	Seattle
Toner, Annie Laurie	A. B	.Walla Walla
Trueblood, Jenney Lind	A. B	Seattle
Umpleby, Joseph Bertram	A. B	Olympia
Waite, Genevieve	A. B	Seattle
Wakefield, Cleo Marie	A. B	Seattle
Walsh, Gertrude Linthlen	A. B	Seattle
Way, Ethel Elizabeth	A. B	Seattle
Way, Evelyn Dorothy	A. B	Seattle
Webster, Mary Ella Gray	A. B	Oakesdale
West, Ruth	A. B	Seattle
White, Eugene Ainsworth	Min. Eng	Seattle
Wilson, William Cleveland	Mech. Eng	Aberdeen
Wimmler, Norman Lucius	Min. Eng	Seattle
Yantis, Frances A	A. B	Burton
Zimmerman, Conrad William	A. BCu	mberlana, Md.

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JUNIORS.

NAME.	COURSE.	HOME ADDRESS.
Adams, Mabel Bryant	A. B	Seattle N
Allen, Eva	A. B	Seattle \mathcal{N}
Allen, Ina Pearl	A. B	Amity, Ore. ${\cal P}$
Anderson, Andrew	A. B	Mt. Vernon 오
Annis, Lucile	A. B	Kennewick E
Babcock, Frank Ellarson	Min. Eng	Everett
Berge, Clarence Austin	A. B	Davenport
Bishop, Beryl Boswell	A. B	Palo Alto, Cal.
Blake, Hazel Almon	A. B	Bellingham
Breece, Dora Frances	A. B	Seattle
Brown. Charles S	A. B	Boise, Idaho
Byrd, Edna Mary	A. B	Spokane
Camp. Hiram W	C. E	Centralia
Campbell, Dora S	A. B	Black River
Caskin, Olaf Emerie Harrison	A. B	Puyallup
Clark, Alvilde Lee	A. B	Seattle
Cogswell, Caroline Dustin	A. B	Seattle
Collier, Edith Lorne	A. B	Seattle
Comegys, Eva	A. B	Snohomish
Conner, Irene Russell	A. B	Seattle
Connors, Caroline Catherine	A. B	Seattle
Cooper, Alton	A. B	Bellingham
Cumbo, George Silas	Chem. Eng	Waterville
Cumming, Mrs. William	A. B	Tacoma
Dalby, Edwin Justus	A. B	Seattle
Dean, Arthur Blaine	E. E	Everett
Dearborn, Elizabeth	A. B	Seattle
Denny, F. William	A. B	.Kasson, Minn.
Dewhurst, John Alfred	E. E	Seattle
Dungan, Violet Wilhelmina	A. B	Seattle
Durham, Kenneth Paul	A. B	Spokane
Durham, Mabel Lucile	A. B	Spokane
Egbert, Grace Sylvia	A. B	Olympia
Elliott, John Arthur	C. E	Vancouver
Ennis, Mark Ara	A. B	Aberdeen
Enyart, Edna Hope	А. В	Seattle
Erickson, Marie Helga	A. B	Astoria, Ore.

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REGISTER OF STUDENTS

NAME.	Cor	JRSE.	HOME ADDRESS.
Everett, Ethel	А.	в	Custer
Fischer, Adelaide Dorothy	A.	В	Seattle
Flaherty, Benjamin Guy	E.	E	.Sedro-Woolley
Freiday, Grace Ward	A.	B	Tacoma
Frein, Bessie Mabel	A.	BGreat Ba	rrington, Mass.
Gibbon, Edna Scott	A.	в	Seattle
Gleason, Mabel E	A.	B	Seattle
Hadlock, Minnie May	A.	B	Seattle
Hansen, Bert Alvin	E.	E	Tacoma
Harsell, Mary Pauline	A.	В	.Kearney, Mo.
Hartman, Flora Madge	A.	BE	Bozeman, Mont.
Hawes, George Raymond	С.	E	Everett
Hopkins, Raymond Allan	E.	E	Tacoma
Hughes, L.ward Frederick	Mi	n. Eng	Snoqualmie
Hunt, Clara Alice	A.	B	,Bellingham
Johns, David Fritchard	А.	B	Seattle
Johnson, Ida	А.	в	Seattle
Johnson, Pearl	A.	B	Seattle
Jones, Anna Rachel	Α.	B	Seattle
Karlstrom, Otto Reinhold	Α.	BDe	s Moines, Iowa
Kay, Lew Geate	А.	B	Seattle
Keatts, Martha Susan	Ph	armacy	Pomeroy
Kirsten, Kurt Friedrich Johannes	E.	EGrossen	hain, Germany
Knuth, Carl Arthur	Mi	n. EngS	pringfield, Ohio
Lee, Kate Elizabeth	А.	B	Seattle
Lindsay, William Rufus	Mi	n. Eng	Utsaladdy
Mackey, Walton Fletcher	.Mi	n. Eng	Seattle
Macleay, Elizabeth	Α.	B	Olympia
McGee, Merritt	Α.	B	Seattle
McKean, Flobell	.A.	B	Walla Walla
McMaster, Ella Carkner	.A.	B	Seattle
McWilliams, Alice Beatrice	Α.	B	Seattle
Meier, Elsie Anna	А.	B	Seattle
Montgomery, Alice Estella	А.	B	Seattle
Montgomery, Ralph Strong	А.	B	Seattle
Morgan, Margaret Mabel	А.	в	Waitsburg
Mott, Edna Robb	А.	B	Seattle
Nelson, Nellie Maud	.А.	в	
Nelson, Norman C	.Е.	ELake	DeMay, Alberta

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NAMB.	Cousse	e.' Home Address.
Newell, Roy Edward	Min.	EngTenino
Olds, Dolph Francis	A. B	McMinnville, Ore.
O'Neal, Artuur Thomas	A. B.	Spokane
Osterud, Hjalmar Lauritz	A. B	Seattle
Parker, Lela Kathleen	A. B	Seattle
Peterson, Roxy M	A. B.	Dunlap, Iowa
Powers, Myrtle Ruth	A. B.	Everett
Renkin, Louise	A. B	Seattle
Roller, Floyd Huffman	Min.	EngWickersham
Rudio, Roy David	A. B.	Dayton
Smalley, Dwight	Min.	EngSeattle
Smith, Beulah Faye	A. B.	Seattle
Smith, Laura Amelia	A. B.	Portland
Smith, Mary Agnes	A. B	Seattle
Stahl, Gustav R	C. E.	Seattle
Stead, Maude Alice	A. B	Seattle
Stewart, Elsie Helen	A. B.	Seattle
Swingle, Bithiah Grace	A. B	Seattle
Swyney, Hendley Norton	E. E	Seattle
Tammany, Patrick Michael	A. B	Seattle
Tanner, Merle Harriet	A. B	Seattle
Tegtmeier. Fred	C. E.	Everett
Thomas, Walter Roger	E. E.	Wenatchee
Thompson, Claude Sims	Min.	EngSeattle
Tibbals, Henry Curtis	C. E	Port Townsend
Tillman. Helen Catherine	A. B.	Seattle
Titus, Leo Grant	C. E.	Seattle
Totten. Joseph Phelps	A. B.	Seattle
Tremper, Abraham Arnold	A. B.	Seattle
Troll, Annie May	A. B	Seattle
Waddington, Earle Casey	E. E.	Seattle
Waugh, Eva Mary	A. B.	Seattle
Webster, Wendell	Min.	EngHudson, Wis.
Wells, Chester Gordon	C. E.	Seattle
Wells, Walter Melvin	C. E	Pueblo, Colo.
White, Kate Mae	A. B.	Sedro-Woolley
Williams, Blanche Louise	A. B.	Seattle
Williams, Charlotte Forsyth	A. B	Olympia
Wintler, John James	Pharn	nacyVancouver
115- L	10	τ
NJ - L	I	•

REGISTER OF STUDENTS

NAME.		Co	URSE.	Home Address.
Wyman, Pru	dence Estelle	.A.	B	Ôlympia
Yeager, Ida	Naoma	.A.	B	
Zimmerman,	Grace B	.A.	B	Seattle
			67-	women

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SOPHOMORES.

NAME.	Cot	JESE.	Номв .	Address.
Adair, Grover Charles	A.	B	Li	ttlerock [%] '
Anderson, Bessie Louise	A.	B	Wall	a Walla 🏸
Anderson, Ruth	A.	B		.Seattle 🐙
Ashton, Fred William	Che	em. Eng		Ballard 为
Bain, Joseph Staten	A.	B	8	Spokane
Bantz, Burwell	C. 1	E	San	de Fuca
Barash, Iona	A .	B		.Seattle
Barber, George A	Pha	armacy	8	Spokane
Bartow, Jeannette M	A .	B		.Seattle
Bates, Clarence Myers	C.	E	Bell	ingham
Bates, William Charles	A .	В	Va	ncouver
Baumann, Henry Nicnolas	Miı	n. Eng		.Seattle
Beck, Broussais Coman	E.	Е		.Seattle
Beery, Earı Jacob	E.	E		.Orillia
Behrens, Jerry Arthur	Miı	n. Éng		Seattle
Bell, Charles Hubert	E.	E		.Seattle
Bell. Roscoe West	Mir	n. Eng		.Seattle
Benson, Grace	C. ,	E		.Seattle
Birkett, Harold H	A.	В		.Seattle
Black, Lloyd Llewlyn	A .	B		Everett
Blackman, Helen	A.	B		Everett
Bond, Rowena	A.	B		.Seattle
Bowles, Fred Clark	E.	EGr	oton, S	o. Dak.
Boyles, Page Rolland	A.	B		.Seattle
Brace, Blanche Frances	· A .	B		. Seattle
Bragdon, Roger Eben	A .	B		. Seattle
Brower, Fred	Miı	n. Eng		Spokane
Brown, Charles Earl	E.	E	Bell	ingham
Brown, Edwin James	· A .	B	• • • • • •	. Seattle
Bulkeley, Josephine Mary	A.	B	••••	. Seattle
Burke, Gordon	· · · · A.	B	• • • • • • •	Tacoma
Burkholder, Ethel C	A .	B	•••••	.Seattle
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University of Washington

NAMH.	COURSE.	HOME ADDRESS
Burnett, Lambert Milton	A. B	Vancouver
Buwalda, John Paul	Min. Eng	North Yakima
Byers, Roy Brun	A. B	Seattle
Carlin. Rita Agnes	Pharmacy	Spokane
Casey, Agustine Peter	E. E	Seattle
Cavo. Eugene Felix	Chem. Eng	Ballard
Christopher. Willis Clinton	С. Е	Seattle
Clark. Arthur Myron	A. B	Centralia
Claussen, Minnie Laurine	A. B	Walla Walla
Cogswell, Vera Anna	A. B	Blaine
Clokett. Marian Lombard	A. B.	Seattle
Collins Helen Holman	A. B	Kirkland
Cook William Bell	A. B	Seattle
Cooper John F	C. E	
Corbett Margaret Victoria Morrison	A. B.	Seattle
Cowgill. Carrie.	A. B	
Crane Harry Stewart	Min Eng	Seattle
Craven Inez Helena	A R	Seattle
Crismag Roy Montaith	A B	Joliet Mont
Criswell Lois	A B	Тасота
Curtis Florence Freeland	A B	Seattle
Dalgity Ruby Isabell Livingstone	A R	Seattle
Damus Walter	С. Е	Soattle
Daniels Aileen Margaret	A R	Souttle
Daniels, Frank	С. Е.	Seattle
Davis Arthur Anderson	Mech Eng	Тасота
Dean Marie Edna	Pharmaev	Rollingham
Devine Bernadine		Souttia
Dewey Albert H	A B	Ponnside Pa
Dootson Charlotte	A B	Everett
Duffy Gilbert LeBaron	Mech Eng	Seattle
Dunbar Walter Clifford	Min Eng	Seattle
Easter Roderick Ralph	EE	Seattle
Easterday, Fay Beatrice	A. B.	Tacoma
Ebner, Ethelyn Leone	A. B.	Juneau, Alaksa
Ederer, Pauline Adelaide	A. B.	Seattle
Edwards, Elva Salome	.A. B	Port Townsend
Edwards, George Ray	.C. E	Port Townsend
Edwards. Guy DeWitt	.C. E	Port Townsend
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REGISTER OF STUDENTS

NAME.	COURSE.	HOME ADDRESS.
Edwards, Lola Edith	A. B	Port Townsend
Efaw, Wilma	С. Е	Seattle
Eisenbeis, Hilda Elizabeth	A. B	Port Townsend
Ellis, Hubert Ingersoll	Min. Eng	Seattle
Ellis, William Grant	Е. Е	Seattle
Esary, Lillie D	A. B	LaConner
Etsell, Ada Sage	A. B	Seattle
Evans. Winnie	A. B	Ferndale
Everett. Johnston Richard	C. E	Custer
Fairbrook. Loyd Flint	C. E	Yakima
Farley, Harry Rhanor	E. E	Bellingham
Fenton, Ione Edith	A. B	Seattle
Fettke. Charles Reinhard	Min. Eng	
Ficks. Edna	A. B	Seattle
Fitch. Albert LaVerne	A. B	Seattle
Flagg, Herbert Judson	С. Е	Seattle
Fos. Maude Whittier	Pharmacy	Seattle
Foss. Wedell	A. B	
Franklin, Phil A	С. Е	Seattle
Franklin, William Hawley	С. Е	Seattle
Frater. John Archibald	A. B	Seattle
Fried, Percy Chester	E. E	Seattle
Funfsinn, Rosa	A. B	Seattle
Garvey, Victor Hugo	С. Е	Seattle
Georgeson, Rosemary	A. B	Sitka, Alaska
Goddard, Arthur Harold	A. B	Olympia
Godfrey, William B	C. E	Port Townsend
Goodner, Henry Evans	Pharmacy	Seattle
Grainger, Cylde	A. B	Sumner
Gray, Clifford F	Pharmacy	Newport, Ore.
Gray, Grace Leone	A. B	Winlock
Gruber, Edwin Albert	A. B	Seattle
Hackshaw, Blanche Lydia	A. B	Seattle
Hagy, Robert Preston	Pharmacy	Seattle
Hamilton, James Baker	C. E	.Sedro-Woolley
Hammarland, Arthur Edward	Min. Eng	Spokane
Hancock, Eugene Amon	A. B	\dots . Coupeville
Harmon, Fred Dean	E. E	\dots Bellingham
Harris, Margaret Dellinger	A. B	Kelso
M 26	F14	

NAME.	Course.	HOME ADDRESS.
Harris, William Herbert	A. B	Vancouver
Harrison, Joseph Barlow	A. B	East Sound
Hemphill, James Wylie	A. B	Seattle
Henchan, Martina	A. B	Seattle
Herman, William Edward	Е. Е	South Bend
Herthum, Florence Emery	A. B	Seattle
Heuss, Edward Charles	Min. Eng	Seattle
Hibben, Harriet Fingland	A. B	Seattle
Holcomb, Marian	A. B	Seattle
Hollingswortn, George Edward	A. B	Seattle
Howe, Jubal Washburn	C. E	Spokane
Howes, Alice	A. B	Spokane
Hubert, Lulu	А. В	Seattle
Hulce, Edgar Montgomery	Min. Eng	Sumner
Hunter, Addie May	A. B	Seattle
Hutchinson, Dora	Pharmacy	Union, Ore.
Iffland, Nellie Lucilla	A. B	.Port Townsend
Imado, Jiro	A. BH	iroshima, Japan
Isbell, Harry Raymond	E. E	South Park
Jack, Eugene Clarence	С. Е	Seattle
Jackson, Herbert Garrett	A. B	Spokane
Jarvis, Paul	Е. Е	Seattle
Johnson, Anne Odgen	A. B	Tacoma
Johnson, George Wilfred	A. B	Seattle
Johnson, James Raymond	E. E	Aberdeen
Johnstone, Annabel Milligan	A. B	Seattle
Jones, Eleanor	A. B	Seattle
Jones, Ethel Mary	A. B	Usk
Jones, Henry Leo	A. B	Olympia
Jonson, Oscar Fred	A. B	Rockford, Ill.
Kanters, Christine R	A. B	Seattle
Keenan, Edmund Myers	A. B	Seattle
Kennedy, Harold deSaulles	Min. Eng	Index
Kerr, William Zinn	A. B	Seattle
Kindig, Ellen	A. B	Seattle
Kindig, Grace Minnie	A. B	Seattle
King, Cleo Preston	A. B	Seattle
King, Grace Elizabeth	A. B	Seattle
Kittredge, Frank Aloah	С. Е	Seattle
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REGISTER OF STUDENTS

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NAMB.	COURSE.	HOME ADDRESS.
Krohn, Albert Frederick	A. B	Washougal
LaBelle, Eugene Philip	E. EVa	ncouver, B. C.
LaFranz, Arnold Lester	Pharmacy	Spokane
Lail, George Gray	E. E	Wenatchee
Latham, Ethel Valentine	A. B	Alki
Lebeck, Frank	A. B	Wenatchee
Lewis, Evenelle	A. B	Seattle
Lewis, George John	A. B	Seattle
Lohman, Lillian	A. BC	hinook, Mont.
Lovegren, Levi Alton	C. E	Preston
Lucks, Florence Ethel	A. B	Seattle
Luther, India	A. B	Seattle
Lynn, Eldin V	A. B	Tacoma
Mackie, Paul Denby	С. Е	Ballard
Madison, Lillian	A. B	Kent
Mallory, Charles Earl	E. E	Tacoma
Maltbie, Axia Adelia	A. B	Waterville
March, John Gordon	A. B	Tacoma
Mathieu, Elizabeth Josephine	A. B	
Mathieu, Mae	A. B	Seattle
Mauerman, Olive Maybelle Leone	A. B	Oakville
Maxwell, Newton Wallace	Mech. Eng	Seattle
McCaughan, John Harold	Pharmacy	Meridian
McDonald, Ralph Baldwin	A. B	Seattle
McDonald, Robert Thompson	A. B	Seattle
McKay, Bessie Olive	А. В	Olympia
*McLean, John James	Min. Eng	Seattle
McMurry, Mabel Margaret	A. B	Seattle
McNeil, Mellicent	А. В	Ellensburg
McPhee, Ronald George	А. В	Spokane
Meagher, Walter Wrigley	Е. Е	Seattle
Moncreiff, Ray	С. Е	Seattle
Morris, Lena Fay	A. B	Osceola
Moyer, Leonard M	Е. Е	Seattle
Mueller, Olive L	A. B	Seattle
Murchison, Alice	A. B	Seattle
Murray, Wayne	Min. EngGlens	Falls, N. Y.

*Deceased.

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NAME.	COURSE.	HOME ADDRESS.
Mustard, Harry James	Pharmacy	Montesano
Nash, Preston Herman	A. B	Freeport, Ohio
Newcomb, Dolph Allen	A. B:	Seattle
Nichol, Harriet Ethel	A. B	Tacoma
Nisbet, Hazel Belle	A. B	Seattle
Noble, Ronald Bruce	Е. Е	Spokane
Norris, Carleton Howard	A. BMa	anchester, Iowa
Norris, Murney Ellwood	C. E	Burlington
O'Brien, Russell Lloyd	C. E	Olympia
Olsan, Charles Edwin	A. B	Alma
O'Meara, Margaret Catherine	A. B	Seattle
Osberg, Rosanna	A. B	LaConner
Packard, Augustus Henry	Pharmacy	Seattle
Parks, Helena Eleanor	A. B	Seattle
Parton, Ida Anna	A. B	Seattle
Patton, Priscilla Irene	A. B	Bellingham
Payne, Alice Mabel	A. B	Port Townsend
Peaslee, Emilie Stewart	A. B	Seattle
Peters, William Glenn	C. E	Bellingham
Phelps, Benjamin Franklin	Mech. Eng	North Yakima
Pierce, Judson Edward Turner	A. B	Bellingham
Powles, Olive Rachel	A. B	Seattle
Prater, James William	A. B	Ellensburg
Quigley, Mary Black	A. B	Seattle
Rae, David Edward	Min. Eng	Walla Walla
Ramsay, Anna	Pharmacy	Kent
Raymond, Chester Garnet	A. B	Bellingham
Renard, Helen Therese	A. B	Spokane
Roe, Charles Clarke	A. B	Seattle
Romine, Carolyn Elizabeth	A. B	Walla Walla
Ross, Catherine Isabelle	A. B	Everett
Ross, Donald W	Chem Eng	Everett
Rupp, Rudolph Hinman	С Е	Walla Walla
Saeman, Marie Caroline	A. B	Seattle
Scratcherd, Roy	Pharmacy	Seattle
Scearce, Ada Lillian	A. B	Seattle
Schmidtke, Arthur Emil	C. E	Seattle
Schricker, Ottilie Ione	A. B	LaConner
Scott, Emma Gertrude	А. В	Everett

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NAME.	COURSE.	HOME ADDRESS.
Searle, Elizabeth Creed	A. B	Seattle
Seeley, Marena	A. B	it. Joseph, Mo.
Shave, Ethel	A. B	Seattle
Shea, Anne Louise	A. B	Seattle
Sheerer, Harold Mattison	С. Е	Seattle
Shelton, Edward Kirk	A. B	Seattle
Shuey, Mabel	A. B	Seattle
Simpkins, Emily Gertrude	A. B	Seattle
Simpson, Nina Blanche	A. B	Kalama
Skone, Robert Conrad	E. E	Seattle
Slater, Doy	A. B	Ferndale
Smails, Kittie	A. B	Seattle
Smiley, Clara	A B	Seattle
Smith, Glenn Harry	E. E	Seattle
Smith, Joseph Lawrence	Min. Eng	Seattle
Smith, William Durkee	C. E	Ballard
Spalding, Frederick Eugene	A. B	Almota
Spannagel, Erna	A. B	Spokane
Stanford, Edna Belle	A. B	Olympia
Stanton, Edgar Adolphus	A. B	Seattle
Statler, Pluma	A. B	Seattle
Stilwell, Edward Matthewson	A. B	Seattle
Strandberg, George Robert	C. E	Ballard
Sturley, Ruth Emeline	A. B	Tacoma
Swartz, Rossae Grace	A. B	Bellingham
Swem, Nettie May	A. B	Fravel
Teats, Ralph	Pharmacy	Tacoma
Terrell, Charles Foster	Е. ЕТе	cumsah, Nebr.
Thomas, Clarence Lafayette	A. B	Seattle
Thompson, William Calhoun	A. B	Seattle
Thompson, William Francis	A. B	Everett
Truesdell, Archie Merle	C. E	Vancouver
Truesdell, Inda Nelly	A. B	Vancouver
Uhler, William Preston	A. B	Olympia
Urquhart, Helen Caroline	A. B	Chehalis
Van Loon, Clarice Deanne	A. B	Colfax
Van Sant, Clara	A. B	Victoria, B. C.
Vernon, Frank Laverne	Chem. Eng	Ballard
Wagoner, Louisa Catherine	A. B	Seattle

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NAMB.	Cor	URSE.	HOME AD	D8286.
Warren, Margaret	A.	В	Ве	llevue
Washburn, Sanford Comstock	A.	B	Clea	ırlake
Watt, Sara Mae	Ph	armacy	Bay City	, Ore.
Watts, Ethel Taylor	Α.	в	Clar	kston
Wells, Ernest Frederick	А.	BSpr	ingfield,	Mass.
Wernecke, Chauncy	С.	E	s	eattle
Wessela, Helena Marie	Α.	в	Cen	tralia
Whaley, Myrtle Mae	А.	B	C	helan
Wheeler, George	С.	E	s	eattle
White, Florence	А.	B	s	eattle
Whiteside, William Porter	Ph	armacy		PeEll
Whittle, Marguerite Bernice	А.	B	s	eattle
Will, Lameron George	E.	E	s	eattle
Will, Enid	Α.	B	s	eattle
Williams, Arthur Edward	Mi	n. Eng	.Lille, A	lberta
Willis, James Hart	A.	B	.Plains,	Mont.
Wilson, Clay Verdon	Mi	ng. Eng	S	eattle
Wintler, Ella	Α.	в	Vanc	ouver
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FRESHMEN.

NAME.	COURSE.	HOME ADDRESS.
Abbott, Verna Pauline	A. B	Walla Walla 🕏
Adams, Walter Roy	C. E	Spokane C
Allmond, Adelaide Laura	A. B	Seattle &
Alvord, Mary Hamilton	A. B	Arlington 🖇
Anderson, Andrew Norman	A. B	Ballard 🗸
Anderson, Clifford Walter	С. Е	Seattle 9
Anderson, Edward Robert	Min. Eng	Spokane 🛃
Angevine, Fred Rufus	A. B	Seattle 9
Appleby, Nelle Virginia	A. B	Bellingham ${}^{\mathfrak{C}}$
Arnold, Clarence Buell	A. B	ilwaukee, Wis. 6
Baker, Don Raymond	A. B	Dayton
Baker, Lula	A. B	Wenatchee
Baker, Virgil O	A. B	Seattle
Bale, Edouard Pierre	Mech.Eng., Idah	o Falls, Idaho
Ballard, Dean Dayton	Forestry	Seattle
Barber, Mary Mabel	A. B	Seattle
Barker, Charles Albert	E. E	Montera
154 JON 6		

NAME.	COURSE.	HOME ADDRESS.
Barnard, Edna	A. B	Seattle
Barto, Joseph Abel	A. B	Seattle
Bass, Mabel Lena	A. B	Seattle
Batcheller, Wills Tryon	E. E	Seattle
Beebe, Genevieve Emeline	A. B	Seattle
Bennett, Edward Allen	A. BLar	imore, N. Dak.
Bigelow, Bertha Lucile	A. B	Spokane
Biggs, Catherine	A. B	Seattle
Birkett, Fred	C. E	Seattle
Blair, Nathan Doud	E. E	Puyallup
Blake, John C	Forestry	Anacortes
Boissonnault, Frank	E. E	Everett
Bolger, May Elizabeth	A. B	Spokane
Bonnett, Ada Margaret	A. B	Seattle
Bourne, Sadie Hester	A. B	Anacortes
Bowers, James Burt	A. B	Bellingham
Bowman, Claire	E. E	Seattle
Bowman, Hugh Austin	A. B	Seattle
Bowman, Warren T	.C. E	Puyallup
Brackett, Anson Wendell	A. B	Kent
Breece, William Lawrence	.E. E	Seattle
Bridgman, Leland McC	Min. Eng	Seattle
Bringhurst, Horace Morton	.C. E	Seattle
Brogan, Edward Irving	.Min. Eng	Seattle
Brown, Arthur Leroy	Mech. Eng	Bellingham
Brown, Artie	.A. B	Arlington
Brown, Clarence Albert	.A. B	Arlington
Brown, Winifred Eradna	.A. B	Bellingham
Buell, Elsa Lenore	.A. B	Arlington
Bunch, Agnes	.A. B	Seattle
Burdick, Carl Miller	.Pharmacy	Seattle
Burleson, William Edward	.A. B	Edmonds
Burnett, David Carton	.Min. Eng	Seattle
Bushnell, Spencer Gilbert	.C. E	Seattle
Cahill, Fred	.A. B	Dayton
Campbell, Arthur Clinton	.A. B	Chelan
Campbell, Edward London	.C. E	Seattle
Campbell, Roy Thomas	.C. E	Spokane

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NAME.	COURSE.	HOME ADDRESS.
Canton, William Reynolds	.Min. Eng	Waterville
Carey, Elizabeth May	.A. B	Seattle
Carey, Halron John	.Pharmacy	Seattle
Carraher, Imogen Julia	.A. B	Seattle
Carson, Thomas Ross	.A. B	Seattle
Carter, Lee Jefferson	.A. B	Tacoma
Case, Rowena Bell	.A. B	.North Yakima
Catlin, Claude	.A. B	Ellensburg
Chabot, Edward Francis	.A. B	Walla Walla
Chamberlen, Perry Ross	.A. BCotta	age Grove, Ore.
Chandler, William Elmer	.C. E	Spokane
Child, Irma Josephine	.A. B	Spokane
Chrestenson, Theodore Edward	.E. E	Seattle
Church, Edith Estelle	.A. B	Spokane
Clark, Elizabeth Freeman	.A. B	Spokane
Clark, George Smith	.Min. Eng	Everett
Clark, James Francis	.C. E	Fort Casey
Clark, Pearl	.A. B	Seattle
Clementson, Charles C	.Pharmacy	Seattle
Coghlan, William Sebastian	.A. B	Friday Harbor
Cole, Henry Ambrose	.Ming. EngLe	wistown, Idaho
Collier, Helen Natalie	.A. B	Wenatchee
Collier, Ira Leonard	.C. E	Wenatchee
Conner, Elmer	.C. E	Seattle
Cook, M. Ethel	.A. B	Woodburn, Ore.
Cookerly, Grover Cleveland	.Mech. Eng	Walla Walla
Cooper, William Herbert	.Pharmacy'	Tillamook, Ore.
Corey, Margaret Jessie	.A. B	Seattle
Coryell, Jane Agard	.A. B	Seattle
Crimps, Frank	.C. E	Ellensburg
Croonquist, Myrtie Emelia	.A. B	Spokane
Crosby, Marguerite Ada	.A. B	Seattle
Crowley, Myrtle Harriet		Vancouver
*Dabney, Margaret		Seattle
Dall, Jeannette MacKenzie		Seattle
Daly, Catharine Wyman	.A. B	Washburn, Wis.
Damus, Robert	.A. B	Seattle

*Deceased.

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Register of Students

NAME.	COURSE.	Home Address.
Daniels, Maud Errol	A. B	Seattle
Date, Elsie	A. B	Ballard
Davies, Estelia Annie	A. B	Van Asselt
Davis, Harold	C. E	Spokane
DeChesne, Victor	Min. Eng	Ballard
Deering, Tam	A. B	Snohomish
DeGarmo, Susan Margaret	A. B	Seattle
Delaney, Howard Harvey	A. B	Ellensburg
Denny, Edward Harold	Min. Eng	Seattle
Densmore, Josepha Ellen	A. B	Georgetown
Dewar, Mary R	A. B	Anacortes
Diddel, A. Glenn	A. BInd	dianapolis, Ind.
Diether, Louis Meyer	Min. EngLe	wistown, Idaho
Dille, Harold Joseph	Pharmacy	Olympia
Dixon, Elsa Klore	A. B	Seattle
Douthit, Bess	A. B	Angleton, Texas
Dow, Elsie Marion	A. B	.St. John, Ore.
Doyle, Harry Anthony	A. B	Seattle
Drake, Dorothy Ellen	A. B	
Drake, Edward Seymour	C. E	Seattle
Drake, Francis Laurence	E. E	Seattle
Drew, Byron King	Min. Eng	Tacoma
Drum, Barbara Binks	A. B	Seattle
Duckering, Bernice Rollatt	A. B	Seattle
Dudley, William Lyle	Mech. Eng	Seattle
Dudman, Percy	E. E	Ballard
Duff, John	Min. Eng	Wenatchee
Dunlap, George Isaac	E. E	LaConner
Dunnavant, Barbara Lucile	A. BN	ashville, Tenn.
Durkin, Eva Laurentine	A. B	Spokane
Eagan, Clarence Brien	A. B	Seattle
Eernisse, James Guy	Mech. Eng	Vashon
Elliott, May	A. B	Seattle
Engle, Ralph Pierson	C. E	Coupeville
Erickson, Elsie	A. B	Seattle
Estep, Josiah Morgan	E. E	Spokane
Estes, Hazel Pinchney	A. B	Walla Walla
Evans, Virginia Harriett	A. B	Tacoma
Fahey, Lambert	A. B	Seattle
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NAME.	COURSE.	HOME ADDRESS.
Fenton, Enid Elizabeth	.A. B	Seattle
Ferguson, Thomasina Vida	.A. BI	Hastings. Nebr.
Finley, Madge	.A. B	Seattle
Fisher, Grayce Eleanor	.A. B	.Nome, Alaska
Fisken, Keith Gazzam	.Mech. Eng	Seattle
Fletcher, Hazel Velma	.A. B	Eagle Gorge
Floyd, Margaret Sarah	.A. B	Spokane
Ford, Kathryn Mabel	.A. B	.Port Blakeley
Forster, Abbie Marion	.A. B	Spokane
Foster, Raymond	.A. B	Poulsbo
Fraser, Alice Sinclair	.A. B	Seattle
Fraser, Eva Florence	.A. B	Seattle
Freeman, Wood	.Chem. Eng	Tacoma
Fretwell, Harry O	.C. E	Seattle
Fretwell, Martha Folsie	.A. B	Seattle
Frew, John Henry	.Forestry	Seattle
Fukagava, Keech	. E. E	Poyama, Japan
Fuller, Emilie Stone	.A. B	Seattle
Furbush, Arthur Prentice	.Min. Eng	Seattle
Furbush, Edwin Chase	.C. E	Seattle
Furry, Mabel Georgine	.A. B	Seattle
Gagnon, Phyllis Marguerite	.A. B	Seattle
Galloway, Floyd Layman	.Forestry	Seattle
Garcken, Paul Harold	.Min. Eng	Seattle
Garretson, Max	.A. B	Tacoma
Gault, Georgie	.A. B	Seattle
Gellerman, A. B. Louis	.A. B	Tacoma
George, Kathleen Allan	.A. B	.Portland, Ore.
George, Minizelle	.A. B	.Portland, Ore.
Georgeson, Valdemar Lovett	.A. B	Sitka, Alaska
Gepfert, Gretchen Gleenore	.A. B	Seattle
Gibson, Edward Bayne Rogers	.A. B	Seattle
Gibson, Henry Stanley	.Pharmacy	Seattle
Giesseman, Hazel Love	.A. B	Everett
Gilliam, Lester Ellsworth	.Chem. Eng	Walla Walla
Gleason, Timothy Daniel	.Min. Eng	Montesano
Gleason, Villeroy	.Min. Eng	Seattle
Godfrey, Sabra Augusta	.A. B	Seattle
Godman, Melvin M., Jr	.E. E	Dayton

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Register of Students

NAME.	COURSE.	HOME ADDRESS.
Golden, Ailene	A. B	Seattle
Gooch, Edward Wyard	C. E	Bellingham
Gordon, Blanche G	A. B	Bellevue
Gordon, John William	A. B	Tacoma
Gotchy, Hattie May	A. B	Blaine
Grantham, Joseph M	E. E	Seattle
Graves, Helen Unity	A. B	Seattle
Gray, Bertha Irene	A. B	Olympia
Gray, Clarence Hubert	Mech. Eng	Olympia
Gray, Helen	A. B	.Momence, Ill.
Green, Myrtle	A. B	Pomeroy
Green, Theaton Earl	Pharmacy	North Yakima
Greenberg, Edith Lois	A. B	Spokane
Greene, Roy Laird	С. Е	Centralia
Greene, Taylor Mitchell	E. E	Seattle
Grimm, Huber Edwin	С. Е	Centralia
Grimm, Mary B	A. B	Centralia
Grout, Elsie Cushman	A. B	Seattle
Gumbert, Hilda Helen	A. B	Seattle
Hadley, Inez Lavalette	A. B	Olympia
Haley, Lucia	A. B	Seattle
Hall, Cora Mae	A. B	LaConner
Hallock, George Oakley	Min. Eng	Seattle
Hammer, George	C. E	.Sedro-Woolley
Hammond, Anna	A. B	Tacoma
Handley, Evelyn Manning	A. B	Spokane
Hankins, Ferne	A. B	Everett
Hankins, Lillian M	A. B	Everett
Hannon, Ethel Elizabeth Miriam	A. B	Seattle
Hardy, Ernest Edward	A. B	Kent
Harris, Arthur Oscar	Min. Eng	Seattle
Harris, George K	A. B	Kelso
Harris, Lewis E	A. BMo	ntezuma, Iowa
Hartman, Dwight Dryden	E. E	Seattle
Hartson, Nelson Thomas	A. B	Spokane
Hashiguchi, Jehei	A. B	Seattle
Hastings, Clara	A. B	Seattle
Hattrem, Agnes Josephine	A. B	Seattle
Hawkins, Donna	A. B	Mt. Vernon

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NAME.	· COURSE.	HOME ADDRESS.
Haynes, John Broadus	A. B	Seattle
Hazelgreen, Haquin Albin	A. B	Youngstown
Heineman, Roy Robert	Mech. Eng	gSeattle
Henderson, Eleanor Adelyn	A. B	Spokane
Henry, Winifred Josephine	A. B	Seattle
Henry, Zella Jane	A. B	Seattle
Hensley, John Jackson	A. B	Seattle
Hill, Sallie Haddock	A. B	Port Townsend
Hill, William Lair	C. E	Seattle
Hilman, William F	A. B	Seattle
Hively, Mary Margaret	A. B	Seattle
Hoffman, Lena	A. B	Seattle
Holcomb, Nettie	A. B	Seattle
Hoover, Glenn Edwin	A. B	Hoquiam
Hopkins, George R	C. E	
Houghton, Gordon	C. E	Seattle
Howard, Bess B	A. B	North Yakima
Howard, Grace Elizabeth	A. B	Seattle
Howe, Ellen Ford	A. B	Seattle
Hughes, Edward Seward	E. E	Bellingham
Hulbert, Florence Vivian	A. B	Seattle
Hunter, Stella Thelma	A. B	Island City, Ore.
Hussey, Fred Beebe	E. E	Auburn
Irle, Charles Arthur	C. E	Sumner
Jackson, Blanche Gertrude	A. B	Seattle
Jaeger, Neida	A. B	Tacoma
James, Elmer Ray	E. E	Juneau, Alaska
Jamieson, George	A. B	Seattle
Jeans, Ethel Jay	A. B	Maplevalley
Johnson, Bessie	A. B	Sumner
Johnson, Carl Edmund	A. B	Seattle
Johnson, Frank Melvin	Min. Eng.	Seattle
Johnson, Jessie	A. B	Sumner
Johnson, Julia	A. B	Aberdeen
Johnstone, Walter Lewis	A. B	Seattle
Jones, Harry Leo	A. B	Arlington
Jones, Richard Seely	A. B	Seattle
Jones, Vera Florence	A. B	Spokane
Joslin, Effie Rutard	A. B	Ballard

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NAME.	Cou	RSE.	HOME ADDRESS.
Joslin, Ethel Roberta	A . J	В	Baliard
Kable, George Wallace	C. 1	E	Dickson, Ill.
Karrer, Enoch	А.	B	Roslyn
Karrer, Sebastian	A.	B	Roslyn
Kaylor, Paul Porter	E.	E	Bellingham
Kaynor, Joseph Clifford	A.	B	Seattle
Keith, Clarance B	For	estry	Seåttle
Kelley, Frank	А.	B	Waitsburg
Kennedy, Edward	Ŀ.	E	Juneau, Alaska
Kenny, Kathryn	A.	B	Seattle
Kerns, Zoe Mildred	A.	BLe	wistown, Idaho
Kilty, Irene Mae	A.	B	Everett
Kiltz, Lillian Viola	A. :	в	Vancouver, B. C.
King, George Hildebrand	E.	E	Seattle
Kittilsby, Alma Otelie	A.	B	Seattle
Knapp, Ralph Read	A.	B	Seattle
Knox, Wanda C	A.	в	Centralia
Kuga, Kohei	E . 1	E	Tokyo, Japan
Kumpf, George Washington	C.	E	Seattle
Lagerlof, Percy John	C.	E	Seattle
Lake, Norman Lee	E.	E	Wenatchee
Lambuth, Benjamin Letcher	A.	B	Seattle
Lamping, Anna Florence	A.	B	Seattle
Latham, Leonie Marie	A.	B	Van Asselt
Lawrence, James Clayton	A.	в	Seattle
Leake, Lena M	А.	B	Olympia
Lee, George Olin	C.	E	Maltby
Leve, Walter hanson	Mi	n. Eng	Seattle
Levinson, Herman	E .	EGo	oldingen, Russia
Lewis, Olive L	А.	в	Seattle
Lind, Arthur	А.	в	Seattle
Lind, Clarence Hensley	А.	в	Tacoma
Lipscomb, Roy S	E.	E	Seattle
Livingstone, Carl Dorman	Mi	n. Eng	Seattle
Lockwood, Everett Wellington	Mi	n. Eng	Waterville
Loose, Julia Etta	Α.	B	Seattle
Love, Grover	C.	E	Mooresville, Ind.
Lovejoy, Bartlett Howard	. C .	E	Seattle
Luby, Mabel Agnes	А.	B	Seattle
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NAME.	COURSE.	HOME ADDRESS.
Lucas, Roxy Margaret	.A. B	Spokane
Lum, Irma Alys	.A. B	North Yakima
Luther, Lavena	.A. B	Seattle
Lyon, Alice May	•A. B	Seattle
MacDougal, Georgia Josephine		Seattle
MacNaughton, Corabel		Seattle
Madison, Marguerite		Kent
Magill, Hazel Elizabeth	.A. B	Aberdeen
Mahaffie, Bertha Agnes		Seattle
Mallette, Gertrude Ethel	A. B	Spokane
Mann, Elizabeth Tennyson	A. B	Everett
Mansfield, Austin G	Mech. Eng	Bellingham
Marion, Arthur Thompson	Mech. Eng	Walla Walla
Marsh, Clyde William	A. B	Seatțle
Marshall, Warren Howard	A. B	Goldendale
Mason, Dorothy Craik	A. B	Seattle
Matthews, Warren Gale	A. B	Waterville
Mattson, William Witlock	E. E	Portage
McBride, Clarence S	E. E	Spokane
McCallum, James David	A. B	Davenport
McCutchen, Allan Edgar	A. B	Seattle
McGee, Guy Carl	C. E	Caldwell, Idaho
McGillicuddy, Cornelius Oliver	Min. Eng	Aberdeen
McGinnis, Minnie Irene	A. B	Waterville
McKechnie, Joseph Lloyd	Mech. Eng	Port Angeles
McKenzie, Norman William	E. E	Seattle
McKinley, Davia Alexander	Min. Eng	Spokane
McKinley, Robin		Spokane
McNamara, William	C. E	Seattle
McPhee, John Alexander	Min. Eng	Spokane
McRae, Duncan Wendell	Min. Eng	Tacoma
Meece, James C	E. E	Seattle
Megrath, Violet May	A . B	Seattle
Melton, Gertrude Lucile	A. B	Pomeroy
Menaglia, Amelia Cecelia	A. B	Georgetown
Miller, Thomas	C. E	Seattle
Mills, George Freeman	C. E	Seattle
Mitchum, Imogen	A. B	Harrington
Mogan, Camilla Josephine	A. B	Plainview

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NAME.	Cot	JESE.	Номе Аг	DRESS.
Mohr, George William	Е.	E	Sp	okane
Moody, Adelaide	·A.	B	E	verett
Moody, Ruth	· A .	B	E	verett
Moore, Clara	· A.	B		Seattle
Moore, Florence Harrison	·A.	B		Seattle
Morgan, Joseph George Gregory	· A.	B	8	Seattle
Morris, Benjamin Graham	· A.	BLe	wistown,	Idaho
Mowrey, Ruth Alice M	·A.	B	Po	meroy
Moxley, Richard Wellington	. Mi	n. Eng]	Bozeman,	Mont.
Mullen, Roger Bonner	.Е.	E	La	akebay
Mumaw, Everett E	.С.	E	E	lverett
Muncaster, Mary Ellen	۰A.	B		Seattle
Murphy, Martin Francis	. Fo	restry	Westfield	, Wis.
Muto, Saburo	.E.	E	Fokyo,	Japan
Myers, Sidney Southern	.A.	B	Sı	okane
Nelson, Arthur Emil	. A .	B		Seattle
Neumann, Rosamond Anna Marie.	.A.	B		Seattle
Newbury, Georgia Maud	· A.	B	. .	Seattle
Newland, Herbert Browning	.E.	Е	Cł	nehalis
Nunn, Herschel Pillsbury	۰C.	E		Seattle
Oliver, James Allen	. Mi	n. Eng		Colfax
Osborne, Eben Sumner	.C.	E	!	Seattle
Owens, Harry	.A.	BR	ed Lodge,	Mont.
Packard, Earl Leroy	. A.	В	т	'acoma
Palmer, Erven Harold	. A.	BM	laquoketa	, Iowa
Palmer, Hattie	.A.	B	Lewiston,	Idaho
Parkinson, Robert L	.Е.	E		Seattle
Pease, Eugene Irving	.E.	E	т	'acoma
Pebley, Alonzo Finch	.C.	E	I)eming
Pendleton, Lura Wallace	.A.	B	E	Everett
Perry, Stewart Edwin	.C.	E	Pu	iyallup
Peters, Francis William	.E.	E	• • • • • • • • •	Seattle
Phelps, Grayce. Theodora	.A.	В	• • • • • • • • • •	Seattle
Philip, Frank Joseph	.C.	E	Л	lacoma
Pierce, Ahira Edwin	.E.	E	• • • • • • • • •	Seattle
Pinkerton, Roy David	.A.	B	ï	lacoma
Plum, Frank Arents	.Ch	em. Eng	.Port Toy	wnsend
Pollock, Carl DeForrest	.C.	E	• • • • • • • • • •	Seattle
Pomeroy, Nellie J	.A.	B	.Camiah,	Idaho
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NAME.	COUR	SE. HOME ADDRESS.
Poston, Mary Winslow	.A. B	San Francisco
Powell, Sarah Mathloma	.A. B	Seattle
Pratt, Eloise Sawyer	.A. B	Prosser
Preston, Therese Martha	.A. B	Seattle
Price, Homer Earl	.E. E	Dayton
Provine, Russell Albert	.E. E	Seattle
uigley, Agnes E	.A. B	Seattle
Randell, Ralph Reginald	.E. E	Seattle
Range, Walker	.C. E	Dayton
Rathbun, Vilas Richard	. Min.	EngSeattle
Rawls, Bernice Margaret	.A. B	Seattle
Reeves, Franklin Austin	.C. E	Seattle
Reid, Myrtle Margaret	.A. B	Seattle
Reiley, Margaret	.A. B	Seattle
Rembert, Jessie Lee	.A. B	Seattle
Reynolds, Fannie Estelle	.A. B	Seattle
Reynolds, Florence Lucile	.A. B	Seattle
Rice, Bertha Belle	.A. B	Seattle
Rice, Stuart Artnur	.A. E	Puyallup
' Richardson, John	.A. E	Hoquiam
Rieth, Zita	.A. I	3Kent
Rihl, George Lawrence	.C. E	Washington, D. C.
'Roberson, Rex	.E. E	Seattle
Robinson, Elizabeth Langley	.A. B	Seattle
Rockwood, Alfred Loveday	.C. E	Pacific Grove, Cal.
Rogers, Emily Alberta	.A. E	Waterville
Rogers, Harold	.A. E	Seattle
Ross, Helen	.A. B	Seattle
Ross, Helen Winifred	.A. B	Seattle
Roth, Victor Henry	.Min.	EngBellingham
Roudebush, Rex Scott	.A. E	BGarfield
Rouse, George Haile	.A. 1	3Spokane
Rowe, Hazel	.A. E	Seattle
Roys, Hattie	.A. B	Seattle
✓Ruppe, Carl Ernest	.A. B	Pendleton, Ore.
Russell, Homer E	.A. B	Seattle
≮Ryan, Warren Wood	.E. E	2Sumner
Sackett, Margaret Josephine	.A. B	Seattle
∨St. John, James Irving	.E. E	2Snohomish

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NAME.	COURSE.	HOME ADDRESS.
St. Onge, Arthur J	.A. B	Seattle
Sargent, George Bertie	.Pharmacy	Tacoma
-Sargent, Margaret Emily	.A. B	Chehalis
-Scheble, Harry	.A. B	Wenatchee
Schempp, George C	.E. E	Tacoma
Schreiber, Louise Pauline G	.A. B	Tacoma
Severs, Florence	.A. B	Cove, Ore.
Shadinger, Gail Braddock	.E. E	Snohomish
Shaffer, Neil B	.A. B	Kent
-Shankland, Charles Britton	.C. E	Seattle
-Shearer, Grace Dora	.A. B	Sprague
Sheerer, Beulah M	.A. B	Seattle
Sheldon, Inez Kendall	.A. B	Seattle
-Shelton, Milton	.C. E	Seattle
Sherman, Florence May	.A. B	Seattle
Sherrick, Johnson	.A. B	Seattle
Shore, Walter William	.A. B	Spokane
Sieler, Herbert Henry	.A. B	Ödessa
Silliman, Laura Decker	.A. B	Bellevue
Simpson, Perry Alvin	.E. E	Elma
-Sims, Ethel	.A. B	Seattle
Sivyer, Bert L	.E. E	Spokane
Skans, William Samuel	.Chem. Eng	. Portland, Ore.
Skirls, Ethel	.A. B	Seattle
Smail, Lloyu Leroy	.C. E	Tacoma
-Smith, Corwin Day	.Chem. Eng	Laurel, Ind.
Smith, Marie	.A. B	Seattle
Smith, Ruth Genevieve	.A. B	Seattle
Smith, Theodore Castle	.E. E	Seattle
Somerville, Irene Claire	.A. B	Butte, Mont.
Soule, John Arthur	.A. B	Kent
Spalding, Walter Talbot	.C. E	Seattle
Spratley, Donna Leota	.A. B	Sunnyside
-Stamm, Randall William	.E. E	Chinook, Mont.
Steele Zella	.A. B	Seattle
Stevenson, Sarah Elizabeth	.A. B	Seattle
Stewart, Harold B	.A. B	Seattle
Stewart, Harold Humphreys	.A. BR	ichmond Beach
Stewart, Helen Alexandra	.A. BRi	chmond Beach

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NAME.	COURSE.	HOME ADDRESS.
- Stewart, John Gottlob	.E. E	Christopher
Stoll, Walter W	.C. E	Seattle
Stone, Joseph William	.Min. Eng	Seattle
Sturges, Vera LaRue	.A. B	Tacoma
-Stutrud, Minda	.A. B	Williston, No. Dak.
Summersett, John	.Mech. En	gChehalis
Sutton, Mary Catherine	.A. B	Seattle
Sutton, Nettie M	.A. B	Cashmere
Sutton, Sarah Patience	.A. B	Seattle
- Suzuki, William K	.E. E	Seattle
Swarva, George Lewis	.Min. Eng	South Park
Sweet, Will Dean	.A. B	Blaine
Switz, Mary	.A. B	Seattle
Tanggard, Ludwig Carlo	.A. B	Georgetown
Tanner, Bertrand Myron	.C. E	Idaho Falls, Idaho
Tateishi, Jisaemon	.A. B	Japan
Taylor, Florence Lothian	.A. B	Seattle
~ Taylor, Howard Holbrook	.A. B	Seattle
Taylor, Irene Eglatine	.A. B	Bellingham
Therkelsen, Eric	.E. E	Portage
Thomas, Bert Clarence	.A. B	Hillyard
-Thomason, E. Burdette	.E. E	Seattle
- Thompson, Everett Voorhees	.Min. En	gTacoma
-Thompson, Lillian D	.A. B	Waterville
Thompson, Oscar J	.A. B	Seattle
Thompson, Paul Bursell	.C. E	Spokane
Thomson, James Harrison	.C. E	Seattle
- Thorn, Carroll R	.A. B	Sheridan, Wyo.
Tiedje, Henry Felix	.C. E	Bellingham
Townsend, Elizabeth Elcuise	.A. B	Seattle
~Treen, Lewis Angevine	.A. B	Seattle
Trevor, Harry Ramon	.C. EB	irmingham, England
Trueblood, Donald Vaugh	.A. B	Seattle
- Tupper, Leon Leroy	.E. E	Snohomish
Turner, Eldridge	.A. B	Seattle
Ullin, Anna M	.A. B	Seattle
~ Umbarger, Frank H	.A. B	Burlington
Umpleby, A. May	.A. B	Seattle
Uskiku Koshiro	Pharman	v Tanan

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Register of Students

NAME.	COURSE.	HOME ADDRESS.
-Van Dame, Walter Fred	A. B	Buckley
Van Hoesen, Frank Hayes	.C. E	Tacoma
Veldee, Conrad	Mech. Eng	Bremerton
Vinsonhaler, Sara Rea	A. B	Seattle
-Vogue, Elmer Emanuel	Min. Eng	Seattle
Wagoner, Lyman Fisher	A. B	Seattle
Wald, Frederick William	Pharmacy	Seattle
Wallace, Hazel	A. BN	lissoula, Mont.
Wanamaker, Gladys Lena	Pharmacy	Seattle
Ward, Elmer V	Forestry	Centralia
Ward, John S	.C. E	Centralia
Wardner, Charlotte Gladys	A. B	Seattle
-Watanuki, Toyoharu	E. EF	uknoka, Japan
Waters, Grace Darling	A. B	Waterville
Way, Floyd William	.C. E	Seattle
Wayland, George Hall	Mech. Eng	Seattle
• Weatherford, Clare Belle	A. B	Dayton
Weatherwax, Lea A	.C. E	Seattle
Wells, Maude Euphemia	A. B	Seattle
-West, Ethel	A. B	Seattle
Whaley, Ralph Seth	.C. E	Spokane
Wheat, Laura Regina	A. B	
-Wheeler, Everett A	A. B	Bellingham
Wheelon, Charles Homer	A. B	Seattle
Whims, Floyd James	E. E	Seattle
White, Walter Gabel	A. B	Chehalis
Whitfield, George McCabe	A. B	Seattle
Whitham, Eva Leota	A. B	Ballard
Whitmore, James Lester	A. B	Buckley
Whitney, Wendell Rienzi	Forestry	Anacortes
Whittlesey, Cedric Fauntleroy	Pharmacy	Seattle
Wilkie, Linda	A. B	Spokane
Williams, Bertha Krogall	A. B	Olympia
Williams, Charley Harvey	C. E	Centralia
Williams, Irene	A. B	Seattle
Williams, Jane Richards	A. B	Seattle
-Williams, Lewis Daniel	C. E	Ilwaco
Williams, Marie Bertha	A. B	Olympia
- Williams, Snow Elder	Min. EngH	liverton, Nebr.

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NAME.	COURSE.	HOME ADDRESS.
Williams, Walter John	C. E	Seattle
Williams, Warner	A. B	Seattle
Wingfield, Wallace Lee	A. B	Seattle
- Winquest, Arthur Franklin	A. B	Seattle
Wisner, Raymond Rex	E. E	Seattle
Witteman, Ida R	A. B	Seattle
Wold, Sylvia Edgerton	A. B	Tacoma
Woodin, Mark Stevens	C. EA	rkansas City, Kans.
Wooster, Harry Wilman	C. E	Seattle
Wyckoff, Halsey P	C. E	Bellingham
Wyckoff, Hulet Judson	C. E	Bellingham
Yerden, Edwin L	C. E	Seattle
- Young, Grace Mae	A. B	Aberdeen
Zettler. Hyman	A. B	South Park
· · · · · · · · · · · · · · · · · · ·		

3 UNCLASSIFIED STUDENTS.

	ç,
Adair, Ninon	A. BSeattle
Adams, Rose	A. BYakima 🏳
Addison, Joseph Edward	A. B Tacoma \mathcal{U}
Andrews, Dorothy Macomber	A. BSeattle &
Arnold, Frederick Claude	.C. EMilwaukee, Wis. ${\mathcal V}$
Ayres, Jessie Cameron	.A. BSeattle 🗸
Bacon, Mary Albertine	A. BSeattle
Bailey, Nellie Lee	PharmacyNorth Bend
Baker, Mattie Salome	A. BSeattle
Batts, Bertha	A. BSeattle
Batts, Etha	A. BSeattle
Beebe, Walter, Blaine	Mech. EngSeattle
Bowers, Margaret E. Kaylor	A. BBellingham
Brauer, Gustav Alolph	A. BFessenden, No. Dak.
Brown, Burton Augustus	PharmacySeattle
Brown, Mrs. J. M	.A. BSeattle
Buell, Harriet Leora	.A. BSeattle
Burford, Richard Otto	.A. BWalla Walla
Burtt, Nellie Louise	.A. BSeattle
Caffrey, Marie	A. BSeattle
Campbell, John Edward	A. BWalled Lake, Mich.
Campbell, Malcolm Dudley	.C. ESeattle
and ink	
214, 19,	
<i>u</i> . (<i>u</i>	

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NAME.	COURSE.	HOME ADDRESS.
Carlisle, Walter Oscar	E. E	Seattle
Chambers, Faith	Pharmacy	Olympia
Clark, Frank B	A. B	Seattle
Clark, Myrta Mai	A. B	.North Yakima
Clericus, Lillian Rose	A. B	Seattle
Cobb. Marie Christina	A. B	Seattle
Coe, Helen Burwell	A. B	Seattle
Cohoe, Grace Helen	A. B	Seattle
Collins. Caroline	A. B	Seattle
Costello, Grace Mary	A. B	Seattle
Coyle, Frank	A. B	Seattle
Cradlebaugh, Florence Roberts	A. B	Seattle
Cromwell, Charles Myron	С. Е	Tacoma
Crow, Nora Dear	A. B	Seattle
Cunningham, Allan	Min. Eng	Seattle
Dean. Dorothy	A. B	Seattle
Denio. Robert John	E. E	Seattle
Doren. John Edward	E. E	.San Francisco
Dowd. James Rives	A. B	Seattle
Ducasse. Nesta	A. B	Seattle
Dunmore. Clair	Pharmacy	Ballard
Dustin, Leslie B	Pharmacy	Peoria. Ill.
Edgar, LaDelle	A. B	Seattle
Ellis, Leland Vinton	Pharmacy	Chehalis
Frenger, George Herman	A. B	Troy. Ohio
Gehrke. Clarence William	C. E	Port Angeles
Gibson, Earl Irving	Pharmacy	Alma
Gran, Olga	A. B	Buckley
Grover, Benjamin Clifford	E. E	Ursa, Ill.
Guild, Mrs. Harry	A. B	Prosser
Harper, Clarence S	Min. Eng	Troy, Mich.
Hayes, Leslie William	Mech. Eng	Felton, Calif.
Henry, Elsie May	A. B	Seattle
Hillis, Etta Joy	A. B	.Rainier Beach
Hollis, Elsie Bertha	A. B	Seattle
Holm, Elizabeth May	A. BV	Vichita, Kansas
Howard, Annie	A. B	Henderson, Ky.
Huddle, Fred B	E. E	Arlington
Hughes, Inghram	A. B	Palouse
	N.	
$\lambda \wedge 1$	22	F

G,

NAME.	COURSE.	HOME ADDRESS.
Ikeda, Choichi	A. B	lurayoshi, Japan
Ingersoll, Edna Ione	A. B	Seattle
Itter, Mrs. Julian E	A. B	Seattle
Jackson, Edward Bethel	E. E	Seattle
Jenness, Genevieve	A. B	Seattle
Judson, Ruth Sarah	A. B	Seattle
Keene, Margaret H	A. B	Seattle
Kellogg, Lucien Theron	A. B	Wenatchee
Kelsey, Howard	Min. Eng	Seattle
Kiddle, Netta Marie	A. B	Island City, Ore.
Kimball, Clare E	A. B	Stanwood
King, Edwin Clay	Pharmacy	Ellensburg
Kinzie, Elbert Gabriel	A. B	Poulsbo
Knight, Frank Stuart	.C. E	Bellingham
Kodama, Jinichi	A. B	Uyeda, Japan
Kumar, Gaditta Ram	A. B	Punjab, India
Lachner, Martin Harry	Pharmacy	Seattle
Lavell, Arthur John	Min. Eng	Seattle
Lebo, Willis Raymond	.C. E	Tacoma
Lewis, Harold Herbert	Min. Eng	Seattle
Lively, John William	.A. B	Vancouver
Livingstone, Sara Fatama	.A. B	Seattle
Loveless, Charles	Pharmacy	Mt. Vernon
Ludwig, Fred A	Pharmacy	Tacoma
Lum, Charlotte Louis	.A. B	North Yakima
Mackey, Florence Graham	.A. B	Seattle
Mathews, Robert Lee	.C. E	Olympia
McCullough, Esther	.A. B	Seattle
McDonald, George Francis	.A. B	Seattle
McKnight, Verres Morton	.C. E	Seattle
McNamara, Rosalia Mary	.A. B	North Yakima
McPherron, William Asbury	.C. E	Chelan
Millard, Margaret	.A. B	Seattle
Miller, Enola Frances	.A. B	Seattle
Mixson, Mabel Post	.A. B	Portland, Ore.
Moore, Edward	.Pharmacy.Bo	onner's Ferry, Id.
Moran, John Parnell	.Pharmacy	Seattle
Murray, Margaret Christine	.A. B	Wenatchee
Myler, David Thomas	.A. B	Seattle

F 17 122

NAME.	COURSE.	HOME ADDRESS.
Nakamura, Shiro	Pharmacy.San	Francisco, Cal.
Nelson, George Walter	Min. Eng	Tacoma 🚙
Nulty, Robert Lee	Pharmacy	Napavine
Page, Kate Stearns	A. B	.Boston, Mass.
Parker, Russell	A. B	Seattle
Parks, Harold Asa	A. B	Seattle
Patterson, Ella Mathilda	A. B	Seattle
Patterson, Idelle Ava	A. B	Seattle
Peck, George Franklin	A. B	ouix City, Iowa
Pieper, Johannes Kari	C. E	. Hooper, Nebr.
Prentice, Goruon S	Min. Eng	Seattle
Prosser, William	A. B	Black Diamond
Ramthun, Ethel M	A. B	Centralia
Randolph, Milton Fitz	Pharmacy	Seattle
Reed, Albert	Pharmacy	Tacoma
Renfro, Lilburn Woods	A. B	Everett
Rieke, Arthur	.C. E	Seattle
Rochester, Junius Caldwell	C. E	Seattle
Ross, Harry H	Pharmacy	Seattle
Rost, Leo Clarence	Mech. EngV	alley Junction, Iowa.
Russell, Lillian Blanche	A. B	Seattle
Sether, Isaac Percy	Pharmacy	Spokane
Shepherd, Hartley Claire	A. B	Lakeside
Sherman, Clyde W	.C. E	South Park .
Shimanuki, Masa	A. B	Seattle
Siegel, Harry	A. B	.Kovno, Russia
Smith, Elsie Pearl	A. B	Seattle
Smith, Percy Charles	A. B	San Jose, Calif.
Spurck, William	.A. B	Seattle
Squire, Catherine Gates	.A. B	Seattle
Starkey, Genevieve Isabell	Pharmacy	Northport
Stevens, Olga Helene	.A. B	Seattle
Strandberg, Edwin Leonard	.С. Е	Ballard
Struve, Mary Lascelle	.A. B	Seattle
Stuff, Josephine Eleanore	.А. В	Seattle
Sutton, FTea H	A. B	Casnmere
Thompson, Harold Adams	. MIII. 1911	Seattle
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NAME.	COURSE.	Home Address.
Trott, Edward Payson	.Min. EngW	inchester, Mass.
Tucker, Gladys Ranche	.A. B	Seattle
Wanamaker, Herman Thomas	.Pharmacy	Coupeville
Washburn, Winifred	.A. B	Seattle
Waugh, Golda	.A. B	Seattle
Waugh, Richey L	.Pharmacy	Mt. Vernon
Weiss, Irene Catharine	.A. B	South Bend
West. Mabel Claire	.A. B	Seattle
Whitham, Ruth	.A. B	Seattle
Whyborn, Hugh Victor	.Mech. Eng	Jasper, Texas
Willard, Ida Estella	.A. B	Seattle
Wisner, Myrtle Vivian	.A. B	Seattle
Woodcock, Pansy Freeman	.A. B	Seattle
Woodman, William George	.Pharmacy	Seattle
Yamane, Masuo	.A. B	.Toltori, Japan
Yerkes, Beulah	.A. B	Seattle
Young, Thomas	.PharmacyP	ost Falls, Idaho
Zimmerman, Mollie B	.A. B	Seattle
	my .m	nen
U SATURDAY SPECIAL T	EZCHERS' CO	ourse.
U SATURDAY SPECIAL T	EZCHERS' CO	ourse.
SATURDAY SPECIAL T Burdick, Mary	A. B.	OURSE.
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia	• A. B	OURSE. Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L	A. B.	OURSE. Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury	A B	OURSE. Seattle Seattle Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William	A B	OURSE. Seattle Seattle Seattle Redmond
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P	A B	OURSE. Seattle Seattle Seattle Redmond Redmond
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P Hay, Mary Kajeer Mary Armede	7 4	OURSE. Seattle Seattle Seattle Redmond Redmond Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P Hay, Mary Kaiser, Mary Armeda McCarney Margaret	7 4 5 EACHERS' Co .A. B. 6 .A. B. 7 .A. B. 7 <	OURSE. Seattle Seattle Seattle Redmond Redmond Seattle Seattle Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P Hay, Mary Kaiser, Mary Armeda McCarney, Margaret McIntosh Isabel	7 4 5 EACHERS' Co .A. B. 6 .A. B. 7 .A. B. 7 <	OURSE. Seattle Seattle Seattle Redmond Redmond Seattle Seattle Seattle Seattle Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P Hay, Mary Kaiser, Mary Armeda McCarney, Margaret Newton, Earl Burdette	7 4 5 EACHERS' Co .A. B.	OURSE. Seattle Seattle Seattle Redmond Redmond Redmond Seattle Seattle Seattle Seattle Seattle Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia. Burton, Jennie L. Culmer, Myrtle Asbury. Forrester, William. Herring, John P. Hay, Mary. Kaiser, Mary Armeda. McCarney, Margaret. Newton, Earl Burdette. Oakley, June	7 4 5 EACHERS' Co .A. B.	OURSE. Seattle Seattle Seattle Redmond Redmond Redmond Seattle Seattle Seattle Seattle Seattle Seattle Seattle Seattle Seattle Seattle Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia. Burton, Jennie L. Culmer, Myrtle Asbury. Forrester, William. Herring, John P. Hay, Mary. Kaiser, Mary Armeda. McCarney, Margaret. McIntosh, Isabel. Newton, Earl Burdette. Oakley, June. Oakley, Mary.	7 4 5 EACHERS' Co .A. B.	OURSE. Seattle Seattle Seattle Redmond Redmond Redmond Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia. Burton, Jennie L. Culmer, Myrtle Asbury. Forrester, William. Herring, John P. Hay, Mary. Kaiser, Mary Armeda. McCarney, Margaret. McIntosh, Isabel. Newton, Earl Burdette. Oakley, June. Oakley, Mary. Rigg. George Burton	7 4 5 YEACHERS' Co .A. B.	OURSE. Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia. Burton, Jennie L. Culmer, Myrtle Asbury. Forrester, William. Herring, John P. Hay, Mary. Kaiser, Mary Armeda. McCarney, Margaret. McIntosh, Isabel. Newton, Earl Burdette. Oakley, June. Oakley, Mary. Rigg, George Burton. Rouse. Elizabeth	7 4 5 EACHERS' Co .A. B.	OURSE. Seattle Seattle Seattle Seattle Redmond Redmond Seattle
SATURDAY SPECIAL T Burdick, Mary Burgess, Orillia Burton, Jennie L Culmer, Myrtle Asbury Forrester, William Herring, John P Hay, Mary Kaiser, Mary Armeda McCarney, Margaret McIntosh, Isabel Newton, Earl Burdette Oakley, June Oakley, Mary Rigg, George Burton Rouse, Elizabeth Streator. Gertrude Inez.	7 4 5 EACHERS' Co .A. B.	OURSE. Seattle Seattle Seattle Seattle Redmond Redmond Seattle

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LAW SCHOOL.

NAME.	SENIORS.	HOME ADDRESS.	
Adams, David Cameron		Ritzville	S
Allyn, Frank Miller		Spokane	جو
Askren, Thomas Merle		Carbonado	ょ
Billinghurst, Benson Dillor B. S., Ohio Wesleyan Un	n liversity.	Seattle	
Bowman, Arthur Ray A. B., Baker University.	•••••	Springdale	
Brennesholtz, Richard		Waterville	
Comfort, Arthur B A. B., University of Nor	th Dakota.	Rathdrum, Idaho	
Cunningham, Clifford Darw A. B., Washburn College	'in e.	Auburn, Kansas	
Donohoe, Hugh Edward		O'Neill, Nebr.	
Douglas, Edwin Samuel		Seattle	
Jones, Herbert Price	•••••	Minneapolis, Minn.	
Judge, Redmond Patrick		Ballard	
Kirby, Homer		Kalama	
Luce, Henry Knox		Albion	
McGauvran, Gordon A. B., University of Nor	th Dakota.	Osnabrock, No. Dak.	
Metcalf, James Vernon		Seattle	
Metsker, Glenn R		Sedro-Wooley	
Moultray, William Edward.		Bellingham	
Mowers, Frederick Gelevic	ks	Tacoma	
Murphy, Joseph Myron		Westfield, Wis.	
Porter, John Edwin A. B., University of Wa	shington.	Wenatchee	
Rasmusen, William Beatty. A. B., Pacific University.	• • • • • • • • • • • • • • • • • • •	Forest Grove, Ore.	
Rembert, William Adair	••••••	Seattle	
Spirk, George Lucien	• • • • • • • • • • • • • • • • • • • •	Davenport, Iowa	
Teats, Leo	•••••	Tacoma	
Wheeler, Harry Raymond.		· · · · · · · · · · · · · · Seattle	
A. B., University of Was	bington.	Bellingham	
Whitfield, Jay Anesly A. B., University of Was	hington.	Vaughn	
Wills, Fred Gaylord	• • • • • • • • • • • • • • • • • • • •	Walla Walla	
Wright, Fred Raymond A. B., University of	Nebraska.	Wayne, Nebr.	•
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NAME.	JUNIORS.	HOME ADDERSS.
Albers, Otto Johnson		Chehalis
Allen, Edward W		.Oshkosh, Wis. /
Bauer, John Henry		Walla Walla
A. M., Columbia Univer	rsity.	T -111
Campbell, John Washburn		Eawall
A. B., Yale University.	••••••	Seattle
Cline, Jesse Walter A. B., Roanoke College.	••••••	Sprague
Cook, Arthur Arnold		Tacoma
Crollard, Frederick Michae	1	Wenatchee
Cunningham, Ardys Brand A. B., University of Was	ham shington.	Waterville
Dean, Dennis O		Seattle
Deane, Charles Henry		Seattle
Dearle, Percy		Everett
A. B., University of Was	shington.	
Dootson, James William	· · · · · · · · · · · · · · · · · · ·	Everett
Eddy Earnest	Kin	ve Vellev Ore
A. B., Oregon Agricultur	ral College.	58 Valley, Ole.
Erford, J. F. Roy		Colfax
Foster Balnh Herbert	snington.	Union Lowa
A. B., Hamline College.	• • • • • • • • • • • • • • • • • • • •	
Fretwell, Franklin McGee.		Seattle
Funk, Blanche Elizabeth A. B., Wirtenberg Colleg		Seattle
Good, Melvin Stuart		lerkeley, Calif.
Hartman, Flora Madge		lozeman, Mont.
Hess, Emory Earl A. B., Wabash College.	•••••••••••••••••••••••••••••••••••••••	Seattle
Kolbe, Benjamin Ralph	St.	James, Minn.
Kowalsky, Alexander Theor A. B., Marquette Univer	loreM sity.	ilwaukee, Wis.
Kulzer, Albert J A. B., Gonzoga College.		Valley
Loewe, Walter George		Seattle
McCabe, James	M	ladison, Minn.
Moyer, Samuel Linford A. B., Franklin and Mar	shall College.	.Perkasie, Pa.
Needham, Delos J	Le	ewiston, Idaho
A. B., University of Was	hington.	·
A. B., University of Was	hington.	· · · · · · Seattle

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HOME ADDRESS.
Ballard
Seattle
Seattle
North Yakima
Seattle
Seattle
Seattle
Walla Walla
Chelan
Entiat
Seattle
Seattle
Wenatchee
Juneau, Alaska
Seattle

SPECIAL.

SPECIAL.	
SPECIAL. AbJan, PhilipCairo, Egypt Allen, HermanMcCloud, Calif. Balmer, ThomasSeattle Bolen, William HSeattle Bolen, William HSpokane Costello, Cyril ArthurSpokane Costello, Cyril ArthurSeattle Diddel, A. GlennIndianapolis, Ind. Floyd, Clarence DellGreenville, Ill. Harris, Arthur MChicago, Ill. Hensel, Arthur JohnWaterville Howe, John Pardee, JrSeattle Jackson, Arba DeHartSeattle Special	$\langle \psi \rangle$
Kosugi, Keisuku	
Lear, HarrySeattle	
Leonard, Edward ElmerScappoose, Ore.	
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NAME.	HOME ADDRESS.
Lewis, Devillo	Seattle
Lindley, William Fisher	Seattle
Loewe, Adolf	Seattle
Lufsky, Arthur J. W	Seattle
Lumpe, Ernest Garfield	Muscatine, Iowa
Lutz, Donald Haswell	Seattle
McKinnon, Charles M	Seattle
Matsumi, Daihachi	Japan
McDonald, George Donald	Council Bluffs, Iowa
McEwen, John R	Goldendale
Meredith, George W	Goldendale
Merrill, Arthur Clark	Pallatta, Fla.
Miller, Ross Frank	Emporia, Kansas
Murphy, George	Seattle
Norris, John Herbert	Burtrum, Minn.
Olson, Gustaf Axel	Iron Mountain, Mich.
Ostroth, George V	Seattle
Owen, Harry Adelbert	Monroe
Phillips, Jesse James	Krupp
Reid, Robert	Seattle
Reser, Byron Elmo	Walla Walla
Ring, George W	Walla Walla
Scott, Nathan Alexander	Laneville, Ala.
Shireman, Joseph Alexander	Lamar, Colo.
Smith, William H	Fridley, Mont.
Sommer, Jack	Seattle
Stanford, John Patrick	Spokane
Sullivan, John Joseph	Worcester, Mass.
Todd, James Forrest	Seattle
Turner, Charles Austin	Seattle
Turner, George Leslie	Mullan, Idaho
Vanasse, John Leonard	Seattle
Vanasse, Thomas H	Seattle
Wilson, Catherine	Seattle
Worthington, Alfred Grissom	Seattle

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SHORT COURSE MINERS.

HOME ADDRESS.
Seattle
Seattle
Seattle
Seattle
Spring Valley, Ill.
Seattle
Winchester, England
Shelton
New Haven, Conn.
Nome, Alaska
New York City
Elk City, Ore.
Hopkins, Minn.
Washougal
Seattle
Seattle
Nome, Alaska
Seattle
Seattle
Seattle
Seattle
Milwaukee, Wis.
Youngstown
Dawson, Yukon Territory
Seattle
Seattle

JAW

SUMMER SCHOOL STUDENTS.

NAME.	HOME	ADDRESS.
Ames, Ethel M		Tacoma
- Anderson, Edith	MOdebo	lt, Iowa
Anderson, Nellie.		it, Iowa
- Annis, Ruby	F	Ioquiam
-Anthon, Else		.Seattle
- Anthon, Soester I	Inger	.Seattle
Austin, Mary Bea	atrice	.Seattle
- Ballaine, Florence	ce	.Seattle
- Ballaine, Sophron	nia	.Seattle
— Barnes, Lucy Ro	wena	.Seattle
🦟 Barr, Eva Louise	eMonmo	uth, Ill.
- Bechly, Mary	· · · · · · · · · · · · · · · · · · ·	larkston
Bell, William S.	Helena	a, Mont.
- Bennett, Mary P	earl	. Seattle
— Bichley, Kate Ev	velynMcClusky, North	Dakota
🖵 Bird, Mary S		ohomish
— Bishop, Angie		Elberton
- Black, Mrs. Mary	· A	.Seattle
Bond, E. A	Bel	lingham
🛰 Bones, Miss K	Geneva Junctio	on, Wis.
📥 Bradner, F		. Seattle
-Brayton, Fannie	ElizabethLa Cros	se, Wis.
Bretnall, G. H	Monmouth, (Colorado
Bridgman, E		.Seattle
Broadhead, Mary	vBel	lingham
Brown, Ethel		Camas
-Brown, Professor	R. WPhiladelr	ohia, Pa.
Brown, V	Bel	lingham
Bulen, Martha		Tacoma
Bunch, J. Lionel	• • • • • • • • • • • • • • • • • • • •	.Seattle
Burgess, Ora		.Ballard
- Burns, Ida D	•••••••••••••••••••••••••••••••••••••••	akesdale
Burns, Omar Alle	en	.Seattle
Burton, Miss A.	L	.Ballard
- Byrd, Eva	· · · · · · · · · · · · · · · · · · ·	Colfax
- Calvin, Alice Wil	ieyOgkla	nd, Cal.
🗕 🛏 Camp, Gratia B.		.Seattle

•Register of Students

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NAME.	HOME ADDRESS.	
Carmichael, Fay	Seattle	-
Clark, B. Maurice	Seattle	
Clarke, Mrs. H. C	Colby	-
Coffman, Marion	Chehalis	
Collins, Helen H	Kirkland	4
Colvin, Jessie M	Spokane	
Cook, Harry A	Seattle	
Cook, H. Moreland	Aberdeen	
Cowles, Mrs. E. W	Chicago, Ill.	
Crosus, May Frances	Seattle	
Crouch, Euphemia Emily	Seattle	
Davis, Dora A	Spokane	
Dempster, Elva	Seattle	4
Dennett, Gertrude L		
Dolfinger, Miss E	Louisville, Ky.	<u> </u>
Douthitt, Albert G	Seattle	55. o
Drake, Nellie G	Delavan, Wis.	·
Dudley, Florence E	Puyallup	550
Duncan, Ethel M	Omaha, Nebr.	
Dunkle, Geneva	Colfax	
Dupertius, John	Seattle	-
Eernisse, James Guy	Vashon	
Epley, Francis W	Bellingham	
Everett, Lillian Estelle	Dayton	
Field, Ada	Newman, Georgia	
Fix. Arminda L	Walla Walla	
Foster. A. S	Kathlamet	-
Fowler, Jane Ridgway	Walla Walla	-
Frenger, George Herman	Seattle	
Frye, J	Bloomington, Ill.	_
Furbush, Edwin C	Seattle	
Furst, Daisy	Adair, Iowa	
Gardner, N. Elsie	Walla Walla	
Giblin, Chester E	PeEil	
Gilstrap, Eugene Franklin	Tacoma	-
Goldthwaite, John S	Sedro-Woolley	
Gossett, Elizabeth T	Seattle	
Gourley, Edith	Seattle	-
Grainger, V. M	Okanogan	

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UNIVERSITY OF WASHINGTON

NAME.	HOME ADDRESS.
SSA Grindrod, Ione	Roslyn
- Grupę, Bernice L	
Gutheil, Carl	Seattle
🗩 Gwin, W. K	
- Haessler, Miss B	Milwaukee, Wis.
Haessler, Miss L	Normal College, N. Y.
🗩 Hafer, Wilhelmina E	Seattle
- Hagy, Robert P	Seattle
- Hall, Abram R	Seattle
Harmeling, Henry	Vashon
🦟 Hartig, Georgena	Seattle
Hartman, Mary Mae	•Seattle
- Hashiguchi, Jihei	Seattle
Henderson, Eleanor Adeline	Spokane
- Hendricks, Hattie	Lind
	Seattle
— Hill, Margaret	Seattle
Hoeppner, Josephine	Colfax
— Holcomb, Harold F	Snohomish
— Holt, W. P	
- Hubert, Anna	Seattle
Hughes, Maude Finsley	Seattle
Hungate, J. W	Pullman
— Hunt, Ethel L	Bellingham
— Hunt, Irene S	Bellingham
🚐 Iffland, Frieda A	Port Townsend
Imado, Jiro	Seattle
— Jarvis, Grace Ella	Seattle
St of Johnson, Paul	
Johnston, Jesse	Seattle
Jones, Effie D	North Yakima
Jonson, Oscar F	Rockford, Ill.
Judson, Katharine Berry	Seattle
Kalaher, J	Seymour, Conn.
Kenny, Mary H	Spokane
Kibbe, Miss A. L	Alma
Kidani, Miss M	Chicago, III.
Kligour, Miss Bertna	North Yakima

NAME.	HOME ADDRESS.
King, H. C	Oberlin, Ohio —
King, Virginia	Seattle —
Kinzie, Elbert G	Poulsbo
Kittredge, Marguerite	Seattle
Knapp, L. J	Edison 💳
Knight, L. G	Chicago
Krohn, Albert Frederick	Washougal
Langtry, Florena N	Seattle
Laurence, W. E	Lansing, Mich.
Lees, Endora	Mondovi, Wisconsin
Lentz, Katherine	Centralia 55105
Lewis, Florence	Seattle
Livesey, Esther Elizabeth	
Lockling. Carrie	. Missouri Valley, Iowa
Loeb. Lawrence M	Seattle
Long. Miss E	New York City
Lovett. Joseph Cook	
Lynch. Agnes	
Magill. Hazel	Aberdeen
Mahaffy. Lucius E	Port Angeles
Maloney, Minnie	Seattle
Mann. Florence	Seattle
Marston, A. Jesse	Seattle
Marston, C. May	Seattle
Martin Cedric A	Puvallup
Matthews William P.	
McCarney, Margaret	Seattle
McCauley, Alfred R	Seattle
McCollins Clara	Seattle
McCormick. Martha	West Seattle
McGraw. Miss K. W.	
McKittrick. Bessie	Wilson, Kansas
McMaster, Miss	
Mehner. Albert	Ellensburg
Michelson, Edith S	Seattle
Mivatake, Kazaru	Seattle
Moerder. Amanda M	
Montanye. Mrs. Isabelle	Chehalis
Moran, Mary Juliette	Fairfield

284 University of Washington

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NAME.	HOME ADDRESS.
Most, Ida D	Cheney
Mullen, Miss M	New York City
Murray, Christine	Wenatchee
Nash, Preston H	Seattle
Nelson, Arthur Emil	Seattle
Nelson, Ethel	Tacoma
- Nevins, R. D	Tacoma
Norris, Carl H	Manchester, Iowa
O'Brien , F. J	Chicago
Osberg, Minnie Alice	La Conner
🧀 Osburn, William Q	Seattle
- Owen, Margaret E	Spokane
- Parsons, Mrs. Abbie K	Seattle
Patric, Mary E	Snohomish
- Perley, Mary Elizabeth	Fargo, North Dakota
🦳 Peterson, Mattie J	Seattle
- Peterson, Roxy	Dunlap, Iowa
- Powell, William W	Waverly
Preist, Mrs. Jessie Nutting	Glenwood, Iowa
- Prince, Sophia	North Yakima
- Prosser, William	Black Diamond
- Rademacker, Dora Pearl	Northfield, Minn.
🕋 Rand, Etta A	Seattle
Renfro, Lilburn Woods	Seattle
- Rice, Myrtle Sara	Spokane
Richey, Jennie	Seattle
Roberts, George Braden	Kalama
🚗 Robertson, Miss E	Louisville, Ky.
Robertson, Miss L	Louisville, Ky.
Robinson, Ephraim T	Seattle
Roe, Charles Clarke	Seattle
- Romine, Alexander P	Bellingham
– Rossiter, Harriet	Seattle
- Ryckman, Mrs. J. H	Seattle
- Sallberg, Millicent	Seattle
- St. John, C. E	Oberlin, Ohio
st. Unge, Artnur J	Seattle
	Dear Lodge, Mont.
Schage, Florentine J	Seattle

N	Hours Assesso	
Scholes. Stella	Tacoma	- 1
Seagrave. Mabel	Seattle	·
Sherrick. Johnson.	Seattle	
Shull Renata M.	Seattle	
Simpson, Mrs. M. F.		
Smith. John Eliphalet	Eugene. Ore.	
Spirk. George Lucien	venport. Iowa	
Spurck. William. Jr.	Seattle	
Stanwick. Charles	Seattle	
Staup, Mrs. Minnie G	Seattle	
Stevens, Dwight N	Seattle	
Stone, Alice Pauline	Colfax	~
Streator, Gertrude Inez	Seattle	
Stuff, Josephine Eleanor.	Seattle	
Sutton, Fred H	Cashmere	
Sweet, Anna Edith	Seattle	
Sweet, Maude	Blaine	
Tateishi, Jisaemon	Seattle	
Taylor, Laura	Tacoma	
Thompson, Victor	Seattle	
Tillman, Helen C	Seattle	
Trevitte, Katherine	Beloit, Wis.	
Tucker, Lena L	Prosser	کەنم
Ullery, Ira Lee	.Port Angeles	\$2
Van Dame, Walter F	Buckley	-
Van Sant, Clara	Victoria, B. C.	
Vischer, S. S	Chicago, Ill.	—
Vogel, Miss B	Ames, Iowa	-
Webster, Mrs. Ella Gray	Seattle	
Wheeler, Chetta M	Arlington	
Wheeler, Gladys F	Seattle	
White, Harriet	Colfax	
Whitfield, Jay A	Kent	
Williams, Ella EDes	Moines, Iowa	
Williams, Lewie	Seattle	
Wingfield, Wallace Lee	Seattle	
Woldt, Miss MMt. P	leasant, Mich.	
Zimmerman, Albert T	Harrington	1
Zimmerman, Irene Holcomb	Harrington	<u> </u>
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SUMMARY OF ENROLLMENT.

BY SCHOOLS.

Graduate School	40
College of Liberal Arts	779
College of Engineering	271
Chemical Engineering	
Civil Engineering, 130	
Electrical Engineering 108	
Mechanical Engineering	
School of Mines	81
School of Pharmacy	61
School of Forestry	10
School of Law	128
Miners' Short Course	26
Saturday Special Teachers' Courses	16
· · · · · · · · · · · · · · · · · · ·	1419
Counted twice	1419
	<u>, 1</u>
Total	1396
BY CLASSES.	
Graduate Students	40
Seniors	141
Juniors	162
Sophomores	282
Freshmen	534
Unclassified Liberal Arts. (Age requirement, over 19 years)	99
Unclassified Engineering and Mining "	33
Unclassified Pharmacy "	24
Unclassified Law (Sophomore standing requisite for regu-	
lar law classification)	54
Short Course Miners	26
Saturday Special Teachers' Courses	16
-	.411
Counted twice	1411
	10
Total	1396
Summer Session of 1907	243
Total for the year	1639
Deduct Summer School students now attending University.	47
Net total for the man	1500
Net total for the year	T92

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