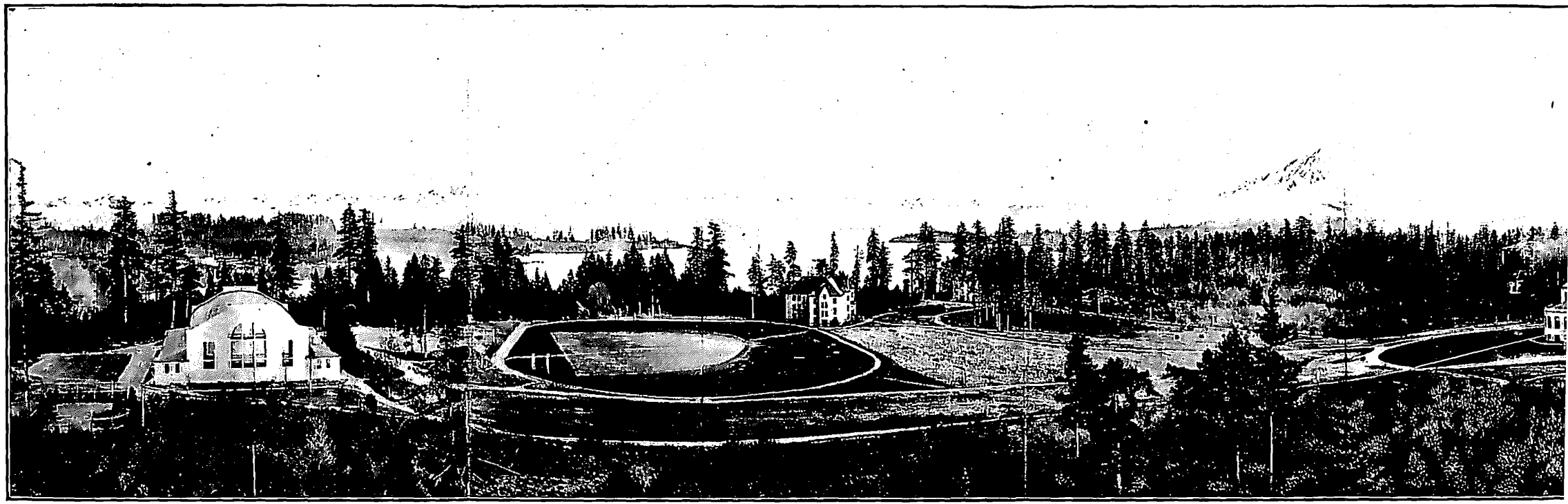
Catalogue Number

THE BULLETIN
OF THE
UNIVERSITY OF WASHINGTON

...ad Quarterly
...E 1 NUMBER 19

APRIL, 1905

WHITE & DAVIS, PRINTERS, 1326 ARCADE WAY, SEATTLE



PANORAMIC VIEW OF CAMPUS, UNIVERSITY OF WASHINGTON.

CATALOGUE for 1904-1905 and

ANNOUNCEMENTS for 1905-1906

OF THE

UNIVERSITY OF WASHINGTON

SEATTLE, WASHINGTON

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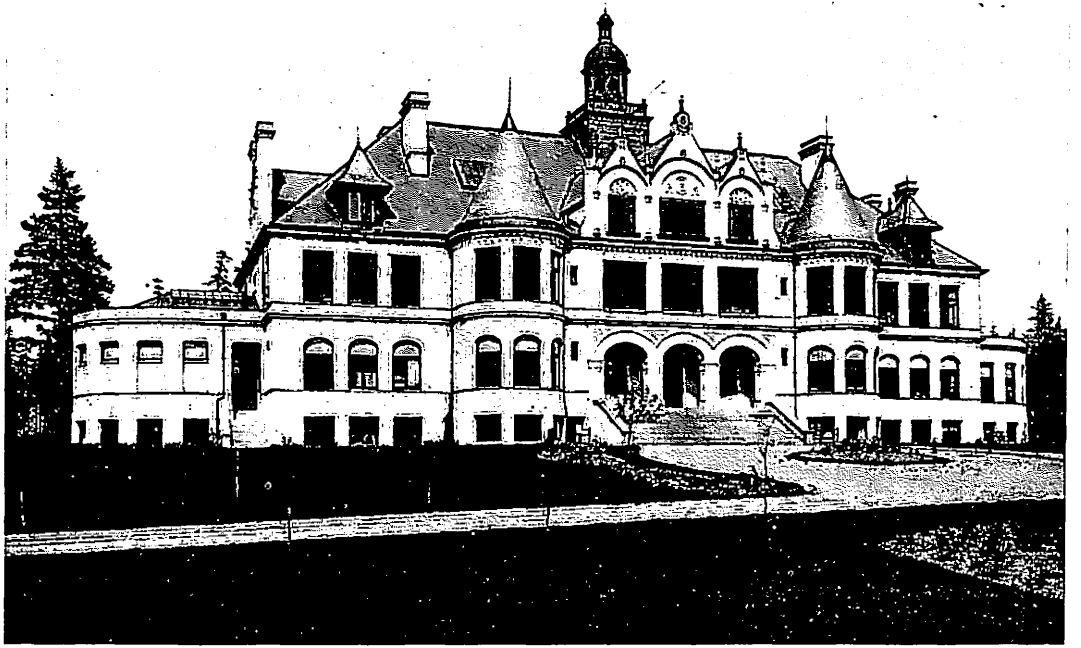

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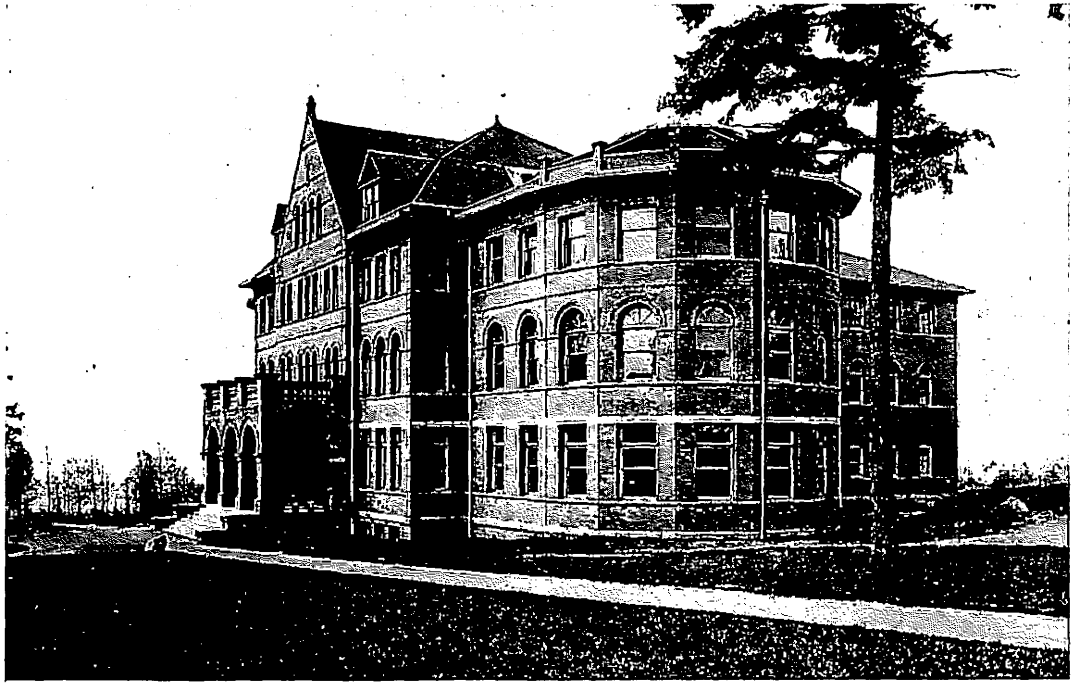

SCIENCE HALL

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Examinations for Removing Conditions	Sept. 25-29.
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THE BOARD OF REGENTS

HON. JOHN H. POWELL, President.....Seattle
Term expires, 1905.

HON. GEORGE H. KING.....Seattle
Term Expires, 1908.

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

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

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

HON. J. F. SAYLOR.....Spokane
Term Expires, 1910.

HON. S. G. COSGROVE.....Pomeroy
Term Expires 1911.

WILLIAM MARKHAM, Secretary of the Board.

Faculty of the University of Washington.

THOMAS FRANKLIN KANE, PH. D. (Johns Hopkins University), *President.*

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—.

University Heights.

HENRY LANDES, A. M. (Harvard University), *Professor of Geology and Mineralogy.*

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

University Heights.

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

B. S., University of Washington, 1885; M. S., 1899; M. L., University of Wisconsin, 1901. Member of Washington Legislature, 1891 and 1893; 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-.

University Station.

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

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-.

University Station.

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

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-.

University Station.

ARTHUR RAGAN PRIEST, A. M. (De Pauw University), *Professor of Rhetroic and Oratory.*

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-.

University Heights.

JOHN THOMAS CONDON, LL. M. (Northwestern University), *Dean of the School of Law.*

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

120 Thirteenth Ave. North.

HORACE BYERS, PH. D. (Johns Hopkins University), *Professor of Chemistry.*

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-.

4719 Fifteenth Ave. Northeast.

CAROLINE HAVEN OBER, *Professor of Spanish.*

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-.

University Station.

TREVOR KINCAID, A. M. (University of Washington), *Professor of Zoology.*

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

University Station.

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

A. B., Colby College, 1896; A. M., 1899; Ph. D., Yale University, 1899. Scholar in English, Yale University, 1896-98; Fellow, 1898-99; Professor of English, University of Idaho, 1899-1901; Professor of English Languages and Literature, University of Washington, 1901-.

University Heights.

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

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

University Heights.

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

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, Univesity of Washington, 1901-.

University Heights.

ARTHUR SEWALL HAGGETT, PH. D. (Johns Hopkins University), *Professor of Greek.*

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-.

University Heights.

FREDERICK ARTHUR OSBORN, PH. B. (University of Michigan), *Professor of Physics and Director of the Physical and Electrical Laboratories.*

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 Physical and Electrical Laboratories, University of Washington, 1902-.

University Station.

JOHN P. HOYT, LL. B. (Ohio State and Union Law College), *Professor of Law.*

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-.

1617 Fourth Avenue West.

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

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

University Station.

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

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

University Station.

JAMES EDWARD GOULD, PH. B. (University of Washington), *Assistant Professor of Mathematics.*

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

5015 Fifteenth Ave. N. E.

OTTILIE GERTRUDE BOETZKES, A. M. (University of Washington), *Assistant Professor of Modern Languages.*

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.

University Station.

CHARLES WILLIS JOHNSON, PH. D. (University of Michigan), Dean of the School of Pharmacy and *Professor of Pharmacy and Physiological Chemistry.*

Ph. C., University of Michigan, 1896; B. S., University of Michigan, 1900; Ph. D., University of Michigan, 1903. Practical Pharmacist, Detroit, Michigan, 1896-98: Assistant Instructor in Chemistry, University of Michigan, 1898-1901; Instructor in Chemistry, University of Iowa, 1901-02; Assistant Professor of Chemistry, University of Washington, 1903-04; Professor of Pharmacy, University of Washington, 1904-.

University Station.

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

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

4110 14th Ave. N. E.

THEODORE CHRISTIAN FRYE, PH. D. (University of Chicago), *Professor of Botany.*

B. S., University of Illinois, 1894; Principal of the High School, Montecello, 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; Ph. D., 1902; Professor of Biology, Morningside College, Iowa, 1902-03; Professor of Botany, University of Washington, 1903-.

HERBERT DE WITT CARRINGTON, PH. D (University of Heidelberg), *Professor of German..*

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

GEORGE HENRY ALDEN, PH. D. (University of Wisconsin), *Assistant Professor of History.*

A. B., Harvard University, 1893; Fellow in History, University 1895-96; Ph. D., 1896; Acting Assistant Professor of History, University of Illinois, 1896-97; Professor of History, Cornell College, Iowa, 1897-98; Professor of History, Carleton College, Minn., 1898-1903; Assistant Professor of History, University of Washington, 1903-.

JOHN CHARLES THORPE, M. E. (University of Michigan), *Assistant Professor of Mechanical Engineering.*

B. S., in Mechanical Engineering, University of Illinois, 1900; Instructor in Mechanical Engineering, University of Michigan, 1901-03; M. E., University of Michigan, 1903; Practical work, railroad mechanical engineering, 1899-1903; Assistant Professor of Mechanical Engineering, University of Washington, 1903-.

THOMAS KAY SIDEY, PH. D. (University of Chicago), *Assistant Professor of Latin and Greek.*

A. B., Victoria University (now Toronto), 1891; 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; Ph. D., 1900; Associate Professor of Latin, Cornell College, Iowa, 1899-02; Professor of Latin and German, Central Normal College, Danville, Indiana, 1902-03; Assistant Professor of Latin and Greek, University of Washington, 1903-.

ROBERT EDOUARD MORITZ, PH. D. (University of Strassburg), *Professor of Mathematics and Astronomy.*

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-.

University Station.

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

JOHN FLEMING MAIN, A. B. (Princeton), *Professor of Law.*

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, 1904-.

CARL EDWARD MAGNUSSON, PH. D. (University of Wisconsin), *Associate Professor of Electrical Engineering.*

B. E. E., University of Minnesota, 1896; M. S., 1897; Scholar in Physics, University of Minnesota, 1895-1897; Instructor in Physics, State High School, St. Peter, Minnesota, 1897-1898; Graduate Student, University of Wisconsin, 1898-1900; Ph. D., 1900; Fellow in Physics, University of Wisconsin, 1899-1900; Professor of Physics and Mathematics, University of New Mexico, 1901-1903; Professor of Physics and Electrical Engineering, New Mexico School of Mines, 1903-04. Associate Professor of Electrical Engineering, University of Washington, 1904-.

HENRY KREITZER BENSON, A. M. (Franklin and Marshall College), *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-.

MAYNARD LEE DAGGY, PH. B. (De Pauw University), *Assistant Professor of Rhetoric and Oratory.*

Ph. B., De Pauw University, 1896; Student Law School, 1898-99; Student University of Chicago, Summer of 1901. Student Assistant in English, De Pauw, 1895-96; Instructor of Elocution and English, High School, Jacksonville, Illinois, 1896-97; Instructor in English, High School, Mt. Vernon, Illinois, 1897-98; Instructor in English, Fon Du Lac, Wisconsin, 1900-1901; Instructor in Rhetoric and Oratory, University of Wisconsin, 1901-1903; Director of the Bay View School of Expression, Bay View, Michigan, Summers of 1902 and 1903; Assistant Professor of Rhetoric and Oratory, University of Washington, 1904-.

CHARLES CHURCH MORE, M. C. E. (Cornell University), *Assistant Professor of Civil Engineering.*

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

4333 Tenth Avenue N. E.

Lecturers.

GEORGE NELSON SALISBURY, B. S. (University of Minnesota), *Lecturer in Meteorology.*

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

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

Student in Civil Engineering Ohio State University. Bridge Engineer Hocking Valley Ry., 1887; Engineer of construction Indiana Bridge Co., 1889; Chief Engineer Youngstown Bridge Co., 1891-8; Consulting Engineer, New York City, 1898-9; President and Chief Engineer International Contract Co., to present time. President Seattle Park Commission 1904.

B. H. BENNETS, *Lecturer on Tin and Copper* Smelting.

Graduate Ballarat School of Mines, Ballarat, Australia; on Metallurgical Staff of the Mount Lyell Mining and Railway Co., Tasmania. Australia, 1895-1901: Superintendent Copper Smelting and Converting Works, Tacoma Smelting Co., 1901.

Tacoma Smelting Co., Tacoma, Wash.

CHARLES WILLIAM PRENTISS, R. D. (Harvard University), *Assistant Professor of Biology and Acting Professor of Zoology.*

A. B., Middlebury College (Vt.), '96; A. M., '97; A. M., Harvard University, '98; Ph. D., 1900; Fellow of Harvard University at Freiburg, Germany, 1901-02, and Naples Zoological Station, 1902; Fellow of Harvard. Strassburg, 1902-03; Asssistant in Zoology, Radcliffe College, 1898-99; Harvard University, 1898-1900; 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.

HENRY LEE BOWLBY, B. S. (Universty of Nebraska), *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.

VANDERVEER CUSTIS, PH. D. (Harvard University), *Assistant Professor of Economics.*

A. B., Harvard University, 1901; A. M., 1903; Ph. D., 1905; assistant in economics, 1902-04; holder of Auston Teaching Fellowship in Economics, 1904-05.

FLETCHER HARPER SWIFT, PH. D. (Columbia University), *Assistant Professor of Education.*

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

ALIEN R. BENHAM, PH. D. (Yale University), *Assistant Professor of English Literature.*

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

PETER VON LE FORT, A. M. (Stanford University), *Assistant Professor of French.*

Student, University of Lusanne, 1887-88; A. M., Leland Stanford University, 1901; Teacher of Modern Languages, Belmont School, California, 1891-93; St. Matthew's Military

Academy, California, 1895-99; Assistant in French in Stanford, 1901; Teacher of French, High School, Oakland, Cal., 1901-05.

FRANK MARION MORRISON, A. B. (University of Michigan), *Assistant Professor of Mathematics.*

A. B., University of Michigan, 1892; Graduate Student University of Chicago, 1897-99; Instructor in Mathematics in the High Schools, Elkhart, Ind.; Sioux City, Ia.; Circleville, O., 1892-97; Instructor in Mathematics, Grand Prairie Seminary, Onarga, Ill., 1899-1900; Professor of Mathematics, Illinois College, 1900-03; Professor of Mathematics, Buchtel College, Akron, O., 1903-05.

HARVEY LANTZ, LL. B. (Kent College of Law), *Professor of Law.*

Ph. B., De Pauw University, 1888; A. M., 1891; LL. B., Kent Law School, 1893; Superintendent City Schools, Spencer, Ind., 1888-91; Law Clerk with Schuyler & Kremer, Chicago, 1892-5; Admitted to Bar, Supreme Court of Illinois, 1893; Practiced law, member firms of Chase & Lantz, Chase, Proudfit & Lantz and Proudfit & Lantz(1896-1905; Lecturer on Medical Law, Hering Medical College, Chicago, 1898-9; Admitted to Bar, United States Supreme Court, 1905.

EVERETT O. EASTWOOD, B. S. (Massachusetts Institute of Technology), *Assistant Professor of Mechanical Engineering.*

C. E., University of Virginia, 1896; A. B., 1897; A. M., 1899; B. S., Massachusetts Institute of Technology, 1902; Fellow, giving instruction 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 to present time.

HARRY LEVI MEAD, E. M. (Columbia University), *Instructor in Mining and Geology.*

E. M., in School of Mines, Columbia University, 1905; Summer School Mining Instructor, Columbia University, 1904; practical work three years.

HERMAN CAMPBELL STEVENS, PH. D. (Cornell University,) *Assistant Professor of Psychology.*

A. B., University of Michigan, 1901; Ph. D., Cornel University, 1905; graduate scholar in psychology, Cornell, 1901-03; Junior Assistant in Psychology, 1903-04; Senior Assistant, 1904-05.

FRANK E. JOHNSON, E. E. (University of Minnesota), *Instructor in Electric 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., 1903 to present time.

LOREN D. MILLIMAN, A. B. (University of Michigan), *Assistant Professor in Rhetoric.*

A. B., University of Michigan, 1890; Graduate Student, University of Chicago, 1892-94; Scholar in English, 1892-93; 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.

ELBERT G. ALLEN, M. S. (Massachusetts Institute of Technology), *Lecturer and Consulting Electrical Engineer on Electric Traction.*

Chief Electrical Engineer, Seattle Electric Co.

J. D. 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.

CHAS. W. SMITH, B. L. S. (University of Illinois), *Assistant Librarian.*

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

IRVIN WALTER BRANDEL, M. S. (University of Wisconsin), *Assistant Professor of Pharmacy.*

Ph. G., University of Wisconsin, 1899; B. S., 1901; M. S., 1902; Fellow in Pharmacy, 1901-2; Instructor in Pharmacy, 1902-5.

JAMES H. HANCE, A. B. (Northwestern), *Instructor in Chemistry.*

Instructor, Oklahoma University, 1901-2; Principal High School, Park City, Utah, 1902-4; Instructor in Mathematics and Chemistry, Hill Military Academy, Portland, Oregon, 1904-5.

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.

Instructors and Assistants.

WILLIAM BOUSE HAMPSON, M. E. (Purdue University), *Director of Shop Work.*

JEAN REGINALD WOLD, M. G. (New Haven Normal School Gymnasium), *Instructor in Physical Culture for Women.*

HENRY LOUIS BRAKEL, A. B. (Olivet College), *Instructor in Physics.*

MCQUILKIN DEGRANGE, A. B. (JohnsHopkins University), LL. B. (Catholic University of America), *Instructor in English.*

PAUL HOPKINS, A. M. (University of Washington), *Instructor in Chemistry.*

GRACE GREEN, A. B. (University of Washington), *Assistant in Spanish.*

DAVID HENRY WOLFLE, A. B. (University of Oregon), *Assistant in Physics.*

PERRY NORMAN LAWSON, A. B. (University of Washington), *Assistant in Political Science.*

MABEL ELECTA BULAND, A. B. (University of Washington), *Assistant in Pedagogy.*

HANNAH JOHNSTON, B. S. (Iowa State College), *Assistant in Chemistry.*

Undergraduate Assistants.

ANNA EDITH COREY, *Assistant in Botany.*

CHARLES ALFRED NELSON, *Assistant in Zoology.*

DONALD FRANCIS MCDONALD, *Assistant in Geology.*

HELEN KATE VAUPELL, *Assistant in Mathematics.*

MAYME EVA LUCAS, *Assistant in Mathematics.*

JAMES GARFIELD FLETCHER, *Assistant in Mathematics.*

WILHELMINA HAFER, *Assistant in German.*

LIVINGSTON WERNECKE, *Assistant in Mining.*

HORACE GROVE DEMMING, *Stock Keeper Department of Chemistry.*

Other Officers.

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

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

ELIZABETH KAUFMAN, *Student Assistant in Library.*

JOHN BLAIR WHIDDEN, *Student Assistant in Library.*

ANNIE HOWARD, *Dean of Women.*

CHARLES OSCAR KIMBALL, *Musical Director.*

HERBERT THOMAS CONDON, *Registrar.*

WILLIAM MARKHAM, *Secretary of Board Regents.*

WALTER GRAY MCLEAN, *Stenographer to the President.*

WILLIAM BOUSE HAMPSON, *University Engineer.*

GEORGE LEWIS MOTTER, *Superintendent of Grounds.*

DAVID MCDANIEL, *Janitor.*

COMMITTEES OF THE FACULTY.

Accredited Schools—Professors Yoder, Gould and Benson.

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

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

Alumni Appointments—Professors Yoder, Meany and Magnusson.

Assembly and Public Exercises—Professors Priest, Meany and Byers.

Athletics—Professors Roberts, Haggett and Thorpe.

Catalogue—Professors Landes, Alden and Daggy.

Discipline—Professors Landes, Thomson and Frein.

Dormitories—Professors Fuller and Boetzkes.

Holidays—Professors Roberts, Savery and Carrington.

Honors and Advanced Degrees—Professors Smith, Fuller, Padelford and Savery.

Library—Professors Padelford, Frye and Moritz.

Museum—Professors Landes, Meany and Kincaid.

Petitions—Professors Smith, Ober and Frein.

Program—Professors Byers, Osborn and Fuller.

Student Assistance—Professors Meany, Landes and Thorpe.

Student Organizations—Professors Savery, Condon and Padelford.

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." The advice of the governor was heeded. Congress was promptly 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.

The government census showed that there were in the new territory at this time 3,965 white persons. These people were scattered from the Columbia river to the British boundary, and from the Pacific ocean to the Rocky mountains. The pioneers were not daunted by the fewness of their number or the leagues of separation.

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 had made one other condition in relocating the University in Seattle and that was 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.

The records of the early years of the University are very meagre, but it is certain that the institution had a severe struggle. A bare list of the men who filled the position of president shows that changes were numerous, since no one of the first six presidents held office for more than two years.

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. Under his administration a small class was graduated annually with all the essentials of a college training.

The total number of graduates up to date is 640. Records of the students in the earlier years, were not preserved, but it is estimated that the number of those

who have attend the University from its organization to the present time is over 5,000.

The building erected in 1861 was the finest educational structure at the time in the Pacific Northwest. It was the only building belonging to the institution except the president's cottage and two rather inferior dormitories. All were frame buildings. The money for their construction was obtained from the sale of the University lands. The territorial government paid out no money for the University's maintenance until 1879. Then the amount given was very small and was to apply on tuition fees of "free" scholars to be appointed by the governor, judges and members of the legislature. This condition prevailed in all the appropriation bills for the University throughout the territorial period. During this time, 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 beautiful 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. As in the rest of the public school system, from the kindergarten and primary school upward, instruction in the University of Washington is free to all, except in the Department of Law, without regard to race, sex, creed, or social station.

SEAT OF THE UNIVERSITY.

Every one seeking information about the University will also desire to know something of the city in which it has its home.

The city of Seattle is the metropolis of the state of Washington, and has a population of over 140,000. It is located on Elliott Bay, an arm of Puget Sound, and extends eastward to Lake Washington, one of the largest bodies of fresh water in the state.

The Cascade mountain range to the east, the Olympic mountains to the west, majestic Mount Rainier to the south and Mount Baker to the north, with the lakes, rivers and wonderful forests, combine to furnish an environment of healthfulness and inspiration. This natural beauty is beyond all computation in worth when considered as the appropriate home of a great institution of learning.

It has been the custom to refer to the climate of Puget Sound as mild but wet. The highest temperature

reached in 1904 was 90 degrees, the lowest, 27 degrees, and the mean temperature was 52.4 degrees. The rainfall for the year was 37.7 inches. A sure indication of the healthfulness of the Puget Sound climate is a low death rate.

Numerous lines of railroad, steamships and sailing vessels furnish abundant facilities for transportation to and from the city, while within the city there are over 100 miles of electric and cable street car lines. There are six public parks in the city and four private parks open to the public. The Magnolia Bluff Army Post, covering a tract of 650 acres of upland and 200 acres of tide land, also affords a beautiful public park.

Three branches of the superior court and the United States district and circuit courts in Seattle, and the state supreme court within easy reach at Olympia, offer valuable advantages for the School of Law. Three general and two special hospitals offer similar aids when it is thought advisable to establish the School of Medicine.

Students in the departments of geology, mineralogy, and mining engineering find special advantages in and about Seattle. There are numerous coal mines and stone quarries near the city, and gold and silver mines easy of access in the Cascade mountains. One smelter in Everett and another in Tacoma, may be easily visited, and the United States government has established an assay office in Seattle, which in volume of business stands next to New York and Denver.

Practical electrical engineering is amply illustrated by the extensive power and light plants in the city, and at the University, and the great system now completed at Snoqualmie Falls. The large iron works, saw mills, clay works, and numerous other manufacturing enterprises furnish valuable object lessons to students of mechanical engineering. The United States government dry dock and navy yard at Port Orchard, and the military post at Magnolia Bluff are both useful from an educational point of view.

The city maintains a fine public library, the books of which are available for students of the University. The management of the public library seeks every means possible to supplement the library of the University. The city library is rapidly recovering from a destructive fire. Andrew Carnegie has given the city $200,000 for a new library building on condition that the library be generously maintained. In a short time Seattle will own one of the first libraries on the Pacific coast.

There are seventy churches in the city. All the leading denominations are represented by several congregations. Besides the associations at the University, there are flourishing organizations of the Y. M. C. A. and the Y. W. C. A. in Seattle.

During the year 1904, thirty-two buildings were occupied by the public schools, three hundred and eighty-seven teachers were employed and 18,000 pupils enrolled. A magnificent high school building, costing over $200,000, was completed in the fall of 1902.

CENTER OF A PROHIBITION DISTRICT.

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

GOVERNMENT.

Under the constitution and the 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 the lands granted the institution as an endowment yield no revenue as yet. 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 remain of this old

grant some 3,000 acres, part of which is not yet selected. Besides this land, the University owns 320 acres near the city of Tacoma, acquired by purchase about 1862, and the old site of nine acres in the central part of the city of Seattle. Both of these last named parcels of land are sure to become good revenue producing properties. The old site has been leased for a period of fifty years. In addition to the above mentioned property the University was further endowed by the state on March 14, 1893, by the segregation of certain granted lands. Section 9 of the law approved on that day provides—

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

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

BEQUESTS.

Prior to the session of the state legislature in 1897 it was practically impossible to expect any gratuities or bequests, as such gifts would immediately go into the treasury of the state, and become unavailable except upon appropriation by the legislature. But in the session of 1897 the code of public instruction was enacted, and section 186, chapter 1, title IV., of that code made the following provision for University bequests:

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

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

BUILDINGS.

Before the erection of any buildings on the new grounds the Board of Regents adopted a wise policy by deciding that each structure should be made of materials found in the state of Washington. In this way, besides serving their various purposes, the buildings furnish magnificent exhibits of the wealth of Washington in first-class building material.

The Administration Building is constructed of a light colored sandstone from Pierce county, and cream colored pressed brick from Spokane county, with terra cotta trimmings from King county. The interior finish is of Puget Sound fir and larch. It is a commodious structure in the style of the French renaissance. The main portion of the building is 244 feet in length by 70 feet in width. It is three stories high, with a finished basement. In this main portion are the recitation rooms, lecture halls, administrative offices, vaults and society rooms. The basement is devoted to laboratories. These are all well lighted and equipped for work. Extending to the rear, and separated by light walls, is a wing 91 feet in length by 54 feet in width. In this wing is Denny Hall, the general assembly room, below which is the library. The building is heated and ven-

tilated by the latest improved facilities, and is lighted by gas and electricity. The Administration building occupies the most commanding situation on the grounds.

The Science Hall is located on the oval about 500 feet south of the Administration building. It is constructed of red pressed brick with trimmings of sandstone. It is three stories in height, with seven large rooms on each floor, and some additional space in the basement and attic.

In form the building is T-shaped, the front having very large circular ends, giving ideal locations for laboratories and lecture rooms. The first floor contains the lecture rooms and laboratories for the departments of geology and mining; the second floor, the laboratories for zoology, and the lecture room and drawing rooms for civil engineering; and the third floor, the lecture room for zoology and botany, the botanical laboratories and the lecture room and drawing rooms for mechanical engineering.

The wing in the rear is 50 by 60 feet in size, and is separated from the front by light walls. It contains the State Museum, and is arranged in a general way so that the geological collections occupy the first floor, the zoological collections the second floor, and the botanical collections the third floor.

The Power House and Machine Shop is situated on the oval southeast of Science hall. The building is of brick, two stories in height, 50 by 80 feet in size, and a wing 50 by 60 feet for the boiler room.

The first floor of the building is divided into three rooms. The first of these contains all of the steam and electrical machinery for the lighting and power system of the University. This consists of one 100-horse power Ball engine, one 40 horse power Ball engine, one 75 K. W. 500 volt direct current generator, one 60 K. W. 1,100 volt alternating current generator, one 35 K. W. 1,100 volt alternating current generator. A counter shaft is used, allowing any machine or any combination of machines to be run at any time. A five-panel switchboard distributes current to all parts of the grounds and buildings for lighting and power purposes.

The second, the boiler room, contains the three boilers, one of them fitted with a Green automatic stoker, and the pumps for furnishing all the buildings with steam and water.

In the third room is placed the iron working machinery; tool lathe, engine lathe, upright drill, shaper, vises, forges, and all the necessary tools.

The large room on the second floor is fitted up as the wood working shop. It is equipped with twelve work benches with complete outfits of tools, eleven wood working lathes, a jig saw and other necessary machinery.

The Observatory, though small, is a beautiful building. It is constructed wholly of sandstone, and occupies the highest point of the grounds northwest from the Administration building. The internal arrangement and equipment of the observatory are treated elsewhere.

The Assay Shop is situated to the north of the Admin-

istration building, and between it and the Observatory. It is a frame structure, and although it is not intended as a permanent building, it is adapted to the present needs. It consists of a furnace room, two balance rooms, a supply room, and a laboratory for wet work.

The Gymnasia are under one roof, the young women occupying the room at the western end of the building which measures 50 by 80 feet, and is provided with baths, dressing rooms, and a good equipment.

The young men occupy the eastern end of the building, which is provided with shower baths, dressing rooms, box handball courts and an equipment second to none in the Northwest. The main hall measures 80 by 120 feet, is 24 feet high at the sides and 40 feet in the center, and has a fine floor of Washington fir which is free from bad points and possesses equal elasticity everywhere. A running track, about 14 laps to the mile, with concaved corners, is suspended from the roof trusses or supported by the walls. The entire building is heated by steam and lighted by electricity.

The Old Power House is a brick structure 42 by 80 feet on the shore of Lake Washington. At present it is used for a pumping station.

Two Dormitories, one for women and the other for men, were provided for at the legislative session of 1899. There is a dining room in the women's dormitory for the use of men and women, and a parlor and reception room in each dormitory. The women's dormitory will accommodate at least fifty students, and the men's sixty.

Both buildings command a beautiful view of Lake Washington and the distant Cascade range of mountains.

GROUNDS.

The new grounds are ample to meet every need of the University. There are 355 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 225 feet above tide level. Toward the eastern, or Lake Washington side, the land is level for more than half its width, when it breaks off in a series of benches, terraces and ravines, capable of the most beautiful landscape effects.

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 ellipse, whose major axis is 1,200 feet, and whose minor axis is 650 feet long.

The Administration building faces the center of the ellipse. Other buildings will be arranged around the elliptical avenue, and the interior of the ellipse will be improved and kept open as the campus proper. Into the elliptical avenue will converge all other avenues, a topo-

graphical survey of the grounds having shown that this is the most natural treatment possible for the site. Besides ample room for an excellent arrangement of all necessary buildings for the University, there is an abundance of room for all sorts of athletic grounds. Complete plans for the improvement of the grounds and the arrangement of buildings have been worked out by Olmsted, the famous landscape architect of Boston.

One of the main reasons urged for the dedication of this land to the University purposes was that in addition to all other needs of the institution there could be established here a scientific arboretum for the cultivation, care and sudy of all kinds of trees and plants that will live in this climate.

The management of the Seattle city parks, realizing that a beautiful University campus means another fine park for the city, has done its full share towards beautifying the grounds. On Arbor Day, 1898, the Park Department presented the University with fifty assorted oaks and fifty honey locusts. During 1899 the Park Department presented to the University 2,200 fine trees, embracing about thirty species new to the grounds. These were all carefully planted in groves at suitable places on the grounds.

A superintendent of grounds is employed and a small appropriation is set aside for campus improvement. In addition to work around the Administration building and gymnasium, a nursery is being established. A donation of 1,000 perennials by the Department of

Parks and the collection of 500 more from other sources mark the beginning of this work. These represent 42 natural orders and 179 species. Contributions of seed from Blanche Trask, of California; the Department of Agriculture, Ottawa, Canada; W. A. Kellerman, Columbus, Ohio, and C. S. Mann, Mapleglen, Pennsylvania, have been received.

By exchanging native seed and plants with Eastern collectors, many rare and desirable plants are being secured.

LIBRARY.

The library of the University of Washington contains 18,900 bound volumes and about 10,000 pamphlets. Besides these there are now 420 bound volumes in the Frederic James Grant Memorial Library of American History and about 900 volumes in the library of the School of Law. It has been the policy to add each year as far as possible the best books of general reference, as well as those of most value to each department. The library contains the leading papers and periodicals, foreign and American, and practically all of the newspapers published in the Pacific Northwest. It is also a depository for the publications of the United States government, of which it has nearly a complete set. An effort has been made to complete, as far as possible, the public documents of the State of Washington and to secure a great number of the documents of the other states and foreign countries. The library is being rapidly cata-

logued and is classified according to the Dewey decimal system. The main library occupies a room 91 feet long and 54 feet wide in the basement of the Administration building.

Students of the University also have the privileges of the Seattle Public Library, which will soon have a new building, presented to the city by Mr. Carnegie, and of the library of the King County Bar Association.

UNIVERSITY HISTORY COLLECTION.

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

Richard D. Baker Loan Collection.

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

Washington State Federation of Women's Club's Historical Collection.

The University library is the depository for the his-

tory collection of the Federated Women's Clubs of the state. This collection includes material relating to the progress of the club movement and includes also a large number of manuscripts and other matter relating to the history of the Northwest. Constant additions are being made and the effort will be to supplement the work of the Washington University State Historical Society.

THE AUDITORIUM.

The assembly hall of the University embraces what would have been the first and second floors of the wing of the Administration building. A large stage and a seating capacity of 736 make this hall serviceable, not only for the assembling of the University students, but also for the various entertainments that form one of the attractive features of University life. The Board of Regents has named this assembly room Denny Hall, in honor of Hon. Arthur A. Denny, who gave most of the first campus to the University when it was located at Seattle in 1861.

MUSEUM.

The University museum is destined to become one of the most important adjuncts of the institution. The legislature in 1899 made it the state museum 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 is located in a specially designed wing of the recently constructed Science hall, where it occupies three floors, each 50x60 feet. The lower floor is devoted to the collections illustrating geology, the second floor contains the zoological and ethnological collections, and the third floor the herbarium, botanical exhibits and miscellaneous material. The specimens are stored for the most part in upright and wall cases, of which 442 running feet have been provided. In addition to these, several large table cases serve to display the more important mineralogical collections. The specimens thus far accumulated represent a good beginning along the lines of geology, mineralogy, zoology, botany and ethnology, and are of great value in illustrating the work of the departments concerned.

During the last few years many important additions have been made to the museum. The John R. Baker collection of minerals, consisting of over a thousand specimens of rare and beautiful crystals and other representatives of the mineral kingdom, has been deposited indefinitely and is exhibited in three large table cases in the geological section of the museum.

Among the more important biological contributions may be mentioned a collection of over a hundred mounted fishes presented by Mr. Edwin C. Starks. Through the efforts of the same gentleman a series of beautiful corals was secured from the Field Columbian Museum. Mr. P. B. Randolph has deposited in the museum his extensive collection of land, fresh water and marine

shells, comprising about ten thousand specimens from all parts of the world. This collection is especially rich in local forms, and includes a fairly complete series of the mollusca indigenous to the Puget Sound region.

The palaeontological section received a marked addition in a series of palaeozoic fossils presented by Dr. S. Winfield Hartt, of Port Angeles. The museum is also indebted to the same gentleman for an important collection of archaeological specimens from the southwestern United States. From the Harriman Alaska Expedition the ethnological section obtained a totem pole derived from Southern Alaska.

It is the aim to make the museum especially rich in specimens illustrating the natural history of the state. A considerable series of birds and other vertebrates has already been secured, while each year the collection of invertebrates is enlarged by the addition of named series in these groups. It is hoped that in the near future the museum may possess carefully determined representatives of nearly all the groups of marine and terrestrial animals of the region.

The museum has recently received from the Young Naturalists' Society of Seattle the extensive collections of that organization, representing the accumulations of over twenty years on the part of members of the society. This collection includes many thousands of specimens, and is especially rich in material illustrating the natural history and ethnology of the Pacific coast. It contains the herbarium prepared by Professor C. V. Piper and

Miss Adella M. Parker, the ornithological collection of Professor O. B. Johnson, a large series of fishes and molluscs, and collections of invertebrates of all orders, all of which represent most important contributions to the material available for the use of those wishing to study the natural history of the state.

The University has also secured through the generosity of Professor O. B. Johnson, the large collection of molluscs belonging to that gentleman, which contains specimens from all parts of the world, and it is intended to make this the nucleus of the conchological collections of the museum.

The specimens of the ornithological collections of the museum have been identified and arranged by Miss Adelaide G. Pollock, and are now available for the use of those wishing information concerning the birds of the region. The series of birds has been greatly extended through the generosity of Dr. Clinton C. Cook of Seattle, who has deposited in the museum, as a loan, his fine collection of passerine forms.

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:

Chemical.

The four laboratories devoted to chemistry alone are exceptionally well lighted by large outside windows admitting the direct sunlight, as well as by gas and electricity. By a system of circulating warm air, the rooms are largely free from fumes or disagreeable odors, and a uniform temperature maintained. Each laboratory is also supplied with a large "hood," which is lined with glazed tiling and supplied with gas, water and waste pipes. All the desks have heavy walnut tops, and each is supplied with drawers, shelves, gas, water and a full set of reagents for qualitative analysis as well as completely new and modern glassware and apparatus. A large stock room is well supplied with a complete assortment of glassware, apparatus and chemicals. This room is in charge of an assistant, and at certain hours during the day students may supply themselves with apparatus and chemicals as needed for individual work.

In the rear of the stock room is a private laboratory of sufficient size to accommodate two persons. This laboratory is assigned to a graduate student for research work.

Laboratory F accommodates twenty-eight students, working at the same time, and is devoted to the students of pharmacy who are also taking courses in chemistry. Adjoining it is the private laboratory of the instructor in pharmacy, in which will be found a well-stocked prescription desk for the use of students in prescription work.

Laboratory D, directly across the hall, accommodates twenty-one students, and is devoted to qualitative analysis.

Laboratory E accommodates twenty-five students. It is in the form of a theatre and is exceptionally well lighted and is an ideal room for the organic work to which it is devoted. Opening from it is a room which is equipped with ten balances, suited to the needs of the advanced students in general chemistry and students in organic work.

Laboratory H is the private laboratory of the professor of chemistry.

Laboratory I accommodates about fifty students, working at one time. It is located a few yards from the Administration building and near the assay shops. It is devoted chiefly to quantitative work, and opening from it through double doors is a balance room containing the analytical balances needed in the work. This laboratory is equipped with hoods, water baths, gas, water, etc., and is well lighted, so that it is especially well fitted for the work to which it is devoted. In the same building there is also a small laboratory for the use of the instructor in charge of the quantitative work.

Physics and Electrical Engineering.

The laboratories set apart for the use of the department consist of: (1) a general laboratory, 30x70 feet; (2) an electrical testing room with four piers; (3) a photometry room; (4) a dynamo laboratory and a bat-

tery room; (5) a shop.

The laboratories are supplied with apparatus from the best American and European makers. Among the more important pieces of apparatus may be mentioned: (1) standard balances, cathetometer, a mercury air pump and a Geneva Society straight-line dividing engine with microscopes, so that it may be used as a comparator; (2) Helmholtz resonators and double siren, chronograph with fork; (3) Boy's radiomicrometer, Dulong and Petit's absolute expansion of liquid apparatus, Berthelot's heat of vaporization apparatus and a Waterman calorimeter; (4) a spetro-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, Kohlraush 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, an induction motor, a 6-h. p. motor and a 25-h. p. motor, a Lummer-Brodhem photometer, a Matthews integrating photometer, etc.

The general laboratory is supplied with a number of standard reference works, among which may be mentioned Wenkelmann's Handbuch, Violle's Course de

Physique, Wullner's Experimental Physik, Grey's Absolute Measurements in Electricity and Magnetism. 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.

Botanical.

Science hall. The general laboratory is a room 41 feet Science hall. The general laboaratory is room 41 feet by 42 feet, with a semicircular end. It has eleven large windows and a skylight, thus providing excellent light for microscopic work for forty-four students at one time. It is equipped with desk tables and revolving chairs; with two lead-lined aquaria and water fixtures; with abundant cases for books and preserved material, and with microscope cases. There is also a case of drugs for pharmaceutical work.

The histological and physiological laboratory is 20x24 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 9x12 feet opens off of it. This is fitted with shelves for storing material and serves as a storeroom for material preserved in formaldehyde. It is fixed for photography and used also for experiments in physiology re-

quiring 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 16x16 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.

Botany and zoology have a common lecture room on the second floor, with a seating capacity of nearly 100, and fitted with the 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-four compound microscopes, twelve dissecting microscopes, one of the best Minot microtomes, six camera lucidas, and the smaller fixtures necessary for first-class 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 eighty-dollar edition of Engler and Pranti's "Die Naturliche Pflanzenfamilien" among the number. There are also appliances for photography and the making of lantern slides, as well as several hundred lantern slides on hand.

The herbarium consists of about 5,000 specimens, representing the bryophytes, pteridophytes and phanerogams. These include the Chicago World's Fair exhibit

of Washington, with others added from time to time by exchange and collection. Recently Mr. Burglehaus has presented a collection of 1,500 mounted plants from the Eastern states and Puerto Rico. The department will be glad to get other specimens from teachers and others.

Zoological.

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

The general zoological laboratory is semicircular in form and is specially 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 ten dissecting microscopes, and eighteen compound microscopes, each equipped with high-grade objectives of the necessary powers. For advanced work more powerful lenses are provided, together with additional 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 microphotography and other lines of photographic work.

The zoological laboratory is richly 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 and will accommodate a considerable number of students, providing 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.

Geological.

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, 38x45 feet in size, has been especially designed for mineralogy,

but it is used as a laboratory for general geology as well. It is supplied with eight tables, made with tile tops and provided with gas fixtures, which accommodate sixty-four students at one time. For laboratory work in general geology there are working collections of minerals, rocks and fossils, as well as sets of geologic and topographic maps. For work in mineralogy there are several cabinets filled with collections of mineral for descriptive and determinative work, collections of natural crystals, wood models, blowpipe sets, etc.

The petrographical laboratory, 20x22 feet in size, adjoins the one just described. For work in petrography there is provided a 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, 22x23 feet in size, lies across the hall from the one last described. It is well provided with maps, models, meteorological apparatus and like equipment. At the present time this room also contains the library of the State Geological Survey.

A room in the basement, immediately beneath the physiographic laboratory, is used as a workshop for the

construction of relief maps or models. It is a large and well-lighted room, has a concrete floor, and is in every way well adapted for work with clay and plaster.

Engineering.

Surveying.—The equipment in instruments is complete for all plane and topographic work. It consists of one Heller & Brightly complete engineer's transit, one Buff & Buff complete engineer's complete transit, one Gurley light mountain transit with solar attachment and Jones' patent latitude arc, two Keuffel & Esser transits, one Gurley railroad compass, two 20-inch Gurley wye levels, one Buff & Buff 18 inch wye level, one Buff & Berger inverting dumpy level, one Gurley and one Keuffel & Esser plane table both complete with alidades; sextant, hand level, chains, tapes, level and stadia rods and other minor but necessary articles.

Draughting and Design.—The two general draughting rooms are large and well lighted. They contain first class draughting desks, lock drawers, stools, cabinets, models and a large collection of drawings and blue prints, illustrating current engineering practice. Drawing boards are furnished by the University. A Thatcher's calculating instrument is available for the use of advanced students. The blue-print room provides for sun printing from any size, tracing up to 28 inches by 40 inches.

Hydraulics.—The hydraulic laboratory is equipped

for testing small impulse wheels, meters and nozzles under heads up to 65 feet.

Structural.—The structural materials testing laboratory contains a 100,000-pound Riehle testing machine with complete appurtenances for tensile, compressive and transverse tests of wood, iron, steel, stone and brick.

Cement.—A laboratory equipped for making the usual tests of hydraulic cement will be installed in time for use during the coming year.

The description of the electrical equipment will be found under the head of *Physics, and Electrical Engineering,* page

The description of the mechanical equipment will be found under *The Power House,* page 31. This will be materially increased during the coming year.

Library.—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, reports of the United States Coast and Geodetic Survey, reports of the United States Geological Survey, besides a fair collection of general engineering books and the current engineering periodicals.

Assay Laboratory.

The assay laboratory is located just north of the Administration building. One room contains four stationary wind furnaces, 17 inches square; one large double muffle, heated by coal and coke; desks for sixteen

students; four ore balances and tables for preparing charges, sampling ore and like equipment. An adjoining room contains a Hoskins gasoline pressure tank, three burners to heat muffles and fusion furnaces, a Brown cupel machine, two wind furnaces, a motor of 2-h. p. to run a gyratory muller and a jaw crusher, a sampling floor, bucking boards, mortars, pans, lockers and various articles.

The balance room is supplied with a fine Keller button balance, sensitive to 1-200 m. g., Oertling and Becker fine button balances, and two Becker analytical balances.

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

Observatory.

The University observatory consists of a dome for the telescope of six-inch clear aperture, a library and computing room, a transit room, a cloak room, a closet for photography, etc.

The present equipment consists of an equatorial telescope of six-inch clear aperture, a Bond sidereal chronometer, and a sextant. The equatorial is furnished with a driving clock, a solar eye-piece, a filar position micrometer, and a set of positive and negative eye-pieces. The

optical parts were made by Brashear, and the mountings by Warner & Swasey.

STUDENT ASSOCIATIONS.

The Associated Students of the University of Washington is an organization of the entire student body. The powers of government are vested by its constitution in an annually elected executive committee. This committee decides all questions relating to the student body as a whole, and controls all matters of general interest to the student community. The association also elects a general manager, who has the financial control of all branches of athletics, musical organizations and of contests in debate and oratory. He has charge of all moneys received as association fees or admission to games and contests, and is the custodian of all property belonging to the association. He is required to give a bond for $4,000. Besides the general manager there is elected a separate manager for the college paper, and for a co-operative student book store. These managers are also bonded, and, like the general manager, are held responsible in all things to the executive committee.

The Student Book Store, located on the first floor of the Administration building, is owned and operated by the Associated Students. It handles all the textbooks, stationery and supplies at a reduction from the usual prices.

The Stevens and Badger Debating Clubs are organizations among the young men for the improvement of their

members in the art of debate. That frequent practice may be afforded, the membership in each of these clubs is confined to thirty students. The meetings are held once a week, and announcements of subjects for debate 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.

The Athena Debating Club is a similar organization among the young women.

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

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.

The Society of Engineers is an association composed of the students in the college of engineering and the school of mines. Meetings are held once a month, at which original papers are presented by the members or lectures delivered by prominent engineers.

The German Club, organized in the winter of 1903-04, aims to supplement the work of the class-room by making its members better acquainted with the life of modern Germany and by giving them opportunity for German conversation. The work of the club has thus far been done in two sections, but these sections meet occasionally for a social evening or to listen to an address

in German.

The W. T. Harris Club, organized January 29, 1900, is composed of teachers and students in the department of education. Its purpose is to promote and direct investigation and discussion along such lines as may from time to time be selected or that public educational policy may suggest. The club meets each week.

The University Orchestra was organized in 1898 and has been doing excellent work. This organization is of great assistance, as it furnishes music for the usual programs during the University year. Other musical associations of the University include a women's glee club and a men's glee and mandolin club, and the students' cornet band.

The Young Men's Christian Association and the Young Women's Christian Association have each a branch organization among the students of the University. 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. This they do, in part, by means of a bureau of information maintained by the two associations jointly and an employment bureau. The Young Men's Christian Association now has a regular reading room and headquarters in the men's dormitory. Each association employes a paid secretary.

Four tennis clubs among the men of the faculty and students control good cinder courts on the campus, where the ordinary playing is provided for and periodi-

cal tournaments are held. The young women also have had two cinder courts built for their match games.

SCHOLARSHIP AND PRIZES.

Oratory.—The King County Bar Association in the spring of 1896 offered a cash prize of $100, 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.

Chemistry.—A friend of the University has provided a scholarship of $200.00 to be awarded annually to a student of the department of chemistry. Any student of the department is eligible to appointment 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.

A second scholarship of $150.00 has also been provided by another person which is open to students of the Freshman Class in chemistry. This scholarship will be competed for during the year of 1905-06 and will be enjoyed during the year 1906-07.

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 con-

tinue his work in the subject during the following year. The award will be made by the instructors in the department on the same basis as in the case of the preceding scholarship.

Pharmacy.—Thos. W. Lough of the class of 1900 has provided a gold medal to be given to the student maintaining the highest rank in the Freshman Class of the school of Pharmacy. This prize will be awarded by the professors in the departments of Pharmacy, Chemistry, Botany and Physiology.

Physics.

Physics.—Through the generosity of Mr. James A. Moore the department offers a scholarship of $100 to that student in the College of Liberal Arts who shall have done the best work in physics and mathematics during the year 1905-06. The student must have had at the time of the award at least eight hours in each of the above subjects, and will be expected to continue the work in physics the next year. The award will be made in June, 1906.

Electrical Engineering.

Through the generosity of Mr. Jacob Furth a scholarship of $100 is offered to the senior student in electrical engineering who shall have done the best work in physics, mathematics and electrical engineering during his course.

This scholarship will be awarded in June, 1906.

Six of the national Greek letter fraternities have established chapters in the University. Of the six fraternities possessing charters, three live in their own houses; the other three live in rented houses. Students in the school of pharmacy have also established an independent fraternity.

Three of the national Greek letter sororities have likewise established chapters in the University and live in sorority houses.

ALUMNI ASSOCIATION.

Officers for the year 1904-5.

President.....THOMAS M. ALLERSON, A. B., 1896
Vice-President.....ROSE GLASS, A. B., 1904
Secretary.....MRS. H. C. COFFMAN, A. B., 1899
Treasurer.....JAMES E. GOULD, Ph. B., 1896
Historian.....ADELEA M. PARKER, A. B., 1893

EXECUTIVE BOARD.

MARION EDWARDS, A. B., 1898, *Chairman.*

WASHINGTON UNIVERSITY STATE HISTORICAL SOCIETY.

There has recently been organized a society with the above title, having officers and trustees 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.

The purposes of the organization are set forth in article III. of the articles of incorporation as follows:

To establish and maintain a society for the collection

and preservation of historical facts and records; to gather and preserve memorials of the pioneers and early settlers of the Territory and State of Washington; to purchase, own, hold, enclose, maintain and mark the places of historical interest within this state by suitable and appropriate monuments, tablets and enclourses; to promote and engage in historical research relating to the Indians and Indian tribes; to engage in, carry on and promote historical, antiquarian, archeological, literary and scientific researches and to publish the results of the same; to collect, collate, bind and put in convenient form for use and preservation the papers, documents, materials and records collected by the society, to publish, provide for and superintend the publication and distribution of any papers, manuscripts, documents and records collected by the society; to establish and maintain a library; to encourage and promote the study of history and especially of the history of the Territory and State of Washington, at the University of Washington; to act as trustee and custodian of any historical, literary, scientific or other books, documents or property entrusted to its keeping; to purchase or construct a suitable building for safely housing and preserving the historical and other records belonging to the society or committed to its care and for its use and accommodation in all other respects; to receive, accept and fully acquire, by purchase, lease, gift or otherwise, lands, tenements and hereditaments, and all such personal property as it may deem desirable for its interests, including

stocks, bills receivable, promissory notes, bonds, mortgages, bills receivable and choses in action, and to sell and dispose of the same (except that the papers, books, documents, historical and other records belonging to the society shall never be sold, mortgaged or disposed of, but duplicates or superfluous copies thereof may be exchanged or otherwise disposed of); to borrow money and to make and deliver its promissory notes or other agreements to pay money, and to issue and sell its negotiable bonds and secure the same by making, executing and delivering mortgages and deeds of trust of its real property, or any thereof, for the payment or performance of all notes, bonds, contracts and other obligations which it may at any time make or incur; and to do each and every act and thing whatsoever which may at any time be or become necessary, convenient and advisable for it to do, in order to accomplish and carry out all or any of the objects or purposes or exercise any or all of the powers aforesaid, to the same extent that an idnividual or natural person might or could do in the premises; as well as each and every of the powers expressly or impliedly conferred in or by the laws of the State of Washington relating to the organization and management of such associations.

EXPENSES OF STUDENTS.

Tuition is free to all students of the State of Washington in all colleges of the University, excepting Law. For non-residents of Washington the tuition is $10 a

semester. In the School of Law the tuition is $20 a semester, for all students.

Diploma Fee.

The fee charged to graduates is $5 for each one receiving a baccalaureate or higher degree, or a diploma in pharmacy, and $3 for each one receiving a normal diploma

Laboratory Fee.

The fees charged in the laboratories simply cover the cost of materials used by the students. The charges are specified under the general subject of Laboratory Fees.

All laboratory and locker fees, room-rent, and tuition fees in the School of Law must be paid in advance to the Registrar of the University.

Board and Room.

In the two dormitories, one for men and one for women, board and rooms are furnished at cost. For the past three years the price of board has been $13.50 per month.

Rooms, with heat and light, cost $12.00 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 $15, which is returned at the end of the year, must be made with the registrar in advance by

all students desiring to board at the dormitory. The charge to each student is large enough to maintain the dormitories in a manner that will ensure comfortable rooms, wholesome food and generally healthful surroundings. The University does not desire to make any profit from these 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 loadging with private families has ranged from $15 to $25 month.

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 which the Board of Regents is disposed to give students. This includes assistance in the library, the laboratories, the engine rooms and janitor work. 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 no reason why any ambitious and capable young man or woman desiring an education should not obtain it at the University of Washington.

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 injury to apparatus, when payment for the cost of the injury is required. The other fees charged are based upon the average cost of material used in the laboratories. Laboratory fees are payable to the Registrar in advance. These fees in the several laboratories are as follows:

Chemistry.—At the beginning of each semester all students in chemistry will be required to make a deposit of ten dollars ($10) with the Registrar before being assigned to their desks except in chemistry 0, where the deposit will be five dollars ($5). Of these deposits one-half will be deducted to pay cost of chemicals, gas, water, etc., and the remainder, less breakage, will be returned.

Pharmacy.—All students in Pharmacy will be required to make a deposit of ten dollars ($10) each semester during their Junior year and fifteen ($15) during their Senior year. Of this amount one-half will be deducted to cover cost of drugs, and the remainder, less breakage, will be returned. These deposits are in addition to those required in other departments.

Physical and Electrical.—Students are required to make a deposit of five dollars ($5) with the Registrar. From this deposit one dollar ($1) for each hour of credit is deducted to pay for material and repair of

apparatus, and the remainder, less breakage, is returned.

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

Each student is furnished with a key to a drawer in his laboratory table, for which a deposit of twenty-five cents must be made. This is refunded upon return of the key.

Zoological.—For the courses in Zoology, involving laboratory work, a fee is required to cover the estimated cost of the laboratory outlines, material and reagents used by the student. For the regular courses, the amount is one dollar for each hour's credit carried through the year. In research work the amount of the fee is subject to special arrangement, according to the nature of the investigation.

Psychological.—A fee of two dollars ($2.00) is required of students of elementary psychology, payable to the Registrar.

Mineralogical.—In mineralogy a fee of two dollars a semester is charged, besides which a deposit of five dollars is required as surety for the return of the blowpipe outfits which are loaned to students.

Assaying.—In assaying there is a laboratory fee of five dollars for each course. A deposit of ten dollars is also required to cover cost of material furnished to

students. If at the end of the semester, the student has not drawn out material to the amount of ten dollars the balance is refunded. If, however, he has exceeded that amount, he is expected to pay the difference.

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

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

DISCIPLINE.

Students are expected to conduct themselves as good citizens, and to perform their work in the University conscientiously. Contravention of these principles will lead to admonition, to suspension, and when students are incorrigible, to expulsion.

ADDRESSES AT ASSEMBLY.

Addresses by members of the faculty and by distinguished scholars and men of affairs are given every Monday before the student body of 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 1904-1905:

Sept. 21—Addresses of Welcome by President Kane and certain student leaders.

Sept. 26—Dramatic Recital—Mr. Wadsworth Harris of the Warde-James Dramatic Company.

Oct. 3—"Character and Success"—Mayor R. A. Ballinger

Oct. 10—"The Philippines"—Judge W. S. Norris, of Nebraska

Oct. 17—"My Reasons for Believing that Man has a Soul"—Judge Orange Jacobs.

Oct. 24—"Unveiling the San Juan Monuments"—Hon. Bernard Pelly, British Vice Consul.

Oct. 31—"Climbing Mt. Rainier"—Prof. Theodore C. Frye.

Nov. 7—"Extracts from a Harvard Address—Mr. Samuel Hill.

Nov. 14—"Booker T. Washington"—Rev. W. D. Simonds.

Nov. 21—"The Travels of Fa-Hein"—Rev. H. H. Gowen.

Nov. 28—"The University of Washington"—Governor Albert E. Mead, and Recital by Edmund Vance Cooke.

Dec. 5—"Roosevelt's Ideal"—Jacob A. Riis, of New York.

Dec. 12—"The Morality Plays"—Mr. Ben Greet of the Ben Greet Company.

Dec. 19—Addresses by Senators Davis, Rand and Tucker, and Representatives Gleason, Todd and others of the State Legislature.

Jan. 9—"Browning"—Rev. Alfred Martin.

Jan. 16—"James Whitcomb Riley"—Professor Maynard L. Daggy.

Jan. 23—Concert by musical clubs and orchestra.

Feb. 6—Reading: Browning's tragedy, "A Blot i' the Scutcheon"—Miss Thomas of the Ellensburg Normal.

Feb. 13—"Abraham Lincoln"—Professor Edmond S. Meany.

Feb. 20—"Maimonides"—Rabbi Theodore F. Joseph.

Feb. 27—"Mars"—Professor Robert Moritz.

March 6—"What Makes For Success in Teaching"—Principal William F. Geiger.

March 13—"Aims and Methods of Gymnasium Work"—Dr. Benjamin F. Roller.

March 20—"Observations in Greece"—Dr. Rufus Byam Richardson.

INSTITUTES AND LECTURES.

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

ORGANIZATION OF THE UNIVERSITY.

The UNIVERSITY OF WASHINGTON embraces:—

The College of Liberal Arts.
The College of Engineering.
The School of Mines.
The School of Pharmacy.
The School of Law.

The 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. The courses leading to masters' degrees are not less than one year.

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

DIVISION OF THE YEAR.

The year is divided into two semesters. Admission will be granted at the beginning of either semester to students properly prepared, but freshmen should enter, if possible, at the beginning of the first semester.

ADMISSION.

I. Admission to the Freshman Class.

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

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

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

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

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

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

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

For the Literary course, four units of foreign language.

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

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

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

Suggested Outline of Courses for Entrance.

Group I. (*Classical.*)	Group II. (*Literary.*)	Group III. (*Scientific.*)	Group IV. (*Engineering.*)
First year:			
English.	English.	English.	English.
Algebra.	Algebra.	Algebra.	Algebra.
Physiography.	Physiography.	Physiography.	Physiography.
Latin.	Latin.	Option.	Mechanical Drawing and Manual Training or Option.
Second year:			
English.	English.	English.	English.
Plane Geometry.	Plane Geometry.	Plane Geometry.	Plane Geometry.
Latin.	General History.	General History.	General History.
Greek.	Latin.	Biology.	Biology.
Third year:			
English.	English.	English.	English.
Physics.	Physics.	Physics.	Physics.
Latin.	Latin.	German or French.	German or French.
Greek.	Algebra (½ yr.) and Solid Geometry or Option (½ yr.)	Algebra (½ yr), and Solid Geometry or Option (½ yr) :.	Algebra (½ yr), and Solid Geometry (½ yr) :.
Fourth year:			
English.	English.	English.	English.
Latin.	Latin.	2d yr. German, or 2d yr. French	2d yr. German, or 2d yr. French
Civics and Greek and Roman History	Civics and Greek and Roman History.	Civics and American History	Civics and American History
Greek.	Option.	Science.	Chemistry.

SUGGESTIONS FOR PREPARATION.

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

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

GREEK.

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

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

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

These requirements presuppose the completion of the

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

The following division of the work is suggested:

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

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

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

LATIN.

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

First Year.—Collar and Daniell's First Year Latin, of 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 of 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 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 the Aeneid. Special attention should be paid to prosody, the snytax of Vergil, mythology, and the history and purpose involved in the poem.

GERMAN.

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

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

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

FRENCH.

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

The student must have the ability to use readily any of the elements of the language which are 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, and 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 required ability to translate any passage of moderate difficulty. Practical exercises in easy syntax should be given in connection with the texts read.

ENGLISH.

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

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

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

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

English B: Study and Practice.—This part of the examination presupposes more careful study of each of the works named below. The examination will be upon subject-matter, form, and structure, and will also test the candidates' ability to express his knowledge with clearness and accuracy. In addition the candidate may

be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

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

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

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

HISTORY AND GOVERNMENT.

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

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

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

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

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

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

CHEMISTRY.

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

PHYSICS.

An amount represented by Carhart & Chute's Physics or equivalent should be given in the 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, 118, 122, 123, 126.

BOTANY.

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

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

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

ZOOLOGY.

The student applying for a full unit of entrance credit in this subject must give evidence of nine months' work

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

PHYSICAL GEOGRAPHY.

The preparation on this subject should include at least one full year's work in elementary geology or physiography. Shaler's First Book of Geology, and Davis' or Tarr's Physical Geography are examples of good texts.

PHYSIOLOGY.

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

MATHEMATICS.

1. *Algebra.*—The amount of work in algebra should be at least five recitations a week for a year and a half. It should include factoring, fractions, simple equations, both numerical and literal, simultaneous equations, evolutions, surds, fractional and negative exponents,

quadratic equations, ratio and proportion. Wentworth's New School Algebra, Fisher & Schwatt's School Algebra, Wells' Essentials of Algebra are good books to use in preparation for this subject.

Students entering the University with credit *in* algebra not exceeding one unit, will be required to pass an examination in the work outlined above before taking freshman algebra.

Credit cannot be allowed for algebra studied in the grades below the high school.

2. *Plane Geometry.*—This includes all of plane geometry, as given in the usual text books, like those of Milne, Wentworth and Wells. It is absolutely essential that the students should have a thorough drill in original theorems, problems and numerical exercises.

The amount of work in plane geometry should be at least five recitations a week for a year.

3 and 4. *Solid Geometry and Plane Trigonometry.* —Books VI, VII and VIII of Milne's Geometry, or equivalent, should be carefully studied. The work should include original theorems, problems and numerical exercises. The work in plane trigonometry should include the solution of plane triangles and logarithmic computation.

DRAWING.

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

Admission From an Accredited School.

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

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

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

LIST OF ACCREDITED SCHOOLS.

The following high schools and academies have been accredited for the year. Graduates of the class of 1905 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—
(Whatcom.)
Classical; scientific.
(Fairhaven)
Classical; scientific.

Centralia—
Latin; literary.

Chehalis—
Latin.

Colfax—
Elective system.
See Tacoma.

Davenport—
Classical.

Dayton—
Classical.

Everett—
Latin; scientific.

Kent—
Classical; scientific.

La Conner—
Latin; scientific.

North Yakima—
Classical; Latin; scientific.

Olympia—
Latin; literary.

Port Townsend—
All courses.

Puyallup—
Classical; scientific.

Seattle—
College preparatory; individually.

Snohomish—
Elective system.
See Tacoma.

Spokane—
Classical, literary, scientific, engineering.

Tacoma—
Elective system; students accredited as their courses meet requirements.

Vancouver—
All courses.

Walla Walla—
Classical; literary.

Waterville—
Classical; scientific.

Schools on the accredited list April 1st.

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

II.—Admission as Special Students.

Persons who are at least eighteen years of age will be

allowed to enroll for special courses of study, on giving satisfactory evidence of their fitness 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.

III.—Admission to Advanced Standing.

Students from classes above the freshmen 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.

REGISTRATION.

Registration Days are the first and second days of each semester. A student is to present himself before the Committee on Admission and be assigned to the proper class officer and given the necessary blank enrollment forms.

COLLEGE OF LIBERAL ARTS

THE FACULTY.

Thomas Franklin Kane, Ph. D.
(Johns Hopkins University)
President.

Henry Landes, A. M.
(Harvard University)
Professor of Geology and Mineralogy.

Edmond S. Meany, M. L.
(University of Wisconsin.)
Professor of History.

J. Allen Smith, Ph. D.
(University of Michigan.)
Professor of Political and Social Science.

Arthur R. Priest, A. M.
(De Pauw University)
Professor of Rhetoric and Oratory.

Horace Byers, Ph. D.
(Johns Hopkins University.)
Professor of Chemistry.

Caroline H. Ober,
Professor of Spanish.

Trevor Kincaid, A. M.
(University of Washington)
Professor of Zoology.

Frederick M. Padelford, Ph. D.
(Yale University)
Professor of English Literature.

ALBERT H. YODER, A. B.
(Indiana University)
Professor of Pedagogy.

ARTHUR S. HAGGETT, PH. D.
(Johns Hopkins University)
Professor of Greek.

FREDERICK A. OSBORN, PH. B.
(University of Michigan)
Professor of Physics and Director of the Physical and Electrical Laboratories.

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

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

JAMES E. GOULD, PH. B.
(University of Washington)
Assistant Professor of Mathematics.

OTTILIE G. BOETZKES, A. M.
(University of Washington)
Assistant Professor of Modern Languages.

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

THEODORE C. FRYE, PH. D.
(University of Chicago)
Professor of Botany.

HERBERT D. CARRINGTON, PH. D.
(University of Heidelberg)
Professor of German.

GEORGE H. ALDEN, PH. D.
(University of Wisconsin)
Assistant Professor of History.

THOMAS K. SIDEY, PH. D.
(University of Chicago)
Assistant Professor of Latin and Greek.

ROBERT E. MORITZ, PH. D.
(University of Strassburg)
Professor of Mathematics and Astronomy.

BENJAMIN F. ROLLER, A. B., M. D.
(University of Pennsylvania)
Professor of Physical Culture and Hygiene.

HENRY K. BENSON, A. M.
(Franklin and Marshall College)
Assistant Professor of Chemistry.

MAYNARD L. DAGGY, PH. B.
(De Pauw University)
Assistant Professor of Rhetoric and Oratory.

INSTRUCTORS AND ASSISTANTS.

HENRY L. BRAKEL, A. B.,
(Olivet College)
Instructor in Physics.

MCQUILKIN DEGRANGE, A. B.
(Johns Hopkins University)
Instructor in English.

GRACE GREENE, A. B.
(University of Washington)
Instructor in Spanish.

JEAN R. WOLD, M. G.
New Haven Normal School Gymnasium)
Instructor in Physical Culture for Women.

PAUL HOPKINS, A. M.
(University of Washington)
Instructor in Chemistry.

DAVID H. WOLFLE, A. B.
(University of Oregon)
Assistant in Physics.

PERRY N. LAWSON, A. B.
(University of Washington)
Assistant in Political Science.

MABEL E. BULAND, A. B.
(University of Washington)
Assistant in Pedagogy.

HANNAH JOHNSTON, B. S.
(Iowa State College)
Assistant in Chemistry.

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.

ADMISSION.

Students may be admitted to the College of Liberal Arts in the two ways indicated on page 69

COURSE OF THE COLLEGE OF LIBERAL ARTS.

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

recommendation of the Director, to substitute eight extra scholastic credits.

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

PLAN OF THE COURSE.

The general plan below shows how the one hundred and twenty hours are to be divided. The numerals indicate various subjects in each department, which are described in full under the departmental statements, page 92 and following.

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

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

*At least 16 hours in one foreign langnage.

REQUIREMENTS BY YEARS.

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

*For graduation from the classical course students must have finished Greek courses 1 to 4 (or an equivalent) and courses 5 and 6 in addition.

SUMMARY OF THE COURSE.

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

MAJOR AND COLLATERAL STUDIES.

At the beginning of his junior year every student is required to select a major study. He then has the head of the department as his adviser and must consult him with regard to every step in his course. The student must then do work in his major study, which, with the addition of the work already done in this study, will amount to at least twenty-four hours.

Degrees.

Sudents who complete the course of the College of Liberal Arts will receive the degree of Bachelor of Arts (A. B.).

Degree With Honors.

A degree with honors in his major study 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.

The following is the system of grades:

A : .....93-100 Per cent.
B+: .....[illegible] 5-92.
B : .....75-84.
B—: ....70-74.
C (conditioned : .....59-60.
D (failed : .....Below 50

THE NORMAL DIPLOMA.

It is the proper function of the University, as the head of the system of public instruction, to furnish properly trained persons to act as superintendents, principals and assistants in the larger public schools, and as instructors in high schools and academies. It is hoped, by giving instruction in the theory and art of teaching, that these schools may be brought into closer relations with the University. To this end a normal diploma will be granted to students taking a baccalaureate or higher degree in the College of Liberal Arts, who shall have completed eight hours of prescribed head of the department of education, provided they give satisfactory evidence of their fitness for teaching. These diplomas are equivalent to the life diplomas issued by the state superintendent of public instruction.

MASTERS' DEGREES.

The degree of Master of Arts (A. M.) or Master of Science (M. S.) is conferred upon graduates of the University, and upon others who have had an equivalent training of one year of graduate work, and on the presentation of an approved thesis, and the passing of a satisfactory examination.

DEPARTMENTS OF INSTRUCTION.

GREEK.

PROFESSOR HAGGETT AND ASSISTANT PROFESSOR SIDEY.

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 other courses. 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. Tu., W., Th., F., 8:30.)—For beginners. (No credit allowed if presented for entrance.)

ASSISTANT PROFESSOR SIDEY.

2. **Elementary Greek.** (Second Semester. Tu., W. Th., F., 8:30.)—Continuation of course 1; Xenophon's Anabasis, Book I; Greek composition. (No credit allowed if presented for entrance.)

ASSISTANT PROFESSOR SIDEY.

3. **Xenophon.** (First Semester. M., Tu., Th., F., 10:20.)—Anabasis, Books II.-IV.; Greek composition; sight translation. (No credit allowed if presented for entrance. Prerequisite, 2.)

PROFESSOR HAGGETT.

4. **Introduction to Epic Poetry.** (Second Semester. M., Tu., Th., F., 10:20).—Homer's Iliad, Books I.-III., with special reference to Homeric grammar and prosody. (No credit allowed if presented for entrance. Prerequisite, 3.)

PROFESSOR HAGGETT.

5. (a) **Advanced Course on Epic Poetry.** (First Semester. M., W., Th., F., 9:25.)—Rapid reading of selections from Homer's Odyssey, with frequent exercises in translation at sight; careful reading of the rest of the Iliad and Odyssey in the metrical translations; study of the prehistoric age of Greece and the history of epic poetry; lectures and collateral reading.

(b) **Introduction to Greek Historical Prose.**—Translation of selections from Herodotus, with frequent exercises in translation at sight; the history of Greece in outline from the prehistoric period to the close of the Persian War; lectures and collateral reading. (Prerequisite, 4.)

PROFESSOR HAGGETT.

6. (a) **Introduction to Greek Philosophical Prose.** (Second Semester. M., W., Th., F., 9:25.)—Translation of Plato's Apology and Crito, with sight reading in Xenophon's Memorabilia; the history of Greece in the Periclean Age and the Peloponnesian War as a background for the study of the life of Socrates; outline of the history of Greek philisophy to the time of Plato; lectures and collateral reading.

(b) **Hellenistic Greek.**—Reading and interpretation of the gospel according to Mark; collateral reading and the writing of essays. (Prerequisite 5.)

PROFESSOR HAGGETT.

7. **Introduction to Lyric and Tragic Poetry.** (First Semester. M., Tu., W., Th., Float.—(a) Translation of selections from the elegiac, iambic and melic poets; history of lyric poetry; lectures and collateral reading.

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

PROFESSOR HAGGETT.

8. **Introduction to Greek Oratory.** (Second Semester. M., Tu., W. Th., Float).—Translation of selections from Lysias and Demosthenes; history of Greece in outline from the Pelop-

onnesian War to the death of Alexander; study of the history of Greek oratory; lectures and collateral reading. (Prerequisite, 7.)

PROFESSOR HAGGETT.

9. **Advanced Course on the Greek Drama.** (First Semester. M. Tu., W., F., 11:15.)—(a) Tragedy; Translation of Aeschylus, Persians or Prometheus Bound, with the reading of other tragedies in the metrical translation; historical and literary study of the three great tragedians.

(b) Comedy; Translation of Aristophanes' Birds 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.

10. **Advanced Course on Greek Historical Prose.** (Second Semester. M., Tu., W., F., 11:15.)—Translation of selections from Thucydides and Xenophon. History of the fifth century before Christ, with special emphasis on the Peloponnesian War; lectures on the development of Greek historiography; study of the themes, characteristics, and style of Herodotus, Thucydides, and Xenophon; collateral reading on important characters in Greek history. (Elective for Juniors and Seniors who have finished course 8.)

PROFESSOR HAGGETT.

11. **Advanced Course on Greek Philosophy.** (First Semester. M., Tu., W., F., 11:15.)—(a) Translation of selections from Plato's Republic; lectures and collateral reading on Platonism.

(b) Translation of selections from Aristotle's Ethics; lectures and collateral reading on Aristotle's philosophy. (Elective for Juniors and Seniors who have finished course 8.)

PROFESSOR HAGGETT.

12. **Advanced Course on Greek Oratory.** (Second Semester. M., Tu., W., F., 11:15.)—Translation of 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.** (First Semester. Tu., Th., 8:30.)—Translation of selections from Pindar and Bacchylides; study of their themes, characteristics, and style.

PROFESSOR HAGGETT.

14. **Literature of the Alexandrian Period.** (Second Semester. Tu., Th., 8:30.)—Translation of selections from Theocritus and Apollonius Rhodius; lectures and collateral reading on the history and literature of the Alexandrian period.

PROFESSOR HAGGETT.

15. **Literature of the Graeco-Roman Period.** First Semester. W., F., 8:30.)—Translation of selections from Plutarch and Lucian; lectures and collateral reading on the history and literature of the Graeco-Roman period.

PROFESSOR HAGGETT.

16. **Advanced Reading Course.** (Second Semester. W., F., 8:30.)—Rapid reading of the entire works (or a considerable portion) of some one author, or extensive work in some one department of Greek literature. This course is designed to give a comprehensive knowledge of a particular author or period of Greek literature, and is supplemented by topical reading and thesis work on the author or period selected.

PROFESSOR HAGGETT.

Note:—Courses 13-14 and 15-16 are for graduate students.

17*. **Greek Antiquities.** (First Semester. Tu., Th., Float.)—(1)Public and private life; (2) mythology and religion; (3) art and archaeology. (Open to all students. This course is

designed to be taken in connection with Latin 15.)

ASSISTANT PROFESSOR SIDEY.

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

LATIN.

PROFESSOR THOMSON AND ASSISTANT PROFESSOR SIDEY.

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: M., Tu., W., Th., Float; section B: M., W., Th., F., 9:25.)—The De Senectute and the De Amicitia will be studied with reference to both the subject-matter and the language and, in addition, there will be work in syntax, Latin prose composition and sight translation.

PROFESSOR THOMSON AND ASSISTANT PROFESSOR SIDEY.

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

PROFESSOR THOMSON AND ASSISTANT PROFESSOR SIDEY.

3. **Ovid and Horace.** (First Semester. M., Tu., W., F., 11:15.)—Selections from Ovid's Trista, Heroides, Amores, Fasti and Epistulae and the continuous reading of several books of his Metamorphoses with practice in the reading of hexameter and pentameter verse. Life and times of Ovid. Selections from the Odes and Epodes of Horace with practice in the reading of his principal meters and a study of his life and times. (Prerequisite, Courses 1 and 2.)

4. **Plautus and Terence.** (Second Semester. M., Tu., W., F., 11:15.)—The Captivi and the Mostellaria 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. (Prerequisite, Courses 1 and 2.)

PROFESSOR THOMSON.

5. **Epistolary Literature.** First Semester. M., Tu., Th., F., 10:20).—The Letters of Cicero (Abbott's Selections) and Horace will be read and a study made of the Familiar Style and its characteristics. Lectures will be given and topics assigned on Letter Writing and Private Antiquities and on the most important matters dealt with by Cicero in his correspondence. The relation of Horace's Epistles to his Satires will be discussed and some account taken of his modern imitators. (Prerequisite, Courses 3 and 4.)

PROFESSOR THOMSON.

6. **Epistolary Literature.** (Second Semester, M., Tu., Th., F., 10:20.)—The Letters of Pliny the Younger (Wescott'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. (Prerequisite, Courses 3 and 4.)

PROFESSOR THOMSON.

7. **Teachers' Course.** (First Semester. M., W., 11:15.)—Courses 7-9 are complementary and are provided especially for those who are preparing to teach Latin in the High Schools. The object of the Teachers' Course is a twofold 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. (Prerequisite, Courses 5 and 6 or may be taken along with these.)

ASSISTANT PROFESSOR SIDEY.

8. **Teachers' Course.** (Second Semester. M., W., 11:15.)—This is a continuation of the preceding course and will consist of the reading of Sallust's Catiline, selected Letters of Cicero and portions of the Viri Romae; selected portions of Vergil's Bucolics and Georgics and the ancient Lives of Vergil. (Prerequisite, Course 7.)

ASSISTANT PROFESSOR SIDEY.

9. **Teachers' Course.** (First Semester. Tu., F., 11:15.)—Lectures on the teaching of preparatory Latin and discussion of matters connected therewith. Practice in the writing of Latin. Portions of Caesar, Cicero and Vergil will be read in class and the members will take turns in teaching under the supervision of the instructor. (Prerequisite, Courses 5 and 6 or may be taken along with these.)

ASSISTANT PROFESSOR SIDEY.

10. **Teachers' Course.** Second Semester. Tu., F., 11:15.)—This is a continuation of the preceding course. Visits will, from time to time, be made to schools where Latin is taught and reports upon the teaching observed will be presented by the members of the class. (Prerequisite, Course 9.)

ASSISTANT PROFESSOR SIDEY.

11. **Roman Satire.** (First Semester. Tu., Th., 8:30.)—Selected Satires of Horace and Persius with lectures on the development of Roman Satire. Open to Seniors and Graduates.

PROFESSOR THOMSON.

12. **Roman Satire.** (Second Semester. Tu., Th., 8:30.)—The Satires of Juvenal and selected portions of Petronius. This course is a continuation of the preceding.

PROFESSOR THOMSON.

13. **Cicero's Philosophical Works.** (First Semester. W., F., 8:30.)—The De Finibus with lectures and papers on Roman Philosophy. Open to Seniors and Graduates.

PROFESSOR THOMSON.

14. **Cicero's Philosophical Works.** (Second Semester. W., F., 8:30.)—The continuation of Course 13.

PROFESSOR THOMSON.

15*. **Roman Antiquities.** (Second Semester., Tu., 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 of Latin.

ASSISTANT PROFESSOR SIDEY.

16. **Elegiac Poetry.** (Second Semester. Two Hours' Credit.)—Selections from Tibullus, Propertius and Ovid contained in Carter's Roman Elegiac Poets, with lectures and

collateral reading. Open to Juniors, Seniors and Graduates.

PROFESSOR THOMSON.

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

Preliminary Courses.

A. Cicero's Orations. (First Semester. M., W., Th., F., 9:25.)—Three of Cicero's Orations with exercises in Latin Syntax and Prose Composition.

PROFESSOR THOMSON.

B. Vergil. (First Semester. M., Tu., Th., F., 10:20.)—Three books of the Aeneid, with exercises in syntax and practice in the reading of Latin Hexameters.

ASSISTANT PROFESSOR SIDEY.

C. Cicero's Orations. (Second Semester. M., W., Th., F., 9:25.)—Three of Cicero's Orations. A continuation of Course A.

PROFESSOR THOMSON.

D. Vergil. (Second Semester. M., Tu., Th., F., 10:20.)—Three books of the Aeneid. A continuation of Course B.

ASSISTANT PROFESSOR SIDEY.

GERMAN.

PROFESSOR CARRINGTON AND ASSISTANT PROFESSOR BOETZKES.

The object of courses 1-4 is to give the student a fair reading knowledge of German and make him acquainted with at least one classic. The advanced courses are devoted for the most part to the study of literature, though Course 5 may occasionally be adapted to the needs of students of science.

1. Elementary. (First Semester. Section A: Tu., W., Th., F., 8:30; section B: M., Tu., W., Th., Float; section C: M., Tu., Th., F., 10:20.)—Grammar and easy reading, with practice in speaking and writing.

ASSISTANT PROFESSOR BOETZKES.

2. **Elementary.** (Second Semester. Same sections and hours as Course 1.)—Continuation of Course 1.

ASSISTANT PROFESSOR BOETZKES.

3. **Modern Prose.** (First Semester. Section A: M., Tu., W., Th., Float; section B: M., Tu., Th., F., 10:20.)—Selections from prose writers of the nineteenth century. Grammar review and work in composition.

PROFESSOR CARRINGTON.

4. **Dramas of Lessing, Goethe or Schiller.** (Second Semester. Section A: M., Tu., W., Th., Float; section B: M., Tu., Th., F., 10:20.)—One drama (generally Egmont) is read and studied carefully and the class is required to read a life of the author. Another drama is read rapidly. Last year Lessing's Minna von Barnhelm was selected for this purpose. The composition work is based on the text studied.

PROFESSOR CARRINGTON.

5. **Classics.** (First Semester. M., Th., 9:25.)—Selected works of Goethe or Schiller. In 1905-06, Iphigenie and Tasso.

ASSISTANT PROFESSOR BOETZKES.

5a. **Lessing's Nathan der Weise.** (First Semester. Two Hours' Credit.)—Omitted in 1905-06.

PROFESSOR CARRINGTON.

6. **Classics.** (Second Semester. M., Th., 9:25.)—Continuation of 5. In 1905-06, Dichtung und Wahrheit.

ASSISTANT PROFESSOR BOETZKES.

6a. **Lessing's Laokoon.** (Second Semester. Two Hours' Credit.)—Contiuuation of Course 5a. Omitted in 1905-06.

PROFESSOR CARRINGTON.

7. **Composition.** (First Semester. W., F. 9:25.)

PROFESSOR CARRINGTON.

7a. **Conversation.** First Semester.. W., F., 9:25.)

ASSISTANT PROFESSOR BOETZKES.

8. **Composition.** (Second Semester. W., F., 9:25.)

PROFESSOR CARRINGTON.

8a. **Conversation.** (Second Semester. W., F., 9:25.

ASSISTANT PROFESSOR BOETZKES.

9. **Goethe's Faust. Part I.** First Semester, Tu., Th., 8:30.)

PROFESSOR CARRINGTON.

10. **Goethe's Faust. Part II.** (Second Semester. Tu., Th., 8:30.)

PROFESSOR CARRINGTON.

11. **Teachers' Course.** (First Semester. M., Th., 9:25.)—Review of grammar, discussion of methods and practice in teaching.

PROFESSOR CARRINGTON.

12. **Romantic School.** (Second Semester. M., Th., 9:25.) Lectures and assigned readings.

PROFESSOR CARRINGTON.

13. **Middle High German.** (First Semester. W., F., 8:30.) Bachmann's Mittelhochdeutsches Lesebuch.

Professor Carrington.

14. **Middle High German.** (Second Semester. W., F., 8:30.)—Continuation of 13 and study of Walther von der Vogelweide.

Professor Carrington.

FRENCH.

PROFESSOR FREIN AND ASSISTANT PROFESSOR ....

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

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

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

Subjects.

1, 2. **Elementary.** (Throughout the Year. Section A: M., Tu., Th., Float; section B: Tu., W., Th., F., 8:30; section C: M., Tu., W., F., 11:15.)—Frazer and Squir's French Grammar, Part I.; Super's French Reader; Erckmann-Chatrian, Le Conscrit de 1813; Daudet, Le Petit Chose. Emphasis is laid upon the acquirement of a correct pronunciation, and a systematic drill in composition is given. No credit if offered for entrance.

ASSISTANT PROFESSOR .....

3, 4. **Nineteenth Century Reading and Syntax.** (Throughout the year. Section A: M., Tu., W., F., 11:15; Section B: M., Tu., Th., F., 10:20.)—In one section of the class (Section A) two hours per week will be devoted to the syntax of the latter part of the century, and two hours per week will be spent in translating masterpieces of the literature of the entire century. The other section (Section B) is intended for such as care most for facility in translation; in this section three hours per week are devoted to translation; and only one hour per week to syntax. Those who need more than sixteen credits in French are expected to go into Section A. The work in syntax is based upon Frazer and Squair's French Grammar, Part II. Texts read in 1904-05: Sand't La Petite Fadette; Vigny's La Canne de Jonc; Hugo, Hernani; Daudet's Tartarin de Tarascon; Rostand, Cyrano de Bergerac. No credit if offered for entrance. (Prerequisite, 2.)

PROFESSOR FREIN AND ASSISTANT PROFESSOR.....

5, 6. **Classical French.** (Throughout the Year. M., Tu., Th., 10:20.)—The student is given a general knowledge of the

literature of the entire classical period, but the reading is selected from the 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. (Prerquisite, 4 or an equivalent.)

PROFESSOR FREIN.

7, 8. **Advanced Prose Composition.** (Throughout the Year. F., 10:20.)—Systematic review of French syntax, and the translation into idiomatic French of moderately difficult English prose. Francois' Advanced Prose Composition. (Prerequisite, 4.)

PROFESSOR FREIN.

9, 10. **Lyric Poetry.** (Throughout the Year. M.., Th., 9:25.)—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.)

PROFESSOR FREIN.

Given in alternate years with courses 11, 12; it will be given in 1905-06.

11, 12. **The French Drama.** (Throughout the Year. Two hours' credit.)—The aim of this course is twofold: To acquaint the student with the best French dramatic literature since the Pleiade, and to furnish an admirable medium for French conversation in the class room. This course may be taken in the same year with Course 5, 6, but it may not precede it.

Given in alternate years with Course 9, 10; it will not be given in 1905-06.

13, 14. **History of the French Literature of the Nineteenth Century.** (Throughout the Year. Two hours' credit.)—Lectures in French; assigned reading of some of the works of each important author, with copious notes to be submitted for inspection; special topics assigned to each student for careful study, and report to the class. (Prerequisite, 6.)

PROFESSOR FREIN.

Given in alternate years with Course 15, 16; it will not be given in 1905-06.

15, 16. **History of French Literature From the Renaissance to the Romantic Movement.** (Throughout the Year. W., F., 9:25.)—Lectures in French, and assigned reading from the important authors. (Prerequisite, 6.)

PROFESSOR FREIN.

Given in alternate years with Course 13, 14; will be given in 1905-06.

17, 18. **Old French Reading.** (Throughout the Year. T., Th., 2:10-3:05. Two hours' credit.)—Elements of Old French grammar, and translation of Old French texts from some standard text-book, such as Bartsch, Chrestomathie de l'Ancien Francais. Open only to advanced students.

PROFESSOR FREIN.

ITALIAN.

1, 2. **Elementary.** Throughout the Year. M., Tu., W., Th., Float.)—The first year in Italian corresponds to the same courses in French and in Spanish. Sauer's Italian Grammar, Grandgent's Italian Composition, Bowen's First Italian Readings and one or two easy texts from modern Italian authors will be the books used. The course will be open only to those who have completed French Course 1, 2, or Spanish Course 1, 2, or who have entrance credits in French or Spanish. No student will be allowed to begin Italian and French (or Spanish) the same year.

PROFESSOR FREIN.

3, 4. **Advanced.** (Throughout the Year.)—Selections from Dante's La Divina Commedia. Open only to those who have completed Italian Course 1, 2. (Omitted in 1905-06.)

PROFESSOR FREIN.

SPANISH.

PROFESSOR OBER AND MISS GREENE.

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. **Elementary.** (First Semester. Section A, Tu., W., Th., F., 8:30; Section B, M., W., Th., F., 9:25; Section C, M., Tu., W., F., 11:15.)—Lessons in Spanish on everyday topics, training of the ear and tongue. Essentials of the Spanish grammar; readings from modern Spanish authors.

PROFESSOR OBER AND MISS GREENE.

2. **Elementary.** (Second Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., W., Th., F., 9:25; Section C: M., Tu., W., F., 11:15.)—Continuation of Course 1.

PROFESSOR OBER AND MISS GREENE.

3. **Practical.** (First Semester. M., Tu., Th., F., 10:20.)—Business correspondence, commercial terms and conversation, readings selected chiefly from Spanish newspapers and magazine articles of the day. (Prerequisite, 2.

PROFESSOR OBER.

4. **Practical.** (Second Semester. M., Tu., Th., F., 10:20.)—Continuation of Course 3.

PROFESSOR OBER.

5. **Literary.** (First Semester. M., Tu., W., Th., Float.)—Knapp's Spanish Readings. Spanish poetry. Ford's Spanish Anthology. Essays written on literary subjects. (Prerequisite, 2.)

MISS GREENE.

6. **Literary.** Second Semester. M., Tu., W., Th., Float.)—Continuation of Course 5.

MISS GREENE.

7. **Advanced.** (First Semester. Tu., W., F., 11:15.)—Literature of the sixteenth and seventeenth centuries. Lope de Vega; Calderon; the Auto Sacramental; early Spanish; poems of the Cid; Spanish literature of the fifteenth century. (Prerequsite, 4 or 6.)

PROFESSOR OBER.

8. **Advanced.** (Second Semester. Tu., W., F., 11:15.)—Continuation of Course 7.

PROFESSOR OBER.

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

PROFESSOR OBER.

10. **Spanish Novel.** (Second Semester. Tu., Th., 8:30.)—Continuation of Course 9.

PROFESSOR OBER.

Other courses will be arranged as required for students who are able to do work of an advanced nature.

RHETORIC AND ORATORY.

PROFESSOR PRIEST, ASSISTANT PROFESSOR DAGGY, MR.....

The objects sought for in the courses here outlined are: (1) to secure a skillful use of English in writing, and an appre-

ciation of it in literature; and (2) to develop skill, power and readiness in oratory and debate. To these ends there will be much writing, and frequent practice in prepared and in extemporaneous speaking.

SUBJECTS.

1. **English Composition.** (First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., W., Th., F., 9:25; Section C: M., Tu., Th., F., 10:20; Section D: M., Tu., W., Th., Float.)—Daily and fortnightly themes together with the study of the principles of Rhetoric. Text: Genung's "The Working Principles of Rhetoric." Each student will meet the instructor for private consultation on his work at least once every two weeks. Required of Freshmen in all courses.

ASSISTANT PROFESSOR DAGGY, MR. .... AND MR. .....

2. **English Composition.** (Second Semester. Same Sections and hours as Course 1.)—Repetition of Course 1.

ASSISTANT PROFESSOR DAGGY, MR. .... AND MR. .....

3. **The Short Story.** (First Semester. 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.

4. **The Short Story.** (Second Semester. Tu., Th., Float.)—Continuation of Course 3.

PROFESSOR PRIEST.

5. **The Essay.** (First Semester. W., F., 9:25.)—A study of the essay as a type of advanced composition. Fortnightly themes with conferences.

MR.....

6. **The Essay.** (Second Semester. W., F., 9:25.)—Continuation of Course 5.

MR.....

7. **Dramatic Composition.** (First Semester. 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.

MR.....

8. **Dramatic Composition.** (Second Semester. M., Th., 9:25.)—Continuation of Course 7.

MR.....

9. **Forensics.** (First Semester. Afternoons. Four hours' credit.)—Practice in Argumentation and formal Debating.

PROFESSOR PRIEST.

10. **Forensics.** (Second Semester. Afternoons. Four hours' credit.)—Continuation of Course 9.

PROFESSOR PRIEST.

11. **The Lyric.** (First Semester. W., F., 11:15.)—A course in the vocal interpretation of lyrical poems, supplemented by a study of lyric composition.

ASSISTANT PROFESSOR DAGGY.

12. **The Lyric.** (Second Semester. W.,. F., 11:15.)—Continuation of Course 11.

ASSISTANT PROFESSOR DAGGY.

13. **Oral Expression.** (First Semester. Section A: M., Tu., W., Th., Float; Section B: M., Tu., W., F., 11:15.)—The purpose of this course is to cultivate a direct and natural delivery. It seeks to stimulate correct thinking and to develop the imagination as the condition of effective expression. 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 AND MR.....

14. **Oral Expression.** (Second Semester. Section A: M., Tu., W., Th., Float; Section B: M., Tu., W., F., 11:15.)—Continuation of Course 13.

ASSISTANT PROFESSOR DAGGY AND MR.....

15. **Dramatic Readings.** (First Semester. M., Th., 10:20.)—A study of the classic drama from the point of view of

vocal expression. Representative plays, such as Merchant o' Venice, Hamlet, and As You Like It, are read, and selected scenes are acted by members of the class. Two dramatic readings are required of each student during the semester. Topics and critiques on various phases of dramatic art. (Prerequisite, Courses 13 and 14.)

ASSISTANT PROFESSOR DAGGY.

16. **Dramatic Readings.** (Second Semester. M., Th., 10:20.)—Continuation of Course 15.

ASSISTANT PROFESSOR DAGGY.

17. **English Oratory.** (First Semester. Tu., W., Th., F., 8:30.)—Study of Edmund Burke and his contemporaries. Each member of the class will be required to write an original oration.

PROFESSOR PRIEST.

18. **American Oratory.** (Second Semester. Tu., W., Th., F., 8:30.)—Study of Webster, Hayne, Calhoun, Everett, Sumner, Phillips, Beecher, Curtis, Grady and others. Each member of the class will be required to revise the oration written the preceding semester, and deliver the revised form before the class.

PROFESSOR PRIEST.

19, 20. Identical with English literature 9, 10.

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

ENGLISH LANGUAGE AND LITERATURE.

PROFESSOR PADELFORD, ASSISTANT PROFESSOR ..... AND MR. DE GRANGE.

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

SUBJECTS.

1; 2. **Shakespeare and Victorian Literature.** (Throughout the Year. Section A: M., W., Th., F., 9:25; Section B: Tu., W., Th., F., 8:30; Section C: M., Tu., W., Th., Float.)—Critical study of a few plays of Shakespeare, with special attention to the laws and technique of the drama; selected essays of Ruskin, Arnold, Newman and Carlyle. The study of the literature is accompanied with practice in English composition.

PROFESSOR PADELFORD, ASSISTANT PROFESSOR ..... AND MR. DE GRANGE.

3, 4. **Browning and Wordsworth.** (Throughout the year. M., Tu., W., F., 11:15.)—The first semester is devoted to Browning, the second to Wordsworth, with supplementary reading in other nineteenth century poets. One long theme is required each semester. (Prerequisite 2.)

PROFESSOR PADELFORD.

5, 6. **Principles of Literary Criticism.** (Throughout the Year. M., Tu., W., Th., Float.)—An inductive course, designed to furnish sound principles for literary criticism. Literature of a wide range is discussed, and the relation of literature to the other arts is defined. (Prerequisite, two courses in literature.)

ASSISTANT PROFESSOR .....

*7. **History of English Literature.** (First Semester.)—A rapid survey from the earliest times to the present day, designed to give an idea of the literature as a whole. (Prerequisite, Rhetoric 1.)

MR. DE GRANGE.

*8. **History of American Literature.** (Second Semester.)—A course in American literature similar to 7. (Prerequisite, Rhetoric 1.)

MR. DE GRANGE.

9, 10. **College Entrance Requirements.** (Throughout the Year. Tu., W., Th., F., 8:30.)—A normal course designed

especially for those advanced students who wish to prepare to teach English in the high school. The history of English teaching is reviewed, problems in the teaching of English are discussed, the entrance requirements are critically studied, bibliographies for high school libraries are prepared, and a large number of editions of the required classics are examined. (Prerequisite, two courses in literature.)

PROFESSOR PADELFORD.

11, 12. **Old and Middle English.** (Throughout the Year. M., Tu., W., F., 11:15.)—During the first semester the Old English language and literature are studied. Reading is begun at the earliest practicable moment, and the study is made as literary in character as is consistent with a thorough grounding in the rudiments of the language. Some time is given to considering the early English civilization. During the second semester many Middle English texts are read, and much attention is given to the historical development of Modern English. (Prerequisite, two courses in literature.)

ASSISTANT PROFESSOR .....

13, 14. **General Reading Course.** (Throughout the Year. M., Tu., Th., F., 10:20.)—This course is designed for those students especially who do not intend to take advanced courses in literature, but who wish to read some of the world's great classics. The reading will include such books as the Iliad, the Odyssey, Faust, Tartuffe, Ghosts, Don Quixote, Les Miserables, The Newcomes, Waverley, and the like.

MR. DE GRANGE.

15, 16. Identical with Rhetoric 3, 4.

17, 18. Identical with Rhetoric 5, 6.

19, 20. Identical with Rhetoric 7, 8

Saturday Courses. Saturday courses for teachers will be offered by Assistant Professor ..... The character of the courses will be determined in conference with those ap-

plying for the work.

*Not offered in 1905-06.

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

PHILOSOPHY.

PROFESSOR SAVERY AND 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 wth the thoughts of the great thinkers of the past. (History of Philosophy.)

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

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

SUBJECTS.

1, 2. **Elements of Logic, Psychology and Ethics.** (Throughout the Year. Tu., W., Th., Float.)—(a) Logic.—A study of the nature of clear ideas and valid reasoning, deductive and inductive. Analysis of fallacies. Some account of the aims of the natural sciences. Text: Creighton's An Introductory Logic.

(b) **Psychology**—A study of the facts and laws of consciousness and their relation to the body. Text: James' Psychology, Briefer Course. Required readings in James larger work. Laboratory.

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

Lectures and recitations in the three courses. Laboratory M. or Tu. or F. 1:15-4. Required for Juniors.

PROFESSOR SAVERY AND ASSISTANT PROFESSOR .....

3, 4. **History of Philosophy.** (Throughout the Year. Tu., W., F., 11:15.)—The aim in this course is both historical and constructive. Texts: Windelband's History of Greek Philosophy and Falkenberg's History of Modern Philosophy. Readings in the philosophers studied. Lectures and recitations. (No prerequisite in philosophy.) Elective for Sophomores, Juniors and Seniors.

PROFESSOR SAVERY.

5. **Advanced Logic and Theory of Knowledge.** (First Semester. M., Tu., Th., F., 10:20.)—A study of the nature of our meanings, the truth of our beliefs and the validity of our reasonings. Texts: Keynes' Formal Logic and certain chapters in Hobhouse's Theory of Knowledge. Lectures and discussions. Prerequisite, Philosophy 1, 2.)

PROFESSOR SAVERY.

6. **Metaphysics.** (Second Semester. M., Tu., Th., F., 10:20.)—A study of the nature of the universe; the relation of ourselves to each other and to the physical world; and the problems of God and immortality. The two main present day tendencies in metaphysics will be studied, namely,

(1) Absolute Idealism in Taylor's Elements of Metaphysics and certain chapters of Bradley's Appearance and Reality.

(2) Radical Empiricism in the writings of William James and his followers (the one important contribution of America to Philosophy.) Lectures and discussions. (Prerequisite,

Philosophy 1, 2 and 5.)

PROFESSOR SAVERY.

7, 8. **Advanced Psychology.** (Throughout the Year. Two hours' credit.)—The subject will be announced later. (Prerequiste, 1, 2.)

ASSISTANT PROFESSOR .....

9, 10. **Experimental Psychology.** (Throughout the Year Three hours' credit.)—An introduction to laboratory methods and results in Psychology. Supplementary lectures and collateral reading. (Prerequisite, Philosophy 1, 2.)

ASSISTANT PROFESSOR .....

11. **Descartes, Spinoza and Leibnitz.** (First Semester. Three hours' credit.)

12. **Locke, Berkeley and Hume.** (Second Semester. Three hours' credit.)—The time for course 11 and 12 will be arranged with the class. The writings of the above-named philosophers will be studied and criticised. This course is primarily for advanced students.

ASSISTANT PROFESSOR .....

COMPARATIVE RELIGION.

21, 22. **Comparative Religion.** (Throughout the Year. M., Th., 9:25.)—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 Bramanism, Buddhism, Confucianism, Zoroastrianism and Christianity. Lectures and readings in the sacred writings of the religions studied. Elective for Sophomores, Juniors and Seniors. (No prerequisite.)

PROFESSOR SAVERY.

EDUCATION.

PROFESSOR YODER AND ASSISTANT PROFESSOR .....

The work in this department gives a knowledge of the child on the one side and a training in the presentation of subject-matter of education on the other. It is not academic and should not be undertaken until near the close of the college

course. The normal diploma will be granted to students who have completed the following subjects: Course 1 or 2, 4 hours; Course 3 or 4, 4 hours. Major students will take the above 8 hours and 16 hours additional work arranged by the instructor. Before entering the department students should have completed one year in zoology, one year in psychology; the course in sociology is required of all students who major in the department.

SUBJECTS.

1. **The Child.** (First Semester. M., W., Th., F., 9:25.)—Text-book: Kirkpatrick's Essentials of Child-study, one hour; two lectures a week; observation of children, interpretation of collected data, one hour; characterization of early childhood; hygiene of growth.

2. **Adolescence.** (Second Semester. M., Tu., W., F., 11:15.)—Two lectures a week; Hall's Adolescence, one hour; characterization of adolescents from literature; normal education, one hour.

3. **History of Education.** (First Semester. M., Tu., W., F., 11:15.)—One lecture a week; text-books, two hours; papers and reports, one hour; an attempt to outline the educational theory and practice of the great nations; education considered as conscious evolution; emphasis upon the educational movements of the renaissance.

4. **History of Education.** (Second Semester. M., W., Th., F., 9:25.)—Continuation of 3 with emphasis upon educational development of the United States; one lecture, text, two hours; reports, one hour. Study of the school system of Washington.

5. **The Course of Study.** (First Semester. M., Tu., Th., F., 10:20.)—Curriculum of the secondary school; texts and reports; one visit to a high school and one lecture each week; organization of the high school; student enterprises; study of the files of the School Review.

5a. **The Course of Study.** (Second Semester. M., Tu., Th.,

6. **School Organization and Supervision.** (First Semester. Tu., W., Th., F., 8:30.)—Text: Chancellor's Administration and Supervision of Schools; one lecture a week; visits to various schools; elementary course of study; emphasis upon manual training; study of Educational Review and Elementary School Teacher.

7, 8. **Philosophy of Education.** (Throughout the Year. M., W., Float.)—Course of lectures, discussions, assigned readings and reports; an attempt to formulate the underlying principles of general education.

9, 10. **Problems.** (Through the Year. Hour to be selected.)—Individual research; results to be presented to the department in the form of reports and a final thesis; credit determined by the amount and quality of the work.

11, 12. **Journal Club.** (Throughout the Year. Tu., Th., Float.)—Reports, summaries and discussions of current educational literature.

13, 14. **Observation and Practice.** Throughout the year. Afternoons. Two hours two afternoons a week; one hour discussion; an opportunity for those who have never taught; credit depends upon nature of the work.

POLITICAL AND SOCIAL SCIENCE.

PROFESSOR SMITH. AND .....

1. **Elements of Political Economy.** (First Semester. Section A: M., W., Th., F., 9:25; Section B: M., Tu., W., F., 11:15.)—An introductory study of economic conditions with special reference to the changes that have taken place in the methods of production.

PROFESSOR SMITH.

2. **The Monopoly Problem.** (Second Semester. M. Tu., W., F., 11:15.)—The development of the railway system and its influence upon industrial and political life; the growth of combinations and trusts; government regulation of monopolies. (Prerequisite, 1.)

PROFESSOR SMITH.

3. **The Industrial Development of the United States.** (First Semester. M., Th., 10:20.) Prerequisite, 1.)

4. **Labor.** (Second Semester. M., Th., 10.20.)—The effect of modern industrial changes upon the wage earning class; the growth of labor organizations and their objects and methods; employers' associations; labor legislation. (Prerequisite, 1.)

PROFESSOR SMITH.

5. **Statistics.** (First Semester. Tu., F., 10:20.)—A study of the uses of statistical data in economic investigation. (Prerequisite, two courses in economics.)

6. **History of Economic Theory.** (Second Semester. M., Th., 9:25.)—A review of the opinions held by leading economists concerning the more important economic questions from the time of Adam Smith to the present. (Prerequisite, two courses in economics.)

7. **Money and Banking.** (First Semester. M., Tu., Th., F., 10:20.)—A discussion of the principles relating to this branch of economics, followed by a review of the more important monetary and banking legislation of the last century. Prerequisite, two courses in economics.)

PROFESSOR SMITH.

8. **The Principles and Methods of Taxation.** (Second Semester. W., F., 9:25.) (Prerequisite, 1.)

9. **The Financial History of the United States.** (Second Semester. (M., Th., 10:20.) (Prerequisite, 1.)

10. **The Principles of Sociology.** (First Semester. Tu., W., Th., F., 8:30.)—A study of the development and functions of the family, church, state and other social institutions.

11. **Some Social Problems.** (Second Semester. Tu., W.,

Th., F., 8:30.)—The extent and causes of poverty, pauperism, intemperance and crime; the methods of dealing with these evils. (Prerequisite, 1 or 10.)

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12. **Public International Law.** (Second Semester. Tu., F., 10:20.)

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13, 14. **Constitutional Government.** (Throughout the Year. M., Tu., W., Th., 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. (Prerequisite, Courses 5 and 13 in History.)

PROFESSOR SMITH.

15. **Municipal Government.** (Second Semester. Tu., F., 10:20.)—The development of municipal government in the United States and its relation to the state government; present tendencies in municipal organization; municipal problems. This course ought to be taken in connection with or after the course on Constitutional Government. (Prerequisite, 1.)

PROFESSOR SMITH.

HISTORY.

PROFESSOR MEANY AND ASSISTANT PROFESSOR ALDEN.

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

SUBJECTS.

1. **The English People and Institutions.** (First Semester. Section A: M., W., Th., F., 9:25; Section B: M. Tu., W., F., 11:15.)—From the Anglo-Saxon invasion to the reign of Elizabeth. Students beginning work in the department of history are recommended to start with this course.

ASSISTANT PROFESSOR ALDEN.

2. **The English People and Institutions.** (Second Semester. Section A: M., W., Th., F., 9:25; Section B: M., Tu., W. F., 11:15.)—Continuation of 1 to the prosent time.

ASSISTANT PROFESSOR ALDEN.

3. **Greece and Rome.** (First Semester. M., Tu., W., Th., Float.)—After a brief survey of the ancient nations of the East the political development of Greece is studied, followed by an examination of Roman institutions till the fall of the Western Roman Empire. Omitted in 1905-06.

ASSISTANT PROFESSOR ALDEN.

4. **Western Europe.** (Second Semester. M., Tu., W., Th., Float.)—From the fall of the Western Roman Empire to the present time. A general course on feudalism, the church, the monarchy, and other institutions of mediaeval and modern times, together with the rise and development of the nations of Western Europe.

ASSISTANT PROFESSOR ALDEN.

5. **The American Colonies, the Revolution and the Constitution.** (First Semester. M., W., Th., F., 9:25.)—Discussion of the period from 1492 to 1829. Lectures, collateral reading, reports.

PROFESSOR MEANY.

6. **Era of Slavery, Civil War and Reconstruction.** (Second Semester. M., W., Th., F., 9:25.)—Discussion of the period from 1829 to 1889. Lectures, collateral reading and reports.

PROFESSOR MEANY.

7. **The French Revolution and Napoleonic Era.** First Semester.. M., Tu., Th., F., 10:20.)—A study of the causes as

seen in the condition of the old regime, the forces that produced the excesses and made Napoleon's career possible, and the forces that brought about his final overthrow. (Open to Seniors, Juniors, and others who have had 2 or 4.)

ASSISTANT PROFESSOR ALDEN.

8. **Europe in the Nineteenth Century.** (Second Semester. M., Tu., Th., F., 10:20.)—Continuation of 7 from the fall of Napoleon through the century. The development of liberal political systems in European states and the course of international relations to the present time are studied as a means of understanding present political conditions in Europe.

ASSISTANT PROFESSOR ALDEN.

9, 10. **Northwestern History.** (Throughout the Year. M., W., 11:15.)—From the earliest voyages of discovery to the settlement and organization of the territories. Lectures. Theses on assigned topics.

PROFESSOR MEANY.

11. **Spain in America.** (First Semester. M., Tu., Th., F., 10:20.)—A study of the rise and fall of Spanish power in the new world and an outline of the history of the Spanish-American republics. Lectures and theses.

PROFESSOR MEANY.

12. **Development of the Pacific.** (Second Semester. M., Tu., Th., F., 10:20.)—History of the countries bordering upon the Pacific Ocean, with special reference to the changes now in progress of development. Lectures, collateral reading and theses.

PROFESSOR MEANY.

13. **History of the English Constitution.** (First Semester. M., Tu., W., Th., Float.)—The evolution of the British governmental system is studied, particular attention being given to the British political system of today. (Prerequqisite, History 1, 2.)

ASSISTANT PROFESSOR ALDEN.

14. **Training Course in American History.** (First Semester. Saturday, 11:15.)—To meet the needs of those who expect to teach this subject in the high schools, a course of lectures is offered, supplemented with library research, study of sources and comparison of texts and other aids.

PROFESSOR MEANY.

15. **Makers of the Nation.** (First Semester. Tu., F., 11:15.)—Lectures on the lives of Washington, Franklin, Jefferson, Jackson, Clay, Webster, Lincoln, Grant, Lee and others.

PROFESSOR MEANY.

CHEMISTRY.

PROFESSOR BYERS, PROFESSOR JOHNSON AND ASSISTANT PROFESSOR BENSON, MR. HOPKINS. MRS. C. B. JOHNSTON AND MR. DEMING.

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.

The demand for beginning courses in general chemistry is so great that it is impossible to satisfy the various needs with one course and were that possible it is no longer desirable to keep all the applicants in one division for lecture work.

SUBJECTS.

1, 2. **Liberal Arts Chemistry.** (Throughout the Year. Tu., W., Th., Float.)—This course is designed for those who propose to study chemistry merely as a culture course and to broaden their horizon with a view of the whole field of chemstry. It will consist of profusely illustrated lectures and supplementary laboratory work. It will cover, necessarily, in a rapid survey, the whole field of General, Analytical and

Organic Chemistry. As far as is consistent with a scientific treatment, the discussion will follow popular lines. It is open only to students of the College of Liberal Arts who are regular students of the Freshman or more advanced classes. Those who propose making chemistry their major work are advised to select the more technical work of Course 1a, 2a. Two lectures, one quiz and four hours laboratory work per week.

PROFESSOR BYERS, MR. ——— AND MR. .....

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

Zero. Throughout the year. M., 11:15.

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

PROFESSOR BYERS, ASSISTANT PROFESSOR BENSON, MR. ..... AND MR. .....

1b, 2b. **Pharmaceutical Chemistry.** (Throughout the Year. Tu., W., F., 11:15.)—Freshmen in the school of Pharmacy will be given a special course designed for their special needs. It consists of two recitations and six hours laboratory work per week. The laboratory work of the second semester will

be on qualitative analysis. Students who have had no chemistry in their high school course will be required to do nine hours laboratory work per week and will have a supplementary quiz per week. Laboratory, Tu., Th., 1:15.

PROFESSOR JOHNSON, MR. .....

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

PROFESSOR BYERS.

5. **Advanced Qualitative Analysis.** (First Semester. M., Th., 9:25.)—Lectures on the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations of the subject matter of the lectures. Two lectures and six laboratory hours per week. Four hours credit.

PROFESSOR BYERS

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. Credit, four semester hours. (Prerequisite, 2.)

PROFESSOR BYERS.

7. **Industrial Chemistry.** (Second Semester. M., Th., F., 10:20.)—A course designed primarily for engineering students. It will take up subjects of importance along engineering lines and discuss them with respect to manufacture and applications. About one-half of the time is spent in a discussion of the manufacture of and applications of iron and steel. This treatment will be supplemented by lantern slide illustration, trips to industrial plants and by numerous drawings and samples. Each student will be expected to prepare a paper

on some assigned subject. Three lectures or quizzes will be given each week and four hours of laboratory work F., 1:15.

ASSISTANT PROFESSOR BENSON.

8. **Physical Chemistry.** (First Semester. Tu., Th., Float.)—An elementary course consisting of lectures upon fundamental principles of chemistry based upon physical measurements. The laboratory work consists of determinations of molecular weights by the various methods, construction of solubility curves, specific gravity and conductivity measurements, etc. (Prerequisite Chemistry 6 and College Physics. Credit four hours.)

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, Chemistry 8 and College Physics. Credit four hours.)

ASSISTANT PROFESSOR BENSON.

10. **Inorganic Preparations.** (Second Semester. . Four Hours Credit.)—Special methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles. Twelve laboratory hours per week. (Prerequisite, Chemistry 6.)

PROFESSOR BYERS.

11, 12. **Special Methods.** (Throughout the Year. Four hours credit.)—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 JOHNSON.

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

PROFESSOR BYERS.

15. **Investigation.**—Any student who has completed at least three years' work in chemistry may, if he desires, undertake some original investigation under the direction of one of the instructors. Such work will not be encouraged, however, except when the student is presenting himself for a master's degree.

16. **Prospector's Course.** M., W., F., 8:30.)—To meet the demand, a special course in chemistry will be given to miners who may enter January 1, and will continue to May 1. It will not require any previous knowledge of chemistry, and will be merged into a course of qualitative analysis. The text book required is Hessler & Smith. (Laboratory work, Saturday morning.)

PROFESSOR JOHNSON.

17. **Physiological Chemistry.** First Semester. W., Th., Float.)—Lectures and laboratory work on Carbohydrates, Fats, Proteids, Gastric Juice, Blood Tests and Analysis of Urine, including the microscopic examination of urinary sediments. Assigned reading. Two lectures and six laboratory hours per week. Fours hours credit.

PROFESSOR JOHNSON.

18. **Physiological Chemistry.** .Second Semester. M., Th., 10:20.)—This is a continuation of Course 17. Either lectures or assigned reading and quizzes with two afternoons laboratory work per week. Four hours credit.

MR. .....

19. **Chemistry Alkaloids.** (First Semester. M., Th., 10:20.)—Lectures and laboratory work on the alkaloids with reference to the estimation and their uses. This course is an extension of the work in Materia Medica, and is also an advanced course in organic chemistry especially fitted for those who wish advanced work along these lines as a preparation for medicine.

PROFESSOR JOHNSON.

20. **Chemcal Club.** (Throughout the Year. S., 8 p. m.)—A journal club consisting of members of the teaching force and of advanced students in the department meets every Saturday evening to discuss current events and to listen to prepared papers on topics of special interest. Students properly registered by their class advisors for this club will receive one scholastic credit per semester if they comply with the requirements of the club.

PHYSICS.

PROFESSOR OSBORN, MR. BRAKEL, MR. WOLFLE AND MR. .....

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

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

PROFESSOR OSBORN, MR. BRAKEL, AND MR. WOLFLE.

2. **Electricity and Light.** (Second Semester. W., Th., F., 9:25.)—A continuation of Course 1.

PROFESSOR OSBORN, MR. BRAKEL, AND MR. WOLFLE.

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

1a. **Mechanics, Sound and Light.** (First Semester. Tu., W., Th., F., 8:30. Laboratory. Section A: W., F.; Section B: Tu., Th.; Section C; M., S.)

PROFESSOR OSBORN, MR. BRAKEL, AND MR. WOLFLE.

2a. **Electricity and Heat.** (Second Semester Tu., W., Th., F., 8:30. Laboratory. Section A: F.; Section B: Tu.; Section C: W.

PROFESSOR OSBORN, MR. BRAKEL, AND MR. WOLFLE.

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

3. **Light. Preston.** (First Semester. Hours to be selected.)—Two lectures and two laboratory periods.

PROFESSOR OSBORN.

4. **Electrical Measurements.** (First Semester. M., 10:20.)—Three or four hours credit. (Prerequisites, Physics 1, 2.)

MR. BRAKEL.

5. **Primary and Secondary Batteries.** (First Semester. Th., 10:20. Laboratory: Tu., F., 10:20 to 12:10.)—Two or three hours' credit. (Prerequisites, Physics 1, 2.)

PROFESSOR OSBORN AND MR. BRAKEL.

6. **Theoretical Mechanics or Mathematical Electricity.** (First Semester. Tu., Th., Float.)—(Prerequisites, Physics 1, 2 and Calculus.)

PROFESSOR OSBORN.

7. **Heat. Preston.** (Second Semester. Hours to be selected.)—Two lectures and two laboratory periods.

PROFESSOR OSBORN.

8. **Sound.** (Second Semester. Hours to be selected.)—Everett's Vibratory Motion and Sound. Two lectures.

PROFESSOR OSBORN.

9. **History of Physics.** (Second Semester. Tu., Float.)—(Prerequisite, Physics 1, 2.)

PROFESSOR OSBORN.

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

PROFESSOR OSBORN.

(Omitted in 1905-06.)

11. **Graduate Work.**—Courses 3, 6, 7, 8 are all primarily for major and graduate students. Other work will be offered as required.

PROFESSOR OSBORN.

All the courses offered in electrical engineering are open to election by students in physics.

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

BOTANY.

PROFESSOR FRYE AND 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. Those offering botany for admission may be excused from a part of Course 1.

1. **General Morphology.** (First Semester. M., W., 9:25.)—A course planned for those who wish a year of scientific botany as part of a general education. Study of types with a view to the evolution of the plant kingdom. The general basis of classification. Analysis of some simple Phanerogams. This course is the best basis for advanced work. (Laboratory: M., W., or Tu., F.)

PROFESSOR FRYE AND .....

2. **General Morphology.** (Second Semester. M., W., 9:25.) Continuation of Course 1.)

3. **Field Botany.** (First Semester. M., 10:20. Six hours laboratory or field work.)—Collection, identification, and preservation of plants. Morphology of types with a view to their analysis. The flowering plants are chiefly studied, but other groups are taken up during the seasons when flowers cannot be secured.

PROFESSOR FRYE.

4. **Field Botany.** (Second Semester. M., 10:20.)—Continuation of Course 3.)

5. **Plant Physiology.** (First Semester. M., W., 11:15.)—The general laws of plant activities; discussing the manner in which gases, water and salts get into a plant, how food is formed from them, how it is digested and assimilated, and how the plant grows and moves. Six hours laboratory. (Prerequisite, 2.)

PROFESSOR FRYE.

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

PROFESSOR FRYE.

7. **Pharmaceutical Botany.** (First Semester. Tu., 8:30.)—How to use the microscope. Study of the cell. Structure of flowering plants. Preparation of simple slides for the micro-

scope. As far as possible medicinal plants will be studied. Six hours laboratory.

PROFESSOR FRYE.

8. **Pharmaceutical Botany.**. (Second Semester. Tu., 8:30.) Continuation of Course 7.)

9. **Histology.** (First Semester. Th., Float.)—The preparation of slides for the microscope. Includes imbedding, use of the microtome and various stains. Examination of tissues. Methods of drawing. Measurements of magnifications. Nine hours laboratory. (Prerequisite, 2.

PROFESSOR FRYE.

10. **Botanical Lectures.** (Second Semester. Th., Float.)—A course of lectures on general botanical subjects, among which are: The evolution of sex in plants; grafting; the herb, shrub, tree, vine habit; the fig; mangroves; the old and the new botany; plant hairs; water plants; desert plants; seed dispersal; pollination. Most of them illustrated with lantern slides. (No prerequisite.)

PROFESSOR FRYE.

11. **Bacteriology.** (First Semester. Tu., F., 11:15.)—A course in general bacteriology with special emphasis on pathogenic forms. How to find them, recognize them, and tell what they do. Six hours laboratory.

PROFESSOR .....

12. **Bacteriology.** (Second Semester. Tu., F., 11:15.)—Continuation of 11. Six hours laboratory.

13. **Teaching of Botany.** Second Semester. W.., 8:30.)—Comparison of botanical texts. Discussion of the subject matter of high school botany. Collection of material for teaching. A course for students who expect to teach the subject.

PROFESSOR FRYE.

ZOOLOGY.

PROFESSOR KINCAID, ASSISTANT PROFESSOR .....

In this department the more elementary courses are designed with especial reference to the place of zoology in the

general scheme of a liberal education. By means of the laboratory method the student is brought in direct contact with the facts of nature and taught to interpret the phenomena of life at first hand. An effort is also made to pave the way for a more 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 speciaize 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.

1. **Elements of Zoology.** (First Semester, Tu., F., 11:15.)—A general review of zoological science, involving a study of the structure, classification and habits of the types included in the great branches of the animal kingdom. This course includes a series of lectures upon the more important theories of biology, in order that the student may be able to pursue the work from an interpretative standpoint. Field-work is also regarded as an essential feature and parties are frequently taken into the field during the season in order that the environment and habits of the local fauna may be studied as illustrating the principle of adaption. Students entering this course who have had high school training in zoology will be given advanced work upon supplementary types wherever this can be substituted for the more elementary features of the course. Laboratory: Tu., Th., or W. F.

PROFESSOR KINCAID AND MR. NELSON.

2. **Elements of Zoology.** (Second Semester, Tu., F., 11:15.)—A continuation of 1.

2a. **Animal Evolution.** (Second Semester, W., 11:15.)—A series of lectures, illustrated by the stereopticon, and bearing

upon the more elementary phases of organic evolution, and including the evidences and factors of the evolutionary process.

PROFESSOR KINCAID.

3. **Vertebrate Zoology.** First Semester, M., Th., 10:20.)—A study of the vertebrates from the standpoint of comparative anatomy. Types of the principal groups of backboned animals are dissected, and the classification of the phylum is dealt with from the point of view of genetic relationship. Prerequisite, courses 1 and 2 or their equivalent. Laboratory: Tu., Th., or W., F.

PROFESSOR KINCAID.

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

PROFESSOR KINCAID.

5. **Elementary Physiology.** (First Semester, W. F., 8:30.) —A general course, dealing with the physiological activities of the human body. No prerequisite is demanded for this work, but it is advised that it be preceded or accompanied by a course in chemistry. Laboratory: M.

ASSISTANT PROFESSOR .....

6. **Elementary Physiology.** (Second Semester, W. F., 8:30.) —A continuation of course 5.

ASSISTANT PROFESSOR .....

7. **Advanced Physiology.** (First Semester, Tu., F., 10:20.) —This course is designed especially for students who are preparing for the study of medicine, and includes the experimental investigation of the physiology of muscle and nerve, of circulation and digestion, etc. Prerequisite, courses 5 and 6 or their equivalent. Six hours laboratory.

ASSISTANT PROFESSOR .....

8. **Advanced Physiology.** (Second Semester. Tu., F., 10:20.)—A continuation of course 7.

9. **Entomology.** (Second Semester. W., F., 9:25.)—The structure, classification and natural history of insects. This course involves the collection, preservation, and identification of the insects found in the local fauna. Six hours laboratory.

PROFESSOR KINCAID.

10. **Histology.** (Either Semester. M., Th., 9:25.)—The investigation of the miscroscopic structure of vertebrate tissues by the paraffin and collodion method. To be elected only by special permission. Hours and credit to be arranged.

PROFESSOR KINCAID.

11. **History.** (First Semester. W., 11:15.)—Lectures upon the historical development of zoological science, including the rise of the more important biological theories and the life work of representative naturalists. (Prerequisite, courses 1 and 2 or their equivalent.)

PROFESSOR KINCAID.

12. **Problems in Evolution.** (Second Semester. W., 11:15.)—A discussion of fundamental biological problems, including natural selection, utility, and heredity. (Prerequisite, courses 1 and 2 or their equivalent.)

PROFESSOR KINCAID.

13. **Normal Course.** (First Semester. One hour credit.)—Designed to meet the needs of students who expect to teach zoology in the high schools of the state.

PROFESSOR KINCAID.

14. **Normal Course.** (Second Semester.)—Continuation of course 13.

15. **Research.**—Students who are capable of carrying on independent research will be allowed to do so under the direction of the instructor in charge. Hours and credit to be arranged.

FORESTRY.

1. **History and Progress of Forestry as a Science.** (Second Semester. T., F., 11:15.)—Problems presented for solution in the Pacific Northwest; uses and characteristics of our native trees. Lectures, collateral reading and field work.

PROFESSOR MEANY.

GEOLOGY.

PROFESSOR LANDES, ASSISTANT PROFESSOR ..... AND MR. SALISBURY.

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, wih 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.** (Throughout the year. Tu., W., F., 11:15.)—A year's course treating of the principal facts and general principles of the science. Lectures and recitations. Occasionally field trips on Saturday. Laboratory, M., W., or Tu., Th., 1:15.

1a. **General Geology.** (First Semester. M., Tu., Th.,

10:20.)—A semester's course for engineering students. Lectures and recitations. (Laboratory work. M., W., or Tu., Th. 1:15.)

3, 4. **Mineralogy.** (M., Th., 9:25.) Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. (Laboratory work. Tu., or F., 1:15.)

5. **Meteorology.** (First Semester. (M., W., F., 9:25.)—A general consideration of the atmosphere; winds and storms; the causes and distribution of rainfall; weather; climate; etc. Lectures and recitations. (Laboratory work in charge of Mr. G. N. Salisbury, Section Director, United States Weather Bureau, Seattle.)

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

(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. **Economic Geology.** (First Semester. M., Tu., W., Th., 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.)

8. **Petrography.** (Second Semester. Tu., W., Th., Float.)—A study of the distinguishing characteristics of the different groups and species of rocks, with the methods of classifications employed. Lectures and recitations. Laboratory hours to be arranged. (Prerequisites, 1, 2 and 3, 4.)

9, 10. **Paleontology.** (Throughout the year. Tu., W., F.,

8:30.)—The elements of invertebrate paleontology, consisting of a study of the hard parts of animals preserved as fossils, with their geologic and geographic distribution. Lectures and recitations. Laboratory hours to be arranged.

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.

ASTRONOMY.

PROFESSOR MORITZ.

1. **General Astronomy.** (First Semester. M., W., Float.)—Brief outline of the fundamental facts in regard to the solar system and the stellar universe. The observatory is used for illustrative purposes.

2. **Practical Astronomy and Spherical Trigonometry.** (Second Semester. M., W., Float.)—Solution of spherical triangles. Determination of time, latitude, and azimuth by means of the sextant and the engineer's transit.

MATHEMATICS.

PROFESSOR MORITZ, ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

Advice as to Choice of Courses.

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

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

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

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

SUBJECTS.

Courses marked (E) are primarily for engineering students.

1. **Plane Trigonometry.** (First or Second Semesters.) Section A: First Semester (M., Tu., W., Th., Float.) Section B: First Semester, (Tu., W., Th., F.,8:30). Section C: First Semester, (M., W., Th., F., 9:25). Section D: Second Semester, (M., Tu., W., Th., Float). Section E: Second Semester, (Tu., W., Th., F., 8:30).

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

PROFESSOR MORITZ, ASSISTANT PROFESSOR GOULD, ASSISTANT PROFESSOR .....

2. **Hihger Algebra.** (Second Semester. M., W., Th., F., 9:25.)—This course must be preceded by Course 1. The course includes a study of the binomia theorems for positive and negative exponents; imaginary numbers; mathematical induction; the doctrine of limits and indeterminates; permutations, combination and the elementary theorems in prolealistity; determinants; the principle of undetermined coefficients; and an introductory study of the binomial, logarithmic, exponential and trigonometric series and their convergency.

PROFESSOR MORITZ.

1a. (E) **Plane Trigonometry and Higher Algebra.** First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., F., 10:20.

Primarily for engineering students. The work in algebra deals with topics supplementary to the work in trigonometry,

such as complex numbers and their trigonometric representation, Demoivre's theorem, solution of trigonometric equations, the theory of logarithms, the logarithmic series, construction of logarithmic and trigonometric tables, the sine and cosine series, and the trigonometric solution of the cubic.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

2a. (E) **Analytical Geometry and Higher Algebra.** (Second Semester. Section A: Tu., W., Th., F. 8:30; Section B: M., T., Th., F., 10:20.)—Must be preceded by 1a. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equations; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The Algebra consists of lessons supplementary to the analytical geometry, viz: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

3. **Solid Geometry.** (First Semester. W., F., 9:25.)—Open to all students but required of engineering students who have to their credit less than 1½ units in geometry. Should be taken by students who expect to do major work in mathematics.

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

ASSISTANT PROFESSOR .....

4. **Solid Geometry.** (Second Semester. W., F., 9:25.)—Continuation of Course 3.

ASSISTANT PROFESSOR .....

5. **Analytical Geometry.** (First Semester. M., Tu., Th., F., 10:20.)—Open to students who have completed courses 1 and 2. Elements of plane analytics including the geometry of the conic sections and an introduction to the analytical geometry of three dimensions.

PROFESSOR MORITZ.

6. **Differential and Integral Calculus.** (Second Semester.

M., Tu., Th., F., 10:20.)—Open to students who have completed course 5. A preliminary course in the calculus with simple applications to mathematical physics and chemistry.

5a. **Analytical Geometry.** (First Semester. Section A: M., Th., F., 10:20; Section B: Tu., W., Th., Float.)—Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. (Prerequisites, 1a and 2a.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

5b. **Differential Calculus.** (First Semester. Section A: M., Th., F., 9:25; Section B: Tu., W., F., 11:15.)—A study of the infinitesimal calculus with special reference to the need of engineers. (Prerequisites 1a and 2a.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

6a. (E) **Differential and Integral Calculus.** (Second Semester. Section A: M., Tu., Th., F., 10:20; Section B: M., Tu., W., Th., Float.)—Continuation of Course 5a.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

7. **Advanced Calculus.** (First Semester. ———.)—Open to students who have completed course 6 or 6a. A comprehensive and rigorous course in the infinitesimal calculus, including a study of hyperbolic functions, elliptic integrals, definite integrals and the application of the calculus to questions of probability. Omitted 1905-06.

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PROFESSOR MORITZ.

8. **Advanced Calculus.** (Second Semester, ———.)— Continuation of Course 7. Omitted 1905-06.

PROFESSOR MORITZ.

9. **Theory of Equations.** (First Semester. ———.)—Open to students who have completed course 6 or 6a. Omitted in 1905-06.

PROFESSOR MORITZ.

10. **Theory of Equations.** (Second Semester. ———.)—Continuation of Course 9.

PROFESSOR MORITZ.

11. **Method of Least Squares.** (First Semester. Tu., Th., Float.)—Open to students who have completed courses 6a or 7. An exposition of the theory of errors with numerical applications.

PROFESSOR MORITZ.

12. **Advanced Analytical Geometry.** (First Semester. M., W., 11:15.)—Open to students who have completed course 5 or 5a. Modern methods in analytical geometry; homogeneous coordinates, the principle of duality, poles and polars, reciprocal polars, abridged rotation, etc.

PROFESSOR MORITZ.

13. **Advanced Analytical Geometry.** (Second Semester. M., W., 11:15.)—Continuation of Course 12.

PROFESSOR MORITZ.

14. **Differential Equations.** (First Semester. Tu., F., 11:15.)—This course presupposes course 6a or 8. An introductory course in the methods of solving differential equations.

PROFESSOR MORITZ.

15. **Differential Equations.** (Second Semester. Tu., F., 11:15.)—Continuation of Course 14.

PROFESSOR MORITZ.

16. **Mathematical Pedagogy.** (First Semester. W., F., 11:15.)—Open to students who have completed at least 16 hours of mathematics in addition to the mathematics required for admission to the University. The course deals with such questions as the following: the educational value of mathematics, the course of mathematics in the high schools, text-books and reference books, correlation of mathematics, the laboratory method, treatment of definitions and principles, reviews and examinations, etc.

ASSISTANT PROFESSOR GOULD.

17. **History of Mathematics.** (Second Semester. M., T., W., F., 11:15.)—Open to students who have completed course 6 or 6a. A study of the history of elementary mathematics

with special reference to mathematical pedagogy.

ASSISTANT PROFESSOR GOULD.

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

PHYSICAL CULTURE.

PROFESSOR ROLLER AND MISS WOLD.

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

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

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

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

SUBJECTS.

1, 2. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m.; Section B: Tu., Th., 4 p. m.)—For men. Regular Freshman course.

PROFESSOR ROLLER.

3, 4. **Apparatus Work.** (Throughout the year. Tu., Th., 3 p. m.; M., W., 4 p. m.)—For men. Regular Sophomore Course.

PROFESSOR ROLLER.

1a, 2a. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m.; Section B: Tu., Th., 4 p. m.)—For women. Regular Freshman course.

MISS WOLD.

3a, 4a. **Apparatus Work.** (Throughout the year. Tu., Th., 4 p. m.)—For women. Regular Sophomore course.

MISS WOLD.

5, 6. **Lecture.** (Throughout the year. F., 4 p. m.)—For both men and women.

PROFESSOR ROLLER.

COLLEGE OF ENGINEERING

THE FACULTY.

THOMAS FRANKLIN KANE, PH. D.
President.

ALMON H. FULLER, C. E.,
Dean and Professor of Civil Engineering.

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

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

HORACE BYERS, PH. D.
Professor of Chemistry.

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

FREDERICK A. OSBORN, PH. B.
Professor of Physics and Director of the Physical and Electrical Laboratories.

JAMES E. GOULD, PH. B.
Assistant Professor of Mathematics.

JOHN C. THORPE, M. E.,
Assistant Professor of Mechanical Engineering.

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

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

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

MAYNARD L. DAGGY, PH. B.
Assistant Professor of Rhetoric and Oratory.

CHARLES C. MORE, C. E.,
Assistant Professor of Civil Engineering.

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

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

INSTRUCTORS AND ASSISTANTS.

HENRY L. BRAKEL, A. B.,
Instructor in Physics.

PAUL HOPKINS, A. M.
Instructor in Chemistry.

McQUILKIN DEGRANGE, A. B.
Instructor in English.

DAVID H. WOLFLE, A. B.
Assistant in Physics.

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 immediate usefulness 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 engineer-

ing 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 supplemeting 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 25,000 horse power ,are all within thirty-five miles of the University and delivering power into the city. They are splendid examples of hydraulic and electric development and of high tension and power transmission work.

Numerous other plants are in successful operation throughout the state. As the country continues to develop, the increased demand for power will call for development of many of the still unused water-powers, and demand the services of men especially trained to do that kind of work and to 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.

LABORATORIES

For a description of the laboratories of the College of Engineering, as well as other University laboratories used by engineering students, see page 41.

ADMISSION.

The requirements for admission to the Freshman class of the College of Engineering are:

English	4
Algebra	1½
Plane Geometry	1
Solid Geometry	½
Physics	1
Chemistry	1
Foreign Language	2
History	1
Civil Government	½
Elective	2½
Total	15

For more specific information concerning the preparation necessary to meet the above requirements and list of electives see page 69.

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.

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 re-

search or design in some branch of engineering, or the careful review of some existing construction. The subject must be approved by the professor in charge of the department under which it is classified, not later than the first of January in the senior year.

Degrees.

The courses of the College of Engineering lead to the degree of Bachelor of Science (B. S.), in civil, mechanical, electrical and chemical engineering, respectively.

Degree 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.

ADVANCE 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 153 and following.

Course in Civil Engineering.

FRESHMAN YEAR.

First Semester—	Hours	*Second Semester*—	Hours
Plane Trigonometry 2a	4	Analytic Geometry, 2a	4
Higher Algebra		Higher Algebra	
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture. 2	2
	16+4		16+4

SOPHOMORE YEAR.

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

JUNIOR YEAR.

	Hours		Hours
Mechanics, 5a	4	Mechanics, 5b	5
Political Science, 1a	4	Industrial Electricity, 3	2
Railroads, 4a	4	Railroads, 4b	4
Geology, 1	4	Masonry Construction, 8.	4
Total	16	Total	15

SENIOR YEAR.

	Hours		Hours
Hydraulics, 6a, 6b	4	Hydraulics, 6b, 6c	4
Bridges, 7a	4	Bridges, 7b	4
Astronomy, 1	2	Astronomy 2	2
Least Squares, 11	2	Geodesy, 3d	2
Roads and Pavements, 9.	2	Contracts and Specifications, 11	1
Structural Materials, 10	2	Thesis	3
Total	16	Total	16

COURSE IN ELECTRICAL ENGINEERING.

First Semester—	Hours	*Second Semester—*	Hours
FRESHMAN YEAR.			
Plane Trigonometry, 1a	4	Analytic Geometry, 2a	4
Higher Algebra		Higher Algebra, 2a	
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Descriptive Geometry, 2a.	4
English Composition, 1	4	Plane Surveying, 3a	4
Shop, 1a	2	Shop, 1b	2
Physical Culture, 1	2	Physical Culture, 2a	2
	16+4		16+4
SOPHOMORE YEAR.			
Analytic Geometry, 5a	3	Calculus, 6a	4
Differential Calculus, 5b.	3	Industrial Chemistry, 2a.	4
Physics, 1a	6	Physics, 2a	5
Machine Design, 5a	3	Machine Design, 5b	2
Elem. of Steam Engineering, 6	2	Engines and Boilers, 7a..	2
Shop, 2a	2	Shop, 3b	2
Physical Culture, 3	2	Physical Culture, 4	2
	17+4		17+4
JUNIOR YEAR.			
Mechanics, 5a	4	Mechanics, 5b	5
Political Science, 1a	4	Dynamo Machinery, 1b	2
Dynamo Machinery, 1a	2	Dynamo Lab., 1c	4
Electrical Measurements, 4a	4	Dynamo Design, 1e	1
Primary and Secondary Batteries, 5a	2	Electrical Measurements and Photometry, 4b	2
		Steam Engineering, 13a..	2
Total	16	Total	16
SENIOR YEAR.			
Hydraulics, 6a, 6b	4	Hydaulics, 6b	1
Electric Railways, 2	2	Telegraph and Telephone, 9	2
Power Transmission, 8a..	2	Power Transmission, 8b..	2
Alternating Currents	3	Alternating Currents, 6b.	3
Alternating Current, Lab.	2	Alternating Current Testing, 6d	2
Commercial Testing, 7	3	Thesis	4
Total	16	Total	14

COURSE IN MECHANICAL ENGINEERING.

First Semester—

FRESHMAN YEAR.

	Hours
Plane Trigonometry, 1a	4
Higher Algebra	
Chemistry, 1a	4
Mechanical Drawing, 1	4
English Composition, 1	4
Shop, 1a	2
Physical Culture, 1	2
Total	16+4

SOPHOMORE YEAR.

	Hours
Analytical Geometry, 5a	3
Differential Calculus, 5a	3
Physics, 1a	6
Machine Design, 5a	3
Elem. of Steam Eng'g, 6	2
Shop, 2a	2
Physical Culture, 3	2
	17+4

JUNIOR YEAR.

	Hours
Mechanics, 5a	4
Political Science, 1a	4
Dynamo Machinery, 1a	2
Electrical Measurements, 4a	1
Kinematics, 10	3
Thermodynamics, 11	3
Shop, 4a	2
Total	17+2

SENIOR YEAR.

	Hours
Hydraulics, 6a and 6b	4
Engine & Boiler Design, 7b	3
Experimental Engineering, 13b	3
Ry. Mechanical Engineering, 20	2
Seminary, 21	2
Elec. Ry's. 2, or, Structural Materials, 10	2
Total	16

Second Semester—

FRESHMAN YEAR.

	Hours
Analytical Geometry, 2a	4
Higher Algebra	
Chemistry, 2a	4
Descriptive Geometry, 2a	4
Plane Surveying, 3a	4
Shop, 2b	2
Physical Culture, 2	2
Total	16+4

SOPHOMORE YEAR.

	Hours
Calculus, 6a	4
Industrial Chemistry	4
Physics, 2a	5
Machine Design, 5b	2
Engines and Boilers, 7a	2
Shop, 3a	2
Physical Culture, 4	2
	17+4

JUNIOR YEAR.

	Hours
Mechanics, 5b	5
Dynamo Machinery, 1b	2
Dynamo Laboratory	1
Experimental Engineering 13a	2
Graphic Statics of Mechanism, 12	3
Gas & Compressed Air, 15	2
Machine Design, 5c	2
Shop, 4b	4
Total	17+2

SENIOR YEAR.

	Hours
Hydraulics, 6b	1
Cont. Spec. & Estimates, 22	2
Experimental Engineering, 13c	2
Machine Design, 5d	2
Power Plants, 25	2
Ind. Elec. or Heating and Ventilating, 16	2
Thesis	4
Total	15

COURSE IN CHEMICAL ENGINEERING.

First Semester— *Second Semester—*

FRESHMAN YEAR.

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

SOPHOMORE YEAR.

	Hours.		Hours.
Analytic Geometry, 5a	3	Calculus, 6a	4
Differential Calculus, 5b	3	Physics, 2a	5
Physics, 1a	6	Quantitative Analysis, 6	4
Qualitative Analysis, 5	2	Geology, 2	4
Geology, 1	4	Physical Culture, 4	2
Physical Culture, 3	2	Total	17+2
Total	16+2		

JUNIOR YEAR.

	Hours.		Hours.
Mechanics, 5a	4	Mechanics, 5b	5
Organic Chemistry, 3	4	Elective	4
Metallurgy, 1	4	Metallurgy, 2	4
Mineralogy, 3	3	Industrial Chemistry, 7	4
Primary and Secondary Batteries	2	Total	17
Total	17		

SENIOR YEAR.

	Hours.		Hours.
Hydraulics, 6a, 6b	4	Hydraulics, 6b, 6c	4
Gas and Water, 11	4	Elective	4
Elements of Steam Engineering, 6	2	Engines and Boilers, 7a	2
Dynamo Machinery, 1a	2	Dynamo Machinery, 1b	2
Physical Chemistry, 8	4	Thesis	4
	16		16

DEPARTMENTS OF INSTRUCTION.

RHETORIC.

ASSISTANT PROFESSOR DAGGY AND MR. .....

1. **English Composition.** (Section A: Tu., W., Th., F., 8:30; Section B: M., W., Th., F., 9:25; Section C: M., Tu., Th., F., 10:20; Section D: M., Tu.. W., Th., Float.)

POLITICAL AND SOCIAL SCIENCE.

PROFESSOR SMITH.

1a. **Elements of Political Econmoy.** (First Semester. M,. W., Th., F., 9:25.)

CHEMISTRY.

See Chemical Engineering, p.

PHYSICS.

PROFESSOR OSBORN, MR. BRAKEL, AND MR. WOLFLE.

1a. **Mechanics, Sound and Heat.** (First Semester. Tu., W., Th., F., 8:30. Laboratory work—Section A: W., F.; Section B: Tu., Th.; Section C: M., Sat.)

2a. **Electricity and Light.** (Second Semester. Tu., W., Th., F., 8:30. Laboratory work—Section A: W; Section B: Tu.; Section C: F.)

GEOLOGY.

PROFESSOR LANDES AND MR. SALISBURY.

1a. **General Geology.** (First Semester. M., Tu., Th., 10:20.)—A semester's course for engineering students. Lectures and recitations. Laboratory. M., W. or Tu., Th.

3, 4. **Mineralogy.** (M., Th., 9:25. Three hours credit.)—Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. Lectures and recitations. (Laboratory work, Tu., or F.)

METALLURGY.

PROFESSOR ROBERTS, MR. BENNETTS AND MR. WERNECKE.

1. **Fire Assaying.** (First Semester. Laboratory work. Four hours credit.)

2. **General Metallurgy.** (Second Semester. M., W., Th., F., 9:25.) Laboratory.

3. **Wet Assaying.** (First Semester. Four hours credit.)

4. **Metallurgical Analysis.** (Second Semester. Four hours credit.)

ASTRONOMY.

PROFESSOR MORITZ.

1. **General Astronomy.** (First Semester. M., W., Float.)—Brief outline of the fundamental facts in regard to the solar system and the stellar universe. The observatory is used for illustrative purposes.

2. **Practical Astronomy and Spherical Trigonometry.** (Second Semester. M., W., Float.)—Solution of spherical triangles. Determination of time, latitude, and azimuth by means of the sextant and the engineer's transit.

MATHEMATICS.

PROFESSOR MORITZ, ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ———.

SUBJECTS.

1a. **Plane Trigonometry and Higher Algebra.** (First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., F., 10:20.)—The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers and their trigonometric representation, Demoivre's 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 ASSISTANT PROFESSOR ———

2a. **Analytical Geometry and Higher Algebra.** (Second Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., F., 10:20.)—Must be preceded by 1a. The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equations; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The algebra consists of lessons supplementary to the analytical geometry, viz.: determinants; indeterminates and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ———

5a. **Analytical Geometry.** (First Semester. Section A: M., Th., F., 10:20; Section B: Tu., W., Th., Float.)—Application of analysis in the study of the conic sections and other plane curves. Introduction to solid analytics. (Prerequisites, 1a and 2a.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ———

5b. **Differential Calculus.** (First Semester. Section A: M., Th., F., 9:25. Section B: Tu., W., F., 11:15.)—A study of the infinitesimal calculus, with special reference to the need of engineers. (Prerequisites, 1a and 2a.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ———

6a. **Differential and Integral Calculus.** (Second Semester. Section A: M., Tu., Th., F., 10:20; Section B: M., Tu., W., Th., Float.)—Continuation of Course 5b.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ———

11. **Method of Least Squares.** (First Semester. Tu., Th., Float.)—An exposition of the theory of errors with numerical applications. (Prerequisites, 6a or 7.)

PROFESSOR MORITZ.

CIVIL ENGINEERING.

PROFESSOR FULLER, ASSISTANT PROFESSOR MORE AND MR. ———

SUBJECTS.

1. **Mechanical Drawing.** (First Semester. Recitation. Sec-

tion A: Th., 9:25; Section B: M., 9:25. Drawing—M., W., F., 1:15.)—Instruction in the use of instruments and practice in linear drawing; construction from printed descriptions in isometric, cabinet and orthographic projections; plane sections and section lining; intersection of simple geometric forms; lettering including the Roman and Gothic alphabets and a practical freehand alphabet for working drawing.

ASSISTANT PROFESSOR MORE.

2a. **Descriptive Geometry.** (Second Semester. M., Th., 9:25.)—Projections and rotations of points, lines, planes, curved and warped surfaces. (Laboratory work. Section B: M., W., 1:15. Section A: M. 1:15 and Th., 10:20-12:10. Prerequisite, Drawing 1, and Mathematics, 1a.)

ASSISTANT PROFESSOR MORE.

2b. **Descriptive Geometry.** (First Semester. Tu., 10:20.)—Shades, shadows and linear perspective. (Laboratory work, M., 1:15. Prerequisite 2a.)

MR. ————

3a. **Plane Surveying.** (Second Semester. Section A: M., W., Float; Section B: Tu., Th., Float.)—Theory of chain, compass, and transit surveying, and leveling; the adjustment and use of instruments, computations of area, maps. (Prerequisite, Drawing 1 and Mathematics 1a. Laboratory work—Section A: W., F., 1:15; Section B: Sat. a. m.)

MR. ————

3b. **City Surveying.** (First Semester, until Christmas recess. Section A: W., 9:25; Section B: F., 9:25.)—Study of the precision necessary to be obtained; survey of a convenient portion of the city, and the field and office work of laying out a new addition. Pen topography will be taken up for the remainder of the semester. (Laboratory work—Section A: W., F.; Section B: Tu., Th., 1:15. Prerequisite, 3a.)

MR. ————

3c. **Topographic Surveying.** (Second Semester. W., 9:25.)—Colored topography until Easter recess. Thereafter, base line measurement; transit triangulation; plane table and

stadia work; maps. (Laboratory work, Tu., Th. Prerequisite, 3b.)

MR. ————

3d. **Elements of Geodesy.** (Second Semester. Tu., 10:20.)—General study of the figure of the earth and of the methods and instruments used in precise surveys over large areas; field work. (Laboratory work, M., 1:15. Prerequisites, 3c, Mathematics, 11, preceded or accompanied by Astronomy 1, 2.)

MR. ————

4a, 4b. **Railroads.** (First Semester. Tu., F., 11:15.)—Location, construction and economics. The theory of curves, earthwork computation and the conditions controlling the economic relation of location, construction and maintenance are taken up in the class room. Reconnaisance and location are made in the field, from which maps and profiles are constructed and critically studied. (Laboratory work, S. Prerequisite, 3c.). (Second Semester. M., Tu., W., F., 11:15.)

MR. ————

5a. **Mechanics.** (First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., W., Th., Float.)—Statics and dynamics. Special attenion is paid to practical applications. Original problems form a prominent feature. Lectures and recitations. (Prerequisites, Mathematics 6a, and Physics, 1a and 2a.

PROFESSOR FULLER.

5b. **Mechanics.** (Second Semester. Section A: Tu., W., Th., F., 8:30. Section B: M., Tu., W., Th., Float.)—Continuation of 5a, and Mechanics of Materials. Lectures, recitations and seminary. (Laboratory work, W., 1:15. Five hours' credit.)

PROFESSOR FULLER.

6a. **Theoretic Hydraulics.** (First Semester until Christmas recess. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., W., Th., Float.)—Hydrostatic pressure; immersion and floatation; steady flow of water through pipes and or-

ifices, over weirs and in open channels. (Three hours' credit. Prerequisite, 5b.)

ASSISTANT PROFESSOR MORE.

6b. **Hydraulic Motors.** (From Christmas recess to Easter recess. Section A:————; Section B:————.)—Special attention is given to the theoretic treatment of wheels of the Pelton type and to turbines. Laboratory tests are made of small motors and meters. (Credit, two hours. Prerequisite, 6a.)

ASSISTANT PROFESSOR MORE.

6c. **Water Supply.** (Second Semester after Easter recess.) —The design and construction of municipal water supply systems. Lectures, recitations and the design of an imaginary system. The last few weeks will be devoted to lectures on irrigation and sewerage. (Three hours' credit. Prerequisite 6a.)

ASSISTANT PROFESSOR MORE.

7a, 7b. **Bridges.** (Throughout the year. M., Th., 10:20.)— Stresses in simple trusses by analytic and graphic methods. Designs with working drawings, bills of material, and estimate of cost of roof truss, a plate girder, and a pin-connected bridge, are made by each student. Lectures, recitations, computations and drawings. (Laboratory work, Tu., Th., 1:15. Prerequisites, 2b, 5b.)

PROFESSOR FULLER.

7c, 7d. **Higher Structures.** (Throughout the year.)—Drawbridges, cantilever bridges, suspension bridges, and metallic arches; stresses and deflections. Lectures, recitations and graphic determinations. (Credit, two hours; must be preceded or accompanied by 7a, 7b.)

PROFESSOR FULLER.

8. **Masonry Construction.** (Second Semester. Tu., F., 10:20.)—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. Lectures, recitations, design and cement laboratory work. (Laboratory work, Tu., Th., 1:15. Prerequisites 2b, preceded or accompanied by 5b.)

ASSISTANT PROFESSOR MORE.

9. **Roads and Pavements.** (First Smester. W., F., 9:25.)—Fundamental principles of the location, construction and maintenance of country roads and city streets. Lectures, recitations and assigned reading. (Prerequisites, 3c and 8.)

ASSISTANT PROFESSOR MORE.

10. **Structural Materials.** (First Semester.)—A study of the physical properties of wood, iron, steel, stone, brick, etc. (Lectures and laboratory work, M., W., 1:15. Prerequisite, 5b.)

PROFESSOR FULLER.

11. **Contracts and Specifications.** (Second Semester.)—Lectures on the law of contracts and a study of engineering specifications. (Credit, one hour.)

MR. FOWLER.

ELECTRICAL ENGINEERING.

PROFESSOR OSBORN, ASSOCIATE PROFESSOR MAGNUSSON MR. BRAKEL, AND MR. ————

This department is associated with the department of Physics.

SUBJECTS.

1a, 1b. **Dynamo Electric Machinery.** (Throughout the year. W., F., 8:30.)—Theory of magnetic circuit, construction, operation and characteristics of direct current dynamos and motors. (Prerequisites, Physics 1a, 2a.)

ASSOCIATE PROFESSOR MAGNUSSON.

1c. **Dynamo Testing.** (Second Semester. Laboratory work, M., 11:15—4; Th., 1:15; Sat, 8:30—12:30.)—Experimental study of direct current machinery. (Prerequisite, 1a.)

ASSOCIATE PROFESSOR MAGNUSSON AND MR. ————

1d. **Short Course in Dynamo Testing.** (Second Semester.

Tu., 1:15—4.)—Abridgment of course 1c for Mechanical Engineers.

ASSOCIATE PROFESSOR MAGNUSSON.

1e. **Dynamo Design.** (Second Semester. Tu., 11:15.)—Complete design of one direct current dynamo or motor.

ASSOCIATE PROFESSOR MAGNUSSON.

2. **Electric Railways.** (First Semester. M., Th., 10:20.)—Electric circuit, roadbed, rolling stock, construction and operation.

ASSOCIATE PROFESSOR MAGNUSSON.

3. **Industrial Electricity.** (Second Semester. M., Th., 10:20.)—Outline of industrial applications; Ohm's law, wiring, etc. (Prerequisites, Physics 1a, 2a.)

MR. ————

4a. **Electrical Measurements.** (First Semester. M., 10:20. Laboratory work, Tu., W., F., 1:15. Prerequisites, Physics 1a, 2a.)

MR. BRAKEL.

4b. **Electrical Measurements and Photometry.** (Second Semester. Tu., 10:20. Laboratory work, F., 9:25-12:10. Prerequisite, 4a.)

MR. ————

5a. **Primary and Secondary Batteries.** (First Semester. Th., 10:20. Laboratory, Tu., F., 10:20-12:10. Prerequisites, Physics 1a, 2a.)

PROFESSOR OSBORN.

6a, 6b. **Alternating Currents.** (Throughout the year. M., W., F., 9:25.)—Theory and applications of alternating currents, power measurements, alternators, transformers, induction motors, synchronous motors, rotary convertors. (Prerequisites 1a, 1b.)

ASSOCIATE PROFESSOR MAGNUSSON.

6c, 6d. **Alternating Current Testing.** (Throughout the

year. Tu., W., 1:15.)—Experimental study of alternating current machinery.

ASSOCIATE PROFESSOR MAGNUSSON.

7. **Commercial Testing.** (First Semester. Tu., W., F., 10:-20-12:10, S. 8:00-12:30.)—Practical testing of machines and appliances in commercial use. (Prerequisites, 4a, 5a.)

MR. .....

8a, 8b. **Electric Lighting and Power Transmission.** (Throughout the year. Tu., Th., 9:25.)—Construction and operation of transmission systems; lighting plants and their operation.

ASSOCIATE PROFESSOR MAGNUSSON.

9. **Telephones and Telegraphs.** (Second Semester. M., Th., 10:20.)—Theory of telephones, telephone systems, submarine, multiplex and wireless telegraphy.

ASSOCIATE PROFESSOR MAGNUSSON.

10. **Journal Club.** (F., 11:15.)—Meets once each week for the study of current Engineering periodicals.

MECHANICAL ENGINEERING.

ASSISTANT PROFESSOR THORPE, ASSISTANT PROFESSOR ————, AND MR. ————

1a. **Work in Wood.** (First Semester.)—A systematic course of exercises showing the use of the different carpenter's tools. Also a graded series of exercises in wood turning.

MR. ————

1b. **Pattern Making.** (Second Semester.)—Exercises in the construction of various forms of patterns, core-boxes, etc. Special attention is given to the use of the pattern maker's scale, shrinkage, etc.

MR. ————

2a. **Foundry Practice.** (First Semester.)—Bench and floor moulding and coremaking. Work will be given in both iron and brass.

MR. ————

3a. **Forge Practice.** (Second Semester.)—A systematic graded course of exercises in iron and steel forging, hardening and tempering tools, etc.

MR. ————

4a. **Bench Work in Iron.** (First Semester.)—A systematic course of exercises in the use, care and selection of machinists hand tools, in filing, chipping, polishing, etc.

MR. ————

4b. **Machine Work in Iron.** (Second Semester.)—Plain and taper turning, boring, thread cutting, drilling, planing, milling, etc. Special attention will be given to the construction of the modern machine tools.

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.

MR. ————

5a. **Elements of Machine Design.** (First Semester. Th., Float.)—A study of the design of machine details, giving practice in the application of modern formulae and manufacturer's standards. Design of bolts, riveted joints, boiler staying, bearings, etc. (Prerequisites: Drawing 1; Des. Geom: 2a. Laboratory work: W., F., or Tu., Th.)

ASSISTANT PROFESSOR ————

5b. **Elements of Machine Design.** (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: M., W., 1:15.)

ASSISTANT PROFESSOR ————

5c. **Design of Special Machinery.** (Second Semester.)—Special problems in the design of hoisting and pumping machinery will be assigned. Attention will be given to the

theory of design and the methods employed by various builders. References to the works of Reuleaux, Unwin, Klein and others. Prerequisites 5b, Mech. 5a. Laboratory work, Th., 1:15.)

ASSISTANT PROFESSOR THORPE AND ASSISTANT PROFESSOR ———

5d. **Advanced Machine Design.** (Second Semester.)—Special problems in the design of machine tools, automatic machinery, etc., will be given, suited to the abilities and inclinations toward specialization of the students. (Prerequisite, 5a, 5b, 10, 12; Mech. 5a, 5b. Two hours' credit. Laboratory work.)

ASSISTANT PROFESSOR THORPE AND ASSISTANT PROFESSOR ———

6. **Elements of Steam Engineering.** (First Semester. W., F., 9:25.)—Brings before the student the various forms of steam apparatus used in modern power plants, considering the construction, use and reasons for installing such apparatus. The course tends to create a working vocabulary in this branch of engineering. Visits are made from time to time to the power houses in the vicinity where the apparatus studied in the class room may be seen in operation.

ASSISTANT PROFESSOR THORPE.

7a. **Engines and Boilers.** (Second Semester. Tu., Th., 9:25.)—A study of the generation and use of steam in boilers and engines; the conditions necessary for maximum efficiency; the influence of economizers, feedwater heaters, etc., upon the engine and boiler performance. (Prerequisite, 6.)

ASSISTANT PROFESSOR THORPE.

7b. **Design of Engines and Boilers.** (First Semester. F., 11:15.)—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: 5a, 5b, 6, 7a, 10, 11, and Mech. 5a, 5b. Laboratory work: W., F., 1:15.)

ASSISTANT PROFESSOR THORPE.

10. **Kinematics.** (First Semester. Tu., Th., 8:30.)—A study of plain motion involving the determination of instantaneous centres, centrodes and axodes and the velocities of important parts of mechanisms. Special attention is given to the steam engine mechanism, valve motions, indicator reducing motions, etc. (Prerequisites: 5a, 5b, 6, 7a and preceded or accompanied by Mech. 5a. Laboratory work, M., 1:15.)

ASSISTANT PROFESSOR ————

11. **Thermodynamics.** (First Semester. Tu., Th., F., 10:20.)—A consideration of the fundamental principles underlying the transformation of heat into work, with special reference to the steam engine. The solution of numerous problems arising in practice are required. (Prerequisites: Physics, 1a, 2a; Math. 5a, 6a; M. E. 6, 7a.)

ASSISTANT PROFESSOR THORPE.

12. **Graphic Statics of Mechanism.** (Second Semester. Tu., Th., F., 10:20.)—The graphic determination of the forces acting at different points in machines used for hoisting, crushing, punching and power transmission. Also, a study of the effects of friction and the stiffness of ropes and belts. (Prerequisites: 5a, 5b, 10; Mech. 5a.)

ASSISTANT PROFESSOR THORPE.

13a. **Experimental Engineering.** (Second Semester. F., 1:15.)—Calibrations of thermometers, gages, indicator springs, etc. Friction and mechanical efficiency tests of the simple steam engine are made. Special lectures on the standard methods of engine, boiler and pump tests are given during the course. (Prerequisites: 6, 7a; Physics, 1a, 2a.)

ASSISTANT PROFESSOR THORPE AND ASSISTANT PROFESSOR ————

13b. **Experimental Engineering.** (First Semester.)—A continuation of course 13a involving more extended and complete investigations. Special attention is given to the theory involved and previous experiments. Gas and fuel analysis. (Prerequisites: 13a, 11. Laboratory work, Tu., Th., 1:15.)

PROFESSOR THORPE AND ASSISTANT PROFESSOR ————

13c. **Experimental Engineering.** (Second Semester.)—An advanced course in commercial testing. Special advantages are enjoyed in this work in having the privileges of a number of the large power plants extended to the department. The work will be carried on from the commercial standpoint and reports made from the same point of view. (Prerequisite, 13b. Laboratory work, Tu., Th., 1:15.)

ASSISTANT PROFESSOR THORPE AND ASSISTANT PROFESSOR ———

15. **Gas and Compressed Air.** (Second Semester. Tu., Th., 8:30.)—A study of the development of gas and compressed air engineering. Detailed consideration of the theory of gas and hot-air engines, air compressors, etc. (Prerequisite, 11.)

ASSISTANT PROFESSOR THORPE.

16. **Heating and Ventilating.** (Second Semester. Tu., Th., 8:30.)—A course of lectures and recitations considering the various systems of heating and ventilating, methods of design and tests. (Prerequisite: 11, 13a, 15.)

ASSISTANT PROFESSOR THORPE.

20. **Railway Mechanical Engineering.** (First Semester. Tu., Th., 8:30.)—A lecture course for the consideration of mechanical engineering as related to the machinery and maintenance departments of railways. Attention is given to shop methods, equipment, etc. (Prerequisite: 5a, 5b, 7a, 10, 11, and 15.)

ASSISTANT PROFESSOR THORPE.

21a. **Seminary.** (First Semester. M., 1:15.)—Work closely allied with the theses and other special work of the senior year. The student is required to present papers on subjects assigned by the professor in charge. Special attention is given to technical reading and the discussion of technical subjects. (Prerequisite: Senior standing or the equivalent.)

ASSISTANT PROFESSOR THORPE.

22. **Contracts, Specifications and Estimates.** (Second Semester. W., F., 9:25.)—The law of engineering contracts and the consideration of mechanical engineering contracts and

specifications. Calculations and estimates are made regarding the cost of engines, boilers, piping systems, power transmission, etc. (A lecture course for Seniors.)

ASSISTANT PROFESSOR THORPE.

25. **Power Plants.** (Second Semester. Tu., Th., 11:15.)—A study of the design of power plants involving their location, buildings, prime movers, power transmission, etc.

ASSISTANT PROFESSOR THORPE.

CHEMICAL ENGINEERING.

PROFESSOR BYERS, PROFESSOR JOHNSON, ASSISTANT PROFESSOR BENSON, MR. ————

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

Zero course, (M., 11:15.)—Many students come from high school courses of which chemistry forms no part and in order to make it possible for them to carry the regular work, a supplementary course is offered. It must be taken, if at all, with course 1a, 2a. It consists of an extra quiz on the lecture work and four hours of laboratory work per week. (Laboratory work either F. p. m., or Sat. a. m. If not required for entrance credit it will be given 2 hours.

PROFESSOR BYERS, ASSISTANT PROFESSOR BENSON, MR. ————
MR. ————

3, 4. **Organic Chemistry.** (Throughout year. Tu., Th., F., 10:20.)—A lecture course on the chemistry of the compounds of carbon with special reference to the Aliphatic and Aromatic series. It consists of three lectures or quizzes and four hours

of laboratory work per week. A text-book is followed as a lecture syllabus. Holleman and Cooper. Laboratory work based on Gatterman. (Laboratory work, Tu., Th., 1:15. Prerequisite, Chemistry 1b and 2b.)

PROFESSOR BYERS.

5. **Advanced Qualitative Analysis.** (First Semseter. M., Th., 9:25.)—Lectures on the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations of the subject matter of the lectures. Two lectures and six laboratory hours per week. Four credits.

PROFESSOR BYERS.

6. **Quantitative Analysis.** (Second Semester.)—Gravimetric and volumetric analysis. Olsen's Quantitative Analysis. Twelve laboratory hours per week. Four credits.

PROFESSOR BYERS.

7. **Industrial Chemistry.** (Second Semester. M., Th., F., 10:20.)—A course designed primarily for engineering students. It takes up subjects of importance along engineering lines and discusses them with respect to their manufacture and applications. About half of the time will be spent on iron and steel. This treatment will be supplemented by lantern slide illustration, trips to industrial plants, numerous samples, etc. Each student will prepare a paper on some assigned subject. (Laboratory work, F., 1:15.)

ASSISTANT PROFESSOR BENSON.

8. **Physical Chemistry.** (First Semester. Tu., Th., Float.)—An elementary course consisting of lectures and recitations upon fundamental principles of chemistry based upon physical measurements. The laboratory course consists of determinations of molecular weights by the various methods, construction of solubility curves, specific gravity determinations, conductivity measurements, etc. Two lectures and six laboratory hours. (Prerequisites, chemistry 6 and college physics.)

ASSISTANT PROFESSOR BENSON

9. **Electro Chemistry.** (Second Semester. Tu., Th., Float.)—The lecture course deals with the historical development of electro-chemistry, the theories of electrolysis, migration of ions, concentration cells, solution pressure, etc. The laboratory work consists of the preparation of compounds by electrolysis and by electrosynthesis, electro-plating, etc., and of illustrations of the subject matter of the lectures. (Prerequisite, chemistry 8 and college physics. Credit 4 hours.)

ASSISTANT PROFESSOR BENSON.

11, 12. **Special Methods.** (Throughout the year. Tu., W., Th., F., 8:30.)—Analysis of water, gas, foods, etc. This course will be essentially an advanced course in quantitative analysis and will take up subjects in addition to those indicated according to the line of work which the student hopes to pursue later. This course is open only to advanced students of the department and will be given by the member of the staff most interested in th special subjects chosen. The work in the first semester will be essentially the same for all students.

PROFESSOR JOHNSON

PHYSICAL CULTURE.

1, 2. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m.; Section B: Tu., Th., 4 p. m.)—For men. Regular Freshman course.

3, 4. **Apparatus Work.** (Throughout the year. Section A: Tu., Th., 3 p. m.; Section B: M., W., 4 p. m.)—For men. Regular Sophomore work.

PROFESSOR ROLLER.

1a, 2a. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m.; Section B: Tu., Th., 4 p. m.)—For women. Regular Freshman course.

3a, 4a. **Apparatus Work.** (Throughout the year. Section

A: Tu., Th., 3 p. m.; Section B: M., W., 4 p. m.)—For women. Regular Sophomore course.

MISS WOLD.

5, 6. **Lectures.** (Throughout the year. F., 4 p. m.)—For both men and women.

Professor Roller.

THE SCHOOL OF MINES

THE FACULTY.

THOMAS FRANKLIN KANE, PH. D.
President.

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

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

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

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

HORACE BYERS, PH. D.
Professor of Chemistry.

TREVOR KINCAID, A. M.
Professor of Zoology.

FREDERICK A. OSBORN, PH. B.
Professor of Physics and Director of the Physical and Electrical Laboratories.

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

JAMES E. GOULD, PH. B.
Assistant Professor of Mathematics.

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

JOHN C. THORPE, M. E.,
Assistant Professor of Mechanical Engineering.

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

MAYNARD L. DAGGY, PH. B.
Assistant Professor of Rhetoric and Oratory.

CHARLES C. MORE, C. E.,
Assistant Professor of Civil Engineering.

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

PAUL HOPKINS, A. M.
Instructor in Chemistry.

GEORGE JAMME,
Lecturer on Coal Mining.

MAURICE D. LEEHEY,
Lecturer on Mining Law.

PURPOSE.

The School of Mines was established to give thorough technical education to those desiring to become mining engineers, metallurgists and geologists, and thus to supply the demand for men competent to develop the resources of the state.

There are three courses: (1) Mining engineering; (2) geology and mining; (3) short course in mining for prospectors.

The course in mining engineering with geology contains more geology, biology and electives than the other courses. It is designed for those students who wish to fit themselves for geological surveys or for reporting upon the economic geology of mining districts.

ADMISSION.

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

English	4
Algebra	1½
Plane Geometry	1
Solid Geometry	½
Physics	1
Chemistry	1
Foreign Language	2
History	1
Civil Government	½
Elective	2½
Total	15

For more specific information concerning the preparations necessary to meet the above requirements and for list of electives see page 69.

Students may be admitted:

(1) By presenting a certificate of graduation from an accredited school (for list see page 83), covering the above subjects.

(2) By passing a satisfactory examination in above subjects.

It is desirable for the students to review his preparatory mathematics just before entering the School of Mines. By such a step much time will be saved and the work of the School will be rendered far more valuable.

SUMMER WORK.

Every mining student who is a candidate for a degree is required to spend a portion of his summer vacations in actual work in a mine, mill or smelter. An exhaustive report of such work must be presented before the middle of the following semester. Students in course II may present geological field work as a partial substitute.

DEGREE.

The four year course of the School of Mines leads to the degree of Bachelor of Science (B. S.) in mining engineering.

DEGREES WITH HONORS.

A degree with honors may be conferred upon any student who has been recommended by the faculty of the School of Mines.

SHORT COURSE FOR PROSPECTORS.

From January 9th to April 15th the instructors in mining engineering offer a course for the benefit of mature persons who are interested in prospecting and mining. Admission to the classes is without examination. The subjects are suited to the needs of those who wish sufficient information in geology, mineralogy, chemistry and related subjects to take up practical work with a proper understanding of it. Instruction is given by lectures, laboratory exercises and visits to reduction plants.

The advantages of the University laboratories and libraries are open to all. 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.

For the purely lecture subjects no fees are charged. In the laboratory subjects sufficient charges are made to cover the cost of materials actually consumed. In subject 1 a fee of five dollars is charged, and a deposit of five dollars is required to cover the cost of apparatus which may be broken; in subject 3 a fee of two dollars is charged, and a deposit of two dollars required as a surety for the return of the blowpipe outfit and other apparatus loaned; in subject 4 a fee of ten dollars is charged, and a deposit of five dollars required to cover breakage of apparatus. All fees must be paid, and all deposits made, at the beginning of each subject.

For subjects in this course see page 178.

STATE ASSAYING.

Owing to the constant demand which is made upon the department of assaying for ascertaining the value of various minerals, the following scale of prices has been adopted.

Gold	$1.00
Gold and silver	1.00
Silver	.50
Lead	.50
Copper	2.00
Tin	2.00
Zinc	2.00
Qualitative Analysis	$2.00 to $5.00
Quantitative analysis, for each element $2.00, or a complete analysis	5.00 to 25.00

COURSES OF THE SCHOOL OF MINES.

Course in Geology and Mining.

First Semester—

FRESHMAN.

	Hours.
Plane Trigonometry 1a	4
Higher Algebra,	
Chemistry, 1a	4
Mechanical Drawing, 1	4
English Composition, 1	4
Shop, 1a	2
Physical Culture, 1	2
	16-|-4

SOPHOMORE.

	Hours.
Mineralogy, 3	3
Analytical Geometry, 5a	3
Differential Calculus, 5b	3
Physics, 1a	5
City Surveying, 3b	3
Physical Culture, 3	2
Total	17-|-2

JUNIOR.

	Hours.
Fire Assaying, 1	4
Zoology, 1	4
Geology, 1a	4
Political Science, 1a	4
Total	16

SENIOR.

	Hours.
Ore Dressing, 1	4
Economic Geology, 7	4
Wet Assaying, 3	4
Paleontology, 9	3
Total	15

Second Semester—

FRESHMAN.

	Hours.
Analytical Geometry 2a	4
Higher Algebra	
Chemistry, 2a	4
Plane Surveying, 3a	4
Descriptive Geometry, 2a	4
Shop, 3a	2
Physical Culture, 2	2
	16-|-4

SOPHOMORE.

	Hours.
Mineralogy, 4	3
Calculus, 6a	4
Quantitative Analysis, 3	4
Physics, 2a	5
Physical Culture	2
Total	16-|-2

JUNIOR.

	Hours.
General Metallurgy, 2	4
Zoology, 2	4
Elective	8
Total	16

SENIOR.

	Hours
Mining Methods, 2	4
Petrography, 8	4
Evolution, 12	1
Paleontology, 10	3
Elective	4
	16

COURSE IN MINING.

First Semester— *Second Semester—*

FRESHMAN.

	Hours		Hours.
Plane Trigonometry 1a	4	Analytical Geometry 2a	4
Higher Algebra		Higher Algebra	
Chemistry, 1a	4	Chemistry, 2a	4
Mechanical Drawing, 1	4	Plane Surveying, 3a	4
English Composition, 1	4	Descriptive Geometry, 2a	4
Shop, 1a	2	Shop, 3a	2
Physical Culture, 1	2	Physical Culture, 2	2
Total	16-|-4	Total	16-|-4

SOPHOMORE.

	Hours.		Hours.
Mineralogy, 3	3	Mineralogy, 4	3
Analytical Geometry, 5a	3	Calculus, 6a	4
Differential Calculus, 5b	3	Quantitative Analysis, 3	4
Physics, 1a	5	Physics, 2a	5
City Surveying, 3b	3	Physical Culture, 4	2
Physical Culture, 3	2	Total	16-|-2
Total	17-|-2		

JUNIOR.

	Hours.		Hours.
Fire Assaying, 1	4	General Metallurgy, 2	4
Mechanics, 5a	4	Mechanics, 5b	4
Geology, 1a	4	Topographical Surveying, 3c	3
Political Science, 1a	4	Elective	4
Total	16	Total	15

SENIOR.

	Hours.		Hours.
Mining, 1	4	Mining, 2	4
Economic Geology, 7	4	Petrography, 8	4
Wet Assaying, 3	4	Mining Law, 3	1
Hydraulics, 6a	4	Hydraulics, 6b	2
Total	16	Geology Field Work, 11	1
		Elective	4
		Total	16

SHORT COURSE FOR PROSPECTORS.

January 9th to April 15th.

SUBJECTS.

1. General Chemistry and Qualitative Analysis. Laboratory practice in the determination of the common elements. (Three lectures a week, and Saturday laboratory.)

2. Geology.—Lectures on the elements of geology, the common varieties of rocks, metalliferous vein and ore dposits, etc. (Three times a week.)

3. Mineralogy.—Instruction and practise in blowpipe analysis, with lectures upon the common minerals, and practice in the identification of minerals by field tests. (Three times a week.)

4. Fire Assaying.—Lectures on sampling, preparing ores for assay, furnaces, fuels and reagents. The laboratory work includes the testing of reagents, and the assaying of various ores, furnace and mill products. (One lecture and three afternoons a week in laboratory.)

5. Mining.—Lectures on prospecting, development, timbering, mine transportation, pumping, ventilation and hydraulic mining. (Twice a week.)

6. A series of lectures on the mining laws of the United States and Alaska. (Twice a week.)

The following subjects are offered to students who have completed the above courses:

7. Advanced Mineralogy.—A continuation of descriptive mineralogy with much practice in determinative work. (Prerequisite, 3.)

8. Quantitative Analysis.—Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. (Two afternoons a week. Prerequisite, 1.)

9. Wet Assaying.—Assaying of bullion for fineness; assaying of copper by various methods; amalgamation assay. (Prerequisite, 1. To be taken with 7.)

10. **Ore Dressing.**—The treatment of ores underground and at surface, hand picking, crushing, sizing, separating, vanning, jigging, etc. Stamp battery and amalgamation processes, receiving, sampling and purchasing of ores at smelters. (Two lectures and one laboratory period.)

DEPARTMENT OF INSTRUCTION.

RHETORIC.

ASSISTANT PROFESSOR DAGGY AND MR. ————

1. **English Composition.** (Section A: Tu., W., Th., F., 8:30; Section B: M., W., Th., F., 9:25; Section C: M., Tu., Th., F., 10:20; Section D: M., Tu., W., Th., Float.)

POLITICAL AND SOCIAL SCIENCE.

PROFESSOR SMITH.

1a. **Elements of Political Economy.** (First Semester. M., W., Th., F., 9:25.)

CHEMISTRY.

PROFESSOR BYERS, ASSISTANT PROFESSOR BENSON AND MR. HOPKINS.

SUBJECTS.

Zero Chemistry. (Throughout year. M., 11:15.)—To meet the needs of those students who come from schools in which chemistry is not required for graduation. It consists of one recitation and four laboratory hours per week thoughout the year, but must be taken, if at all, in conjunction with Chemistry 1a, 2a, which it is designed to supplement and make possible for the unprepared student. Where the student has admission clear it will be given two university credits per semester. Where offered for entrance requirements it will count as one credit.

1a, 2a. **General Inorganic.** (Tu., W., F., 11:15.)—Experimental lectures supplemented by quizzes. Laboratory work during first semester on selected illustrative experiments. Second semester, quantitative analysis. Remsen's Advanced Course. Smith's Laboratory Manual. Notes on qualitative

analysis. (Prerequisite, a high school course in chemistry or simultaneous taking of Chemistry O.)

PROFESSOR BYERS AND ASSISTANT PROFESSOR BENSON.

6. **Quantitative Anaysis.** (Afternoons.)—Gravimetric and volumetric analysis. Talbot's Quantitative Analysis. (Prerequisite, 2.)

ASSISTANT PROFESSOR BENSON

PHYSICS.

PROFESSOR OSBORN, MR. BRAKEL AND MR. WOLFLE

1a. **Mechanics, Sound and Heat.** (First Semester. Tu., W., Th., F., 8:30. Laboratory work—Section A: W., F.; Section B: Tu., Th.; Section C: M., Sat.)

2a. **Electricity and Light.** (Second Semester. Tu., W., Th., F., 8:30. Laboratory work.—Section A: W.; Section B: Tu.; Section C., F.)

ZOOLOGY.

PROFESSOR KINCAID.

1, 2. **Elements of Zoology.** (Tu., F., 11:15.)—A general review of zoological science, involving a study of the structure, classification and habits of the types included in the great branches of the animal kingdom. (Laboratory work: Tu., Th. or W., F., 1:15.)

12. **Problems in Evolution.** (W., 11:15.)—A discussion of fundamental biological problems, including natural selection, utility and heredity, together with reviews of important contemporary articles.

GEOLOGY.

PROFESSOR LANDES AND MR. SALISBURY.

1a. **General Geology.** (First Semester. M.., Tu., Th., 10:20.)—A semester's course for engineering students. Lectures and recitations. Two laboratory periods of two hours each, either on Monday and Wednesday, or on Tuesday and Thursday afternoons.

3, 4. **Mineralogy.** (M., Th., 9:25.)—Principles of crystallography; blowpipe methods in testing minerals; descriptive and determinative mineralogy. (Lectures and recitations. Laboratory work, Tu., or F.)

5. **Meteorology.** (First Semester. M., W., F., 9:25.)—A general consideration of the atmosphere; winds and storms; the causes and distribution of rainfall; weather; climate; etc. Lectures and recitations. Laboratory work in charge of Mr. G. N. Salisbury, Section Director, United States Weather Bureau, Seattle.

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

7. **Economic Geology.** (First Semester. M., Tu., W., Th., 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.)

8. **Petrography.** (Second Semester. Tu., W., Th., Float.)—A study of the distinguishing characteristics of the different groups and species of rocks, with the methods of classification employed. Lectures and recitations. Laboratory hours to be arranged. (Prerequisites, 1, 2, and 3, 4.)

9, 10. **Paleontology.** (Throughout the year. Tu., W., F., 8:30.)—The elements of invertebrate paleontology, consisting of a study of the hard parts of animals preserved as fossils,

with their geologic and geographic distribution. Lectures and recitations. Laboratory hours to be arranged.

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.)

MATHEMATICS.

PROFESSOR MORITZ, ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ————

SUBJECTS.

1a. **Plane Trigonometry and Higher Algebra.** (First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., F., 10:20.)—The work in algebra deals with topics supplementary to the work in trigonometry, such as complex numbers and their trigonometric representation, Demovre'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 ASSISTANT PROFESSOR ————

2a. **Analytical Geometry and Higher Algebra.** (Second Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., F., 10:20.)—The fundamental conceptions and theorems in plane analytical geometry; the construction of loci from their equotions; the deduction of the equations to loci from given conditions; transformation of coordinates; the straight line. The algebra consists of lessons supplementary to the analytical geometry, viz.: determinants; indeterminants and limiting values; interpretation of imaginary and infinite roots; elementary theorems in the theory of equations; etc. (Prerequisite, 1a.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ————

3. **Solid Geometry.** (First Semester. W., F., 9:25.)—This course covers the usual theorems with exercises and applications to the mensuration of surfaces and solids.

ASSISTANT PROFESSOR ————

4. **Solid Geometry.** (Second Semester. W., F., 9:25.)—Continuation of course 3. (Two hours' credit.)

ASSISTANT PROFESSOR ————

5a. **Analytical Geometry.** (First Semester. Section A: M., Th., F.; Section B: Tu., W., Th., Float.)—Application of analysis in the study of conic sections and other plane curves. Introduction to solid analysis. (Prerequisite, 1a, 2a, 3 and 4.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR ————

5b. **Differential Calculus.** (First Semester. Section A: M., Th., F., 9:25; Section B: Tu., W., F., 11:15.)—A study of the infinitesimal calculus with special reference to the need of engineers. (Prerequisites 1a, 2a, 3 and 4.)

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .. ..

6. **Differential and Integral Calculus.** (Second Semester. Section A: M., Tu., Th., F., 10:20; Section B: M., Tu., W., Th., Float.)—Continuation of Course 5b.

ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

CIVIL ENGINEERING.

PROFESSOR FULLER, ASSISTANT PROFESSOR MORE AND MR. ————

SUBJECTS.

1. **Mechanical Drawing.** (First Semester. Recitation:—Section A, Th., 9:25; Section B, M., 9:25. Drawing—M., W., F., 1:15.)—Instruction in the use of instruments and practice in linear drawing; construction from printed descriptions in isometric, cabinet and orthographic projections; plane sections and section lining; intersection of simple geometric forms; lettering, including the Roman and Gothic alphabet and a practical freehand alphabet for working drawing.

ASSISTANT PROFESSOR MORE.

2a. **Descriptive Geometry.** (Second Semester. M., Th., 9:25.)—Projections and rotation of points, lines, planes, curved and warped surfaces. (Laboratory work, M., W., 1:15. Prerequisite, Drawing 1, and Mathematics 1a.)

ASSISTANT PROFESSOR MORE.

2b. **Descriptive Geometry.** (First Semester. Tu., 10:20.)—Shades, shadows and linear perspective. (Laboratory work, M., 1:15.)

MR. ————

3a. **Plane Surveying.** (Second Semester. Section A, M., W., Float; Section B: Tu., Th., Float.)—Theory of chain, compass, and transit surveying, and leveling; the adjustment and use of instruments, computations of area, maps. Laboratory work, W., F. or Sat. a. m. Prerequisite, Drawing 1, Mathematics 1a.)

MR. ————

3b. **City Surveying.** (First Semester, until Christmas recess. Section A: W., 9:25; Section B: F., 9:25. Laboratory work—Secion A: W., F.; Section B: Tu., Th., 1:15. Prerequisite, 3a.)

Mr. ————

3c. **Topographic Surveying.** (Second Semester. W., 9:25.)—Colored topography until Easter recess. Thereafter, base-line measurements; transit triangulation; plane table and stadia work; maps. (Laboratory work, Tu., Th., 1:15.)

5a. **Mechanics.—Statics and Dynamics.** (First Semester. Section A: Tu., W., Th., F., 8:30; Section B: M., Tu., Th., Float. Lectures and recitations.)—Special attention is paid to practical applications. Original problems form a prominent feature. (Prerequisites, Mathematics 6a and Physics 1a.)

PROFESSOR FULLER.

5b. **Mechanics.** (Second Semester.. Section A: Tu., W., Th,. F., 8:30; Section B: M., Tu., W., Th., Float.)—Continuation of 5a and Mechanics of Materials. Lectures, recitations and seminary. (Laboratory work, W., 1:15.)

PROFESSOR FULLER.

6a. **Theoretic Hydraulics.** (First Semester until Christmas. Section A: Tu., W., Th.., F., 8:30; Section B: M., Tu., W., Th., Float.)

6b. Hydraulic Motors. (From Christmas recess to Easter recess. Two hours' credit.)

ELECTRICAL ENGINEERING.

PROFESSOR OSBORNE, ASSOCIATE PROFESSOR MAGNUSSON AND MR. ————

3. Industrial Electricity. (Second Semester. Two hours' credit.)—Outline of industrial application, Ohm's law, wiring, etc.

MR. ————

MECHANICAL ENGINEERING.

ASSISTANT PROFESSOR THORPE.

1a. Shop.—Work in wood.

3a. Shop.—Forge work.

7. Engines and Boilers. (Second Semester. Tu., Th., 9:25.)

MINING ENGINEERING.

PROFESSOR ROBERTS. ASSISTANT PROFESSOR..... SPECIAL LECTURES BY MR. MAURICE D. LEEHEY, MR. GEORGE JAMME AND OTHERS.

The mining and milling methods in use at the present time throughout the western states are studied in detail, and comparisons made between the practice in different localities. Students are expected to gain such familiarity with some branch of the subject by practical work during the summer months that they can derive proper benefit during the junior and senior years from laboratory tests of ores and from a study of text-books, expert reports and professional papers. Visits are made to coal and metal mines in operation.

SUBJECTS.

1. Ore Dressing. (First Semester. Tu., W., F., 11:15.)—Three lectures and one laboratory period. Treatment of ores

underground and at surface; crushing, concentration, sampling, coal washing. Required visits to coal and metal mines.

PROFESSOR ROBERTS.

2. **Mining.** (Second Semester. Tu., W., F., 11:15.)—Prospecting, shaft-sinking, stoping, timbering, drills, explosives, hoisting, ventilation, safety lamps, pumping, mine bookkeeping.

PROFESSOR ROBERTS AND SPECIAL LECTURERS.

3. **Mining Law.** (Second Seemster. Th., 11:15.)—A study of the mining laws of the United States and especially those of Washington and Alaska. Lectures and required reading, (Credit, one hour.)

MR. MAURICE D. LEEHEY.

4. **Ventilation.** (First Semester. Tu., Th., Floating.)—A thorough study of such subjects as the structure of ventilating fans and formulae for their use, safety lamps, systems of coal mining, etc.

PROFESSOR ROBERTS.

5. **Summer Work.**—Required of all mining students. Continuous work in a mine, mill or smelter; geological field work, etc., followed by a written report of the work.

METALLURGY.

PROFESSOR ROBERTS, MR. BENNETTS AND MR. WERNECKE.

The classroom and laboratory work in metallurgy is supplemented by frequent visits to the assay offices, smelting and refining plants located in Seattle and neighboring cities.

SUBJECTS.

1. **Fire Assaying.** (First Semester.)—Testing of reagents, sampling and assaying of ores, furnace and mill products for lead, silver and gold. (Four laboratory periods. Prerequisite, Chemistry 1, 2.)

PROFESSOR ROBERTS, MR. WERNECKE

2. **General Metallurgy.** (Second Semester. M., W., Th., F., 9:25.)—The properties of metals and alloys, the uses of various fuels, types of furnaces, and the blast-furnace treatment of ores (except iron). (Prerequisite, Metallurgy 1.)

PROFESSOR ROBERTS, MR. BENNETTS.

3. **Wet Assaying.** (First Semester.)—The determination of copper and other metals in ores and furnace products by electrolytic and volumetric methods. (Four afternoons. Prerequisite, Chemistry 6.)

4. **Metallurgical Analysis.** (Second Semester.)—Analysis of coal, slags, alloys, etc. (Four afternoons. Prerequisite, Chemistry 6.)

5. **Metallography.**—The making and testing of alloys, the preparation and study (with microscope) of polished sections of metals and alloys, especially structural iron and steel. (Prerequisite, Metallurgy 2.)

6. **Gold and Silver.** (W., 8:30. Three hours credit.)—A detailed study of the processes of extraction, especially cyanidation, chlorination and amalgamation. Lectures and laboratory work.

7. **Iron and Steel.** (Second Semester.)—Four lectures a week. (See Chemistry 7, page 124.)

PROFESSOR BYERS.

PHYSICAL CULTURE.

1, 2. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m. Section B: Tu., Th., 4 p. m.)—For men. Regular Freshman course.

3, 4. **Apparatus Work.** (Throughout the year. Tu., Th., 3 p. m.; M., W., 4 p. m.)—For men. Regular Sophomore work.

PROFESSOR ROLLER.

1a, 2a. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m. Section B: Tu., Th., 4 p. m.)—For women. Regular Freshmen course.

3a, 4a. **Apparatus Work.** (Throughout the year. Tu., Th.,

3 p. m.; M., W., 4 p. m.)—For women. Regular Sophomore course.

MISS WOLD.

5, 6. Lectures. (Throughout the year. F., 4 p. .m.)—For both men and women.

PROFESSOR ROLLER.

THE SCHOOL OF PHARMACY

THE FACULTY.

Thomas Franklin Kane, Ph. D.
President.

Charles W. Johnson, Ph. C., Ph. D., Dean,
Professor of Pharmacy and Physiological Chemistry.

Horace Byers, Ph. D.
Professor of Chemistry.

John T. Condon, LL. M.,
Professor of Law. (Pharmaceutical Jurisprudence.)

Trevor C. D. Kincaid, A. M.,
Professor of Zoology. (Physiology.)

Frederick A. Osborn, Ph. B.
Professor of Physics

James E. Gould, Ph. B.
Assistant Professor of Mathematics.

Theodore C. Frye, Ph. D.
Professor of Botany.

Herbert D. Carrington, Ph. D.
Professor of German.

Pierre J. Frein, Ph. D.
Professor of French.

Benjamin F. Roller, A. B., M. D.
Professor of Physical Culture and Hygiene.

Henry K. Benson, A. M.
Assistant Professor of Chemistry.

MAYNARD L. DAGGY, PH. B.
Assistant Professor of Rhetoric and Oratory.

.....
Assistant Professor of Pharmacy.

PAUL HOPKINS, A. M.
Instructor in Chemistry.

HANNAH JOHNSTON, B. S.
Assistant in Chemistry.

PURPOSE.

The School of Pharmacy of the University of Washington was established in 1894 and has for its chief aim the preparation of young men and women for responsible positions in the practice of pharmacy. It is well equipped to give instruction in all the lines of work that constitute a liberal as well as technical education in this important profession. It is not the purpose of the school to give "practical drug store experience," but it gives such thorough instruction in practical manufacturing, the compounding of prescriptions, materia medica, and such allied subjects as chemistry, physiology, botany and toxicology as will enable its graduates to take first rank in their chosen line of work. Being a department of the State University the school is able to offer its students the advantages of various liberal arts courses which afford those pursuing advanced work a liberal scientific education. This forms an excellent foundation for the study of medicine.

With the above purposes in view two courses of study

have been outlined. (1) A two year course which prepares its graduates for responsible positions in the profession of pharmacy, and admits them to many of the schools of medicine. (2) A four year course which supplements the two years' work with such studies as prepare its graduates for responsible technical positions, and admits them to those schools of medicine which require as a prerequisite a collegiate training. The four year course includes the professional trainig of the two year work and leads to a regular collegiate degree.

ENTRANCE REQUIREMENTS.

Candidates for Degrees.

I. To obtain clear entrance to the School of Pharmacy, the student must be at least 18 years of age, and a graduate of some one of the accredited High Schools of the State, or must have equivalent training in some other school or he must pass examination in the following subjects:

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

The total requirement for entrance is fifteen units, two of which must be a foreign language.

Note: By "unit" in the above is meant the equivalent of the High School course of one year in subjects specified.

II. A student may enter who is conditioned in not more than two units of the above subjects.

III. *Advanced Standing.* Students who can show equivalent training in any other school of good standing may be admitted to advanced classification in either course.

Students Not Candidates for Degrees.

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

Degrees.

1. The degree of Pharmaceutical Graduate (Ph. G.) will be granted to any student over 21 years of age, who

has fulfilled the entrance requirements and has completed the two year course as outlined. This degree entitles any holder who has had two years of practical experience to a Certificate of Registration from the State Board of Pharmacy (without examination) entitling him to practice pharmacy in the State of Washington. The graduates of the two year course are entitled to entrance to many of the best medical colleges.

2. The degree of Bachelor of Science (B. S.) will be conferred upon those who comply with the entrance conditions and complete the four year course. Graduates of the four year course may continue work in the graduate school leading to the Master's degree.

A degree with honor may be conferred upon a student of the School of Pharmacy if recommended for this distinction by the Dean.

CERTIFICATE GRADUATES.

Students not candidates for degrees who satisfactorily pursue the studies outlined in the two year course will be granted a Certificate of Graduation. This certificate entitles 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 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 Botany, Physiology, Pharmacy and Chemistry.

REGISTRATION IN THE STATE OF NEW YORK.

The State of New York has marked an advance in pharmaceutical education by requiring that all candidates for examination before the State Pharmacy Board be graduates of some school of pharmacy recognized by the State Board and the State Education Department. The School of Pharmacy of the University of Washington is able to announce that it is registered in full with the New York State Board of Pharmacy, and that its graduates will be admited to examination to qualify as registered pharmacists in the State of New York.

CORRESPONDENCE.

Inquiries in regard to the School of Pharmacy may be addressed to the Dean of the School or to the Registrar of the University. It is of advantage for persons making such inquiries to state definitely their previous school training. Copies of the Catalogue of the University or of the Special Announcement of the School of Pharmacy may be had upon application.

COURSES OF THE SCHOOL OF PHARMACY.

Two Year Course.

FIRST YEAR.

First Semester—	Hours.	*Second Semester—*	Hours.
Physiology	3	Physiology	3
Pharmaceutical Botany	3	Pharmaceutical Botany	3
Pharmacy, 1	4	Pharmacy, 2	4
Chemistry, 1b	4	Chemistry, 2b	4
Physical Culture	2	Physical Culture	2

SECOND YEAR.

	Hours.		Hours
Organic Chemistry	4	Organic Chemistry	4
Pharmacy, 3	4	Pharmacy 4	4
Materia Medica	4	Pharmacognosy	4
Physiological Chemistry.	4	Toxicology	4

Four Year Course.

FIRST YEAR.

First Semester—	Hours.	*Second Semester—*	Hours.
Physiology	3	Physiology	3
Chemistry, 1b	4	Chemistry, 2b	4
Mathematics 1	4	Rhetoric, 1	4
Language	4	Language	4
Physical Culture	2	Physical Culture,	2

SECOND YEAR.

	Hours.		Hours.
Pharmacy, 1	4	Pharmacy, 2	4
Organic Chemistry	4	Organic Chemistry	4
Botany, 1	4	Botany, 2	4
Language	4	Language	4
Physical Culture	2	Physical Culture	2

THIRD YEAR.

	Hours.		Hours.
Physics, 1	4	Physics, 2	4
Pharmacy, 3	4	Pharmacy, 4	4
Physiological Chemistry..	4	Physiological Chemistry..	4
Elective	4	Elective	4

FOURTH YEAR.

	Hours.		Hours.
Chemistry of Alkaloids...	4	Toxicology	4
Materia Medica	4	Pharmacognosy	4
Elective	4	Elective	4
Elective	4	Elective	4

DEPARTMENT OF INSTRUCTION.

GERMAN.

PROFESSOR CARRINGTON AND ASSISTANT PROFESSOR BOETZKES.

1, 2. **Elementary.** (Throughout the year. Section A: Tu., W., Th., F., 8:30. Section B: M., Tu., W., Th., Float. Section C. M., Tu., Th., F., 10:20.)—Grammar and easy reading, with practice in speaking and writing.

FRENCH.

PROFESSOR FREIN AND ASSISTANT PROFESSOR BOETZKES.

1, 2. **Elementary.** (Throughout the year. Section A: Tu., W., Th., F., 8:30. Section B: M., Tu., W., F., 11:15. Section C: M., Tu., W., Th., Float.)—Frazer and Squair's Grammar.

RHETORIC.

PROFESSOR PRIEST. ASSISTANT PROFESSOR DAGGY AND MR.....

1. **English Composition.** (First Semester. Section A: Tu., W., Th., 8:30. Section B: M., W., Th., F., 9:25. Section C: M., Tu., Th., F., 10:20. Section D: M., Tu., W., Th., Float.)—Daily and fortnightly themes together with the study of the principles of Rhetoric. Text: "Genung's The Working Principles of Rhetoric." Each student will meet the instructor for private consultation on his work at least once every two weeks. Required of freshmen in all courses.

2. **English Composition.** (Second Semester.)—Repetition of Course 1.

CHEMISTRY.

PROFESSORS BYERS, JOHNSON, ASSISTANT PROFESSOR BENSON AND MR. HOPKINS.

1b. **Pharmaceutical Chemistry.** (First Semester. Tu., W.,

F., 11:15.)—A lecture and quiz course, supplemented by laboratory experiments, on the principles of general inorganic chemistry, with special reference to the needs of students in pharmacy and those preparing for medicine. Two lectures or quizzes per week with six hours laboratory work. Credit four hours.

2b. **Pharmaceutical Chemistry.** (Second Semester. Tu., W., F., 11:15.)—Continuation of course 1b. A study of the chemistry of the metals and the various inorganic salts used in pharmacy and medicine, also methods of qualitative analysis. The laboratory work will consist of a systematic course in qualitative analysis. Two lectures or quizzes per week with six hours laboratory work. Credit four hours. To meet the needs of those who enter without chemistry a course of one quiz and three laboratory hours per week, throughout the year, will be given. This must be taken, if at all, in conjunction with chemistry 1b and 2b.

PROFESSOR JOHNSON. MR. ————

3, 4. **Organic Chemistry.** (Throughout the year. Tu., Th., F., 10:20.)—A lecture course on the chemistry of the compounds of carbon with special reference to the Aliphatic and Aromatic series. It consists of three lectures or quizzes and four hours of laboratory work per week. A text-book is followered as a lecture syllabus. Holleman and Cooper. Laboratory work based on Gatterman. Four hours' credit. (Prerequisite Chemistry 1b and 2b.

PROFESSOR BYERS.

5. **Advanced Qualitative Analysis.** (First Semester. M., Th., 9:25.)—Lectures on the theory of solution as applied to analytical work. Laboratory work on the analysis of alloys and minerals and illustrations of the subject matter of the lectures. Two lectures and six laboratory hours per week. Four credits.

PROFESSOR BYERS.

6. **Quantitative Analysis.** (Second Semester.(—Gravime-

tric and volumetric analysis. Olsen's Quantitative Analysis (Twelve laboratory hours per week. Four credits.)

PROFESSOR BYERS.

7. **Industrial Chemistry.** (Second Semester. M., Th., F., 10:20. Laboratory work, F., 1:15.)

ASSISTANT PROFESSOR BENSON.

8. **Physical Chemistry.** (First Semester. Tu., Th., Float. Four credits. Prerequisites, Chemistry 5 and 6, and Physics 1 and 2.)

ASSISTANT PROFESSOR BENSON.

9. **Electro Chemistry.** (Second Semester. Tu., Th., Float. Four credits. Prerequisite, Chemistry 9.)

ASSISTANT PROFESSOR BENSON.

10. **Inorganic Preparations.** (Second Semester. Four credits.)—Special methods of preparation of important inorganic compounds. Designed to illustrate special chemical principles. (Twelve laboratory hours per week. Prerequisite, Chemistry 6.)

PROFESSOR BYERS.

11, 12. **Special Methods.** (Throughout the year. Tu., W., Th., F., 8:30.)—Analysis of water, gas, foods, etc. This course will be essentially an advanced course in quantitative analysis and will take up subjects in addition to those indicated according to the line of work which the student hopes to pursue later. This course is open only to advanced students of the department and will be given by the member of the staff most interested in the special subjects chosen. The work in the first semester will be essentially the same for all students.

PROFESSOR JOHNSON.

13, 14. **Organic Preparations.**—An advanced course in organic chemistry. (Prerequisite 4 and 6.)

PROFESSOR BYERS.

15.. **Investigation.**—Any student who has completed at least three years' work in chemistry may, if he desires, undertake

some original investigation under the direction of one of the instructors. Such work will not be encouraged, however, except when the student is presenting himself for a master's degree.

16. **Prospector's Course.**—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 textbook required is Hessler & Smith. (Laboratory work Saturday morning.)

MR. HOPKINS.

17. **Physiological Chemistry.** (First Semester. W., Th., Float.)—Lectures and laboratory work on Carbohydrates, Fats, Proteids, Gastric Juice, Blood Tests and Analysis of Urine, including the microscopic examination of urinary sediments. Assigned reading. (Laboratory work, M., Sat.)

PROFESSOR JOHNSON.

18. **Physiological Chemistry.** (Second Semester. W., Th., Float.)—This is a continuation of course 17. Either lectures or assigned reading and quizzes with two afternoons laboratory work per week. (Credit four hours.)

PROFESSOR JOHNSON.

19. **Chemistry of the Alkaloids.** (First Semester. M., Th., 10:20.)—Either lectures, or assigned reading, and quizzes, with two afternoons' laboratory work per week, on the alkaloids and other plant principles with reference to their constitution, identification and uses. This is an advanced course inorganic chemistry especially designed for those who wish advanced work along these lines for technical training or as preparation for medicine. (Credit four hours.)

PROFESSOR JOHNSON.

20. **Toxicology.** (Second Semester. W., Th., Float.)—Lectures and recitations on the physiological action of the various poisons. their antidotes and methods of using the same. Laboratory work and reading on methods of separa-

ting inorganic and organic poisons from animal tissue. (Credit four hours.)

PROFESSOR JOHNSON.

PHYSICS.

PROFESSOR OSBORN AND MR. BRAKEL.

1. **Mechanics and Sound.** (First Semester. W., Th., F., 9:25. Laboratory work, Tu. or Th. 1:15.)

2. **Heat, Electricity and Light.** (Second Semester. W., Th., F., 9:25. Laboratory work, Tu. or Th.

A student may begin his university work in physics either the first or second semester.

Students presenting note books from high school physical laboratories approved by this department may be excused from about one-third of the laboratory work in Courses 1 and 2.

BOTANY.

PROFESSOR FRYE AND MR. ————

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 indispensable. With these needs in mind a year's work has been outlined including training in the use of the compound microscope; studies in cell forms and contents; a general knowledge of classification, with special emphasis on the flowering plants; the histology of plant tissues, and the methods of straining them for microscopical examination.

1. **General Morphology.** (First Semester. M., W., 9:25.)—A course planned for those who wish a year of scientific botany as a part of a general education. Study of types with a view to the evolution of the plant kingdom. The general

basis of classification. Analysis of some simple phanerogams. This course is the best basis for advanced work. (Laboratory work, M., W., or Th., F.)

2. **General Morphology.** (Second Semester.)—Continuation of Course 1.

7. **Pharmaceutical Botany.** (First Semester. Tu., 8:30.)—How to use the microscope. Study of the cell. Structure of the flowering plants. Preparation of simple slides for the microscope. As far as possible medicinal plants will be studied. (One lecture and six hours laboratory'. Credit 3 hours.)

8. **Pharmaceutical Botany.** (Second Semester. Tu., 8:30.)—Continuation of Course 7.

PHYSIOLOGY.

PROFESSOR KINCAID.

5. **Physiology.** (First Semester. W., F., 8:30.)—A general course, dealing with the physiological activities of the human body. No prerequisite is demanded for this work, but it is advised that it be preceded or accompanied by a course in chemistry. (Creit 3 hours. Laboratory work, M., 1:15.)

6. **Physiology.** (Second Semester. W., F., 8:30.)—Continuation of course 5.

MATHEMATICS.

PROFESSOR MORITZ, ASSISTANT PROFESSOR GOULD AND ASSISTANT PROFESSOR .....

1. **Plane Trigonometry.** (First Semester. Section A: Tu., W., Th., F., 8:30. Section B: M., W., Th., F., 9:25. Section C: M., Tu., W., Th., Float.)—This course may be taken either the first or second semester.

PHARMACY.

PROFESSOR JOHNSON AND ASSISTANT PROFESSOR ————

(First Year)

1. **Theory and Practice of Pharmacy.** (First Semester. W., Th., Float.)—Lectures and recitations on the various processes employed in pharmacy. Laboratory work includes the manufacture of various typical preparations of galenical pharmacy. (Laboratory work: W., F.)

2. **Continuation of Course 1.** (Second Semester. W., Th., Float.)—Lectures and recitations on methods of manufacture and pharmaceutical preparations, also a study of the various compounds, inorganic and organic, that are used in pharmacy. Two lectures and six laboratory hours per week.

ASSISTANT PROFESSOR ————

(Second Year.)

3. **U. S. Pharmacopoeia.** (First Semester. M., Tu., Float.)—A careful study of the pharmacopoeia and national formulary. The laboratory work includes a course in volumetric analysis and the standardization of pharmaceutical preparations. (Laboratory work, M., W.)

ASSISTANT PROFESSOR ————

4. **Valuation of Drugs and Prescriptions.** (Second Semester. M., Tu., Float.)—Lectures and laboratory work in drug assaying and the compounding of prescriptions. Special attention will be given to incompatibilities in prescriptions and methods of compounding. Two lectures and six laboratory hours per week. Credit four hours.

ASSISTANT PROFESSOR ————

MATERIA MEDICA AND PHARMACOGNOSY.

1. **Materia Medica.** (First Semester. Tu., W., Th., F., S:30.)—Lectures and recitations on the properties, actions, uses, therapeutics and doses of drugs and their preparations,

together with a discussion of poisons, their toxic effects and antidotes. Four lectures or recitations per week. (Credit, four hours.)

ASSISTANT PROFESSOR ————

2. **Pharmacognosy.** (Second Semester. Tu., W., Th., F., 8:30.)—Lectures and recitations on animal and vegetable drugs with reference to source, preservation, active constituents, identification and adulteration. Four lectures or recitations per week. (Credit, four hours.)

ASSISTANT PROFESSOR ————

PHYSICAL CULTURE.

PROFESSOR ROLLER AND MISS WOLD.

1, 2. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m. Section B: Tu., Th., 4 p. m.)—For men. Regular Freshman course.

3, 4. **Apparatus Work.** (Throughout the year. Section A: Tu., Th., 3 p. m. Section B: M., W., 4 p. m.)—For men. Regular Sophomore work.

PROFESSOR ROLLER.

1a, 2a. **Apparatus Work.** (Throughout the year. Section A: M., W., 3 p. m. Section B: Tu., Th., 4 p. m. One hour credit.)—For women. Regular Freshman course.

3a, 4a. **Apparatus Work.** (Throughout the year. Tu., Th., 4 p. m.)—For women. Regular Sophomore work.

MISS WOLD.

5, 6. **Lectures.** (Throughout the year. F., 4 p. m. One hour credit.)—For both men and women.

PROFESSOR ROLLER.

THE SCHOOL OF LAW

THE FACULTY.

THOMAS FRANKLIN KANE, PH. D.
President.

JOHN T. CONDON, LL. M., DEAN,
Professor of Law.

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

EDMOND S. MEANY, M. S.,
Professor of Constitutional History.

ARTHUR R. PRIEST, A. M.,
Professor of Rhetoric and Oratory.

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

JOHN F. MAIN, A. B.,
Professor of Law

PURPOSE.

The design of the School of Law is, by a special course, to prepare students for practice in any state in the Union, and to give a thorough, practical and scientific education in the principles of the law.

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.

In 1906-7 the requirements for admission to the Law

School will be the same as the requirements for admission to the junior class in the College of Liberal Arst.

DATE OF REGISTRATION.

The dates of examinations for entrance and registration for the first semester are announced in the University calendar as Monday and Tuesday, September 18th and 19th. The examinations on Monday and Tuesday will be on subjects required for entrance to the Law School, and on Wednesday the examinations will be on subjects presented by candidates for advanced standing in the Law School.

A candidate may call for an examination in any subject in which he thinks that he has done work that will satisfy the requirements of the Law School.

Candidates for advanced standing are required to be present at the beginning of the year, as the degree will not be conferred on anyone who has not spent at least one full college year in this School of Law.

FEES.

The tuition fee in the Law School is twenty dollars a semester, and, as all other fees, is to be paid at the beginning of each semester. A proportionate charge is made for special students who follow single courses.

The graduation fee is five dollars for each student receiving a degree.

COURSE OF STUDY.

The course of instruction is a graded one, and extends through two years of nine months each. The instruction is not confined to any one of the various systems of legal education. Believing that a thorough knowledge of the jural relations arising and existing between men, and of the rights and their correlative obligations and duties springing therefrom lies at the basis of legal education, it is the aim of this school to employ the best in all systems of legal education, to the end that the student may gain a thorough knowledge of the fundamental rights, obligations and duties. To accomplish this end, if the subject in hand is one that requires historical research for a complete understanding of it, the historical method is employed, tracing the growth and development of the subject and giving its application to the body of the law as it exists at the present day. If the subject is one which can be thoroughly understood from a study of well written text-books, advantage is taken of the experience of years of work of the legal profession as crystallized in such works. If the subject is one, as many are, in which no safe generalization can be made, the inductive method is pursued by means of a study of the cases, in connection with some well written compendium or text-book upon the subject.

During the entire course the students has, in lecture and text-book work and in the study of cases, at least eighteen hours a week of class-room work.

The following is a statement of the subjects upon which instruction is given:

First Year.

Elementary Law.—Textbook: Robinson's Elementary Law. (Two hours per week; first semester.)

Contracts.—Textbook: Harriman on Contracts and Keener's Cases on Contracts. (Four hours per week; first semester. Two hours per week; second semester.)

Torts.—Textbook: Ames and Smith Cases on Torts and Washington Cases on torts. (Two hours per week for entire year.)

Quasi-Contracts.—Textbook: Keener on Quasi-Contracts and Cases on quasi-contracts selected by Dean Condon. (Two hours per week for second semester.)

Property.—Personal Property, Sales, Conditional Sales and Chattel Mortgages. Lectures and Washington Cases. (Two hours per week for entire year.)

Pleading.—Textbook: Phillips' Code Pleadings and Selection of Washington Cases. (Two hours per week for entire year.)

Domestic Relations.—Condon's Selections of Washington Cases. (Two hours per week for first semester.)

Criminal Law.—Selection of Washington Cases and Study of Washington Criminal Code. (Two hours per week for second semester.)

Agency.—Textbook: Huffcut on Agency and Washington Cases. (Two hours per week for first semester.)

Bailments and Carriers.—Textbook: Hale on Bailments and Washington Cases. (Two hours per week for second semester.)

Statutory Interpretation.—Textbook: Black on Statutory Interpretation and Washington Cases. (Two hours per week for second semester.)

Moot Court.—(Two hours per week for entire year.)

Second Year.

Pleading.—Practical work in drawing pleading. (Two hours per week for first semester.)

Evidence.—Textbook: Thayer's Cases on Evidence, also selections from Washington Cases and Washington Statutes. (Two hours per week for entire year.)

Property.—Real Property, Mortgages and the Community Property System of the State of Washington regulating the property rights of husbands and wives. Text book: Tiedemain Real Property. (Two hours per week for entire year.)

Equity.—Textbook: Eaton on Equity and selection of Washington Cases. (Two hours per week for first semester.)

Negotiable Instruments.—Including the Law of Suretyship and Guaranty as applicable to negotiable instruments. Textbook: Selover's Negotiable Instruments Law and Washington Cases. (Two hours per week for entire year.)

Partnership.—Textbook: Burdick's Cases on Partnership and selection of Washington Cases. (Two hours per week for first semester.)

Private International Law.—Textbook: Minor's Conflict of Law and cases selected. (Two hours per week for second semester.)

Private Corporations.—Textbook: Clark on Corporations and Washington Constitution, Statute and Cases. (Two hours per week for first semester.)

Municipal Corporations.—Washington Constitution, Statutes and Cases. (Two hours per week for second semester.)

Constitutional Law.—Textbook: McClain's Cases and Washington Cases. (Two hours per week for second semester.)

Wills.—Including Administration of Estates. Lectures and Washington Statutes and Cases. (Two hours per week for second semester.)

Attachment and Garnishment.—Washington Statutes and a

selection of Washington Cases. (One hour per week for first semester.)

Federal Jurisdiction.—Textbook: Thayer's Federal Jurisdiction and selection of cases. (One hour per week for first semester.)

Mining Law.—Lectures. (One hour per week for second semester.)

Admiralty.—Textbook: Justice Brown's Cases on Admiralty Law. (One hour per week for second semester.)

Moot Court.—(Two hours per week for entire year.)

Office Practice.—Practical work in drawing legal papers, such as contracts, deeds, etc., from given states of facts (One hour per week for second semester.)

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 b ythe faculty. The student will be examined by the faculty upon his thesis. It must be printed or type written, and securely bound, and is to be kept permanently in the School of Law.

THE PRACTICE COURT.

The practice court is a part of the School of Law and is presided over by a competent instructor, 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 Saturday.

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 performanc eof their duties as advocates.

The junior class may receive instruction in vocal culture, articulation and pronounciation; position and gesture; quality and force of voice. An advanced course in forensics and oratory is arranged for the senior class.

EXAMINATIONS.

The members of both classes are examined daily throughout the year in their studies. At the end of the first year the members of the junior class are subject to an oral and written examination on the lectures delivered during the year, and their promotion to the senior class is dependent on the manner in which they pass such examiations. 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 oral and

written examinations on the subjects of the lectures during the senior year. Satisfactory examinations must also be passed by the members of both classes on the text-books and cases used for the purpose of instruction.

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 and without payment of the usual admission fee of twenty dollars.

DEGREE.

The degree of Bachelor of Laws (LL. B.) will be conferred upon such students as pursue the full course of two years in the School of Law of the University of Washington and pass an oral and a written examination on the course. It will also be conferred upon those who, having attended another approved law school for a period equal to one year of the course of this School of Law, pursue one year's course in this school and pass like examinations.

REGISTER OF STUDENTS

FOR 1904-1905

GRADUATE STUDENTS.

Adams, Florence M., A. B.....University of Washington
Allen, Riley H., Ph. B., ...University of Chicago
Ash, Ida, A. B. .....Youngs Harris College, Ga.
Banta, Blanche B., A. B. .....University of Michigan
Barlow, Mrs. Helen, B. P., ...University of Washington
Barton, Arthur W., A. B., ...University of Washington
Brakel, Henry L., A. B., ...Olivet College, Mich.
Buland, Mabel E., A. B., ...University of Washington
Burns, Omar A., A. B., ...Greenville College, Ill.
Button, Mary R., A. B., ...University of Washington
Caithness, Jeanne F., A. B.,..... University of Washington
Case, Lucy R., B. S.....University of Minnesota
Cross, Mrs. Elizabeth M., Ph. D., ..Wooster University, Ohio
De Hart, Louise Fuller, A. B., ...Bernard College, N. Y.
Derickson, Lucy A., B. S.,.....Northwestern University, Ill.
Garritson, Mrs. E. A., L. B.,.....University of Chicago
Hill, Elizabth, A. B., ...University of Chicago
Horiuchi, Shuntaro, A. B., Wesada University, Tokyo, Japan
Horton, Caroline. M. A. .....University of Washington
Huntley, Flora, A. M., ...Carleton College, Minn.
Jamieson, Gertrude, A. B., ...University of Minnesota
Johnson, Mrs. C. B., M. S. .....Iowa State College
Joseph, Theodore F., A. B., ...Cornell University
Kerl, Thomas H., A. B., ...University of Michigan
Kilpatrick, Mary., A. B., ...Olivet College, Mich.
Lawson, Perry N., A. B.,.....University of Washington
McIntosh, Vera E., A. B.....University of Washington
McMahon, Edward, A. B.....University of Washington

McMahon, Theresa, M. A.....University of Washington
Melick, Katherine, M. A. .....University of Nebraska
Miller, Lillian, A. B.....University of Washington
Mitmura, Kaizo, A. B.....Weseda University, Tokyo, Japan
Morrison, Mary, A. B.....University of Chicago
Nordby, Anders, Ph. D. .....Rostock University
Padelford, Jessie E., A. B. .....Colby College, Me.
Parker, Isaac Curtis, A. B.....University of Washington
Pollock, Adalaide, A. B.....Stanford University
Pielow, Myra S., A. B. .....University of Washington
Pinney, Alice J., A. B. .....University of Michigan
Roberts, Milnora D., A. B.....Stanford University
Shoudy, Loyal, A. B. .....University of Washington
Simpson, Elizabeth, A. M. .....University of Chicago
Smith, Mrs. Frances B., A. B. .....Amity College, Iowa
Spencer, Susie, A. B. .....Tacoma
Stockley, Eva C., A. B. .....Olivet College, Mich.
Thompson, George F., M. S. .....Iowa State College
Thompson, May, A. B. .....University of Washington
Wallace, J. Sherman, A. B.,.....McMinnville College, Oregon, and Rochester Theological Seminary, N. Y.
Waltz, Edith, M. A. .....De Pauw University, Ind.
Wettrick, Fred J., A. B. .....Valparaiso College, Ind.
Whidden, Mrs. Alberta M., A. B. .....University of Chicago
Woifle, David H., A. B.....University of Oregon
Woodcock, Gertrude M., A. B.....University of Minnesota

SENIORS.

Name.	Course.	Home Address.
Annis Bessie	A. B.....	Spokane.
Beyer, Hebe G.	A. B.....	Bellingham

Name.		Home Address.
Brinker, William H., Jr.	A. B.	Seattle
Brown, Jannette Ethel	A. B.	Juneau, Alaska
Burch, Warren B.	Min. Eng.	Lordsburg, Cal.
Carpenter, L. Ross	A. B.	Seattle
Corbett, G. H. J.	A. B.	Seattle
Corie, Anna E.	A. B.	Seattle
Douglas, William F.	A. B.	Seattle
Edwards, Katherine L.	A. B.	Everett
Foglesong, William A.	A. B.	Seattle
Franklin, William Currie	Min. Eng.	Vancouver
Freyd, Bertha I.	A. B.	Seattle
Hastings, Albert C.	Min. Eng.	Seattle
Hill, William R.	C. E.	Seattle
Hubert, Karl	Min. Eng.	Seattle
Hunt, Ethel L.	A. B.	Bellingham
Iffland, Jennie E.	A. B.	Pt. Townsend
Imbery, Mary E.	A. B.	Seattle
Jackson, H. Claire	A. B.	Custer
Jones, Lucius A.	A. B.	Sumas
Kuniyasu, Uichi	E. E.	Japan
MacDonald, Donald F.	Min. Eng.	Seattle
Marlow, Mamie G.	A. B.	Seattle
McCarthy, William G.	A. B.	Seattle
McElmon, Fred	C. E.	Bellingham
MacFarland, Kenneth C.	C. E.	Tacoma
McGlinn, Robert E.	A. B.	LaConner
McIntyre, Lucile	A. B.	Seattle
McLean, Walter G.	A. B.	Georgetown
Oaks, George C.	A. B.	Tacoma
Quevli, Martha	A. B.	Tacoma
Reasoner, Frank M.	A. B.	Bellingham
Rogers, Roy Clinton	A. B.	Bellingham
Scatcherd, Eleanor F.	A. B.	Seattle

Name.	Course.	Home Address.
Scroggs, Maurice D.	A. B.	Emporia, Kan.
Shelton, Celia D.	A. B.	Seattle.
Thedinga, Henry H.	E. E.	Seattle
Twitchell, Dalbert E.	A. B.	Spokane
Waugh, Rachael.	A. B.	Mt. Vernon
Wetzel, Helen M.	A. B.	Spokane

JUNIORS.

Name.	Course.	Home Address.
Armstrong, Ottie E.	A. B.	Seattle
Bash, Clementine	A. B.	Pt. Townsend
Biegert, Hanna E.	A. B.	Seattle
Biggs, Statira	A. B.	Bellingham
Boyd, Mildred M.	A. B.	Sumner
Bliss, Jeannette	A. B.	Seattle
Brooks, Edward M.	E. E.	Seattle
Bragdon, Hazel	A. B.	West Seattle
Brown, Margaret B.	A. B.	Everett
Carle, Arthur B.	Mech. Eng.	Seattle
Chase, Mildred H.	A. B.	Everett
Clark, Dee	A. B.	Hayes
Cooper, Adelaide	C. E.	Junction
Cordes, Henry G.	E. E.	Wellsville
Crahan, May	A. B.	Seattle
Crickmore, Mrs. Minnie M.	A. B.	Seattle
Cunningham, Ardys B.	A. B.	Waterville
Dam, Oscar W.	A. B.	North Yakima
Dootson, James W.	A. B.	Everett.
Dudley, Florence E.	A. B.	Puyallup
Eisenbeis, Lilian K.	A. B.	Pt. Townsend
Ewing, Halle Ora	A. B.	Seattle
Farnsworth, Aimee	A. B.	Seattle
Fischer, Arthur H.	Min. Eng.	Seattle
Gourlay, Edith	A. B.	Seattle

Name.	Course.	Home Address.
Gullixson, Edna T.	A. B.	Seattle
Hall, Charles W.	A. B.	Vancouver
Hamlin, Milton	Mech. Eng.	Seattle
Harris, Helen R.	A. B.	Seattle
Hoover, Arthur A.	A. B.	Seattle
Hopkins, Thomas A.	C. E.	Ballard
Hubert, Else	A. B.	Seattle
Hughes, Inghram	A. B.	Palouse
Huntoon, Grace C.	A. B.	Bellingham
Iffland, Frieda A.	A. B.	Pt. Townsend
Illingsworth, Jennie E.	A. B.	San Francisco
Irwin, Robert B.	A. B.	Tacoma
Joyce, Mabel A.	A. B.	Seattle
Kahan, Sara E.	A. B.	Seattle
Kellogg, James Y. C.	A. B.	Seattle
Kellogg, Jessamine M.	A. B.	Seattle
Kennedy, Nellie M.	A. B.	Tacoma
King, John R.	E. E.	Seattle
Laube, Fred E.	Min. Eng.	Bellingham
Livingstone, Gilbert T.	Min. Eng.	Seattle.
Martin, Clarence D.	A. B.	Cheney
McCrory, Thomas G.	C. E.	Ballard
McMicken, Maud	A. B.	Seattle
Mitchell, James B.	A. B.	Fairfax
Mylroie, M. Ruth	A. B.	Kent
Nelson, Roy W.	Pharm.	Marysville
Nelson, Charles A.	A. B.	Mt. Vernon
Norton, Grace C.	A. B.	Seattle
O'Brien, James J.	A. B.	Arcadia, Mo.
Ormond, Alexander M.	Mech. E.	Rochester, Minn.
Richardson, Fred H.	Mech. Eng.	Seattle
Sater, Julia M.	A. B.	Seattle
Scheufler, Lydia L.	A. B.	Zilla
Sigworth, Jay H	Min. Eng.	Utica, Penn.

Name.	Course.	Home Address.
Strauss, Alfred A.	Pharm.	Hardheim, Ger.
Sullivan, Allan C.	Mech. Eng.	Fremont.
Sweet, Lester	A. B.	Blaine
Talbott, Nellie M.	A. B.	Seattle
Tibbals, Maurice L.	C. E.	Pt. Townsend
Van Allen, Janet	A. B.	Seattle
Vaupell, Helen K.	A. B.	Seattle
Warner, Blanche	A. B.	Tacoma
Wayland, Russell G.	Min. Eng.	Seattle
Webster, Julia C.	A. B.	Adrian Court
Wernecke, Livingstone	Min. Eng.	Seattle
Wharton, Henry J.	A. B.	Seattle
White, Coral B.	A. B.	Bellingham
Whittlesey, Walter B.	A. B.	Seattle
Williams, Laura B.	A. B.	Seattle
Woodcock, Harold A.	A. B.	Seattle
Ziebarth, Herbert W.	Min. Eng.	Seattle

SOPHOMORES.

Name.	Course.	Home Address.
Adams, David C.	A. B.	Sprague
Alexander, Edward D.	C. E.	Seattle
Ames, Ethel M.	A. B.	Tacoma
Anthon, Sister Inger	A. B.	Seattle
Atkinson, W. L.	Min. Eng.	Seattle
Babcock, Frank E.	Min. Eng.	Everett
Bagshaw, Enoch W.	Min. Eng.	Seattle
Ball, Elsie M.	A. B.	The Dalles, Ore.
Bennett, Manchie O.	C. E.	Ellensburg
Blackburn, Richard L.	A. B.	Fredonia, Kan.
Blethen, Marion R.	A. B.	Seattle
Botten, Harry H.	Mech. Eng.	Madelia, Minn.
Calkins, Donald J.	C. E.	Kennewick
Callow, Edward J.	A. B.	Summit

Name.	Course.	Home Address.
Campbell, Annie L.	A. B.	Seattle
Child, Elsie T.	A. B.	Spokane
Clark, Lois	A. B.	Seattle
Coffman, Ethelin M.	A. B.	Chehalis
Coffman, Florence A.	A. B.	Chehalis
Copestick, Maud	A. B.	Seattle
Cosgrove, Z. Myrn	A. B.	Pomeroy
Courtwright, Abram	A. B.	Olympia
Cox, Henry C.	E. E.	Kennewick
Crawford, Magnus T.	E. E.	Bellingham
Cunningham, Imogene	A. B.	Seattle
Dalby, David	A. B.	Seattle
Dean, Arthur B.	E. E.	Everett
Dearle, Percy	A. B.	Everett
Deland, Katharine	A. B.	Tacoma
Deland, Robert W.	E. E.	Tacoma
Deming, Horace G.	Chem. E.	Tacoma
Dittemore, Lulu E.	A. B.	Seattle
Douglas, Maud A.	A. B.	Seattle
Eason, F. D.	C. E.	Tacoma
Ellis, Edward B.	Min. E.	Willapa
Emerson, Albert T.	E. E.	Elma
Fahnstock, John	C. E.	Seattle
Fletcher, Jas. G.	A. B.	Seattle
Fowler, Frank H.	E. E.	Bellingham
Frailey, Oscar A.	C. E.	Everett
Garrett, Jessamine	A. B.	Seattle
Georgeson, Dagmar	A. B.	Sitka, Alaska
Gibbons, Charles B.	E. E.	Seattle
Gilkey, Pearl	A. B.	Seattle
Gloster, Richard I.	C. E.	Bellingham
Griffiths, Stanley A.	A. B.	Seattle
Gustafson, Frederick C.	C. E.	Tacoma
Haberer, Emanuel J.	A. B.	Germany
Hafer, Wilhelmina	A. B.	Seattle

Name.	Course.	Home Address.
Hanbloom, Bert B.	Pharm.	Tacoma
Hausman, Jeanne P.	A. B.	Seattle
Hawkins, Lela M.	A. B.	North Yakima
Heyes, Margaret L.	A. B.	Seattle
Hibbs, Anna S.	A. B.	Seattle
Holcomb, Harold F.	A. B.	Seattle
Hoover, J. Webster	C. E.	Everett
Hopkins, John A.	C. E.	Ballard
Howell, Everett S.	A. B.	Falls City
Jackson, Edith L.	A. B.	Spokane
Jackson, Jessie M.	A. B.	Portland, Ore.
Jacobsen, Etta	A. B.	Seattle
Jaxtheimer, Bessie	A. B.	Everett.
Johnson, Hilma C.	A. B.	Vancouver
Johnson Harriet R.	A. B.	Green Lake
Kaufman, Elizabeth	A. B.	Spokane
Kellogg, Sarah	A. B.	Seattle
Kinney, Ivan J.	A. B.	Olympia
Knapp, Laila R.	A. B.	Seattle
Leach, Kenneth M.	A. B.	Raymond
Lindsay, Brent A.	A. B.	Wenatchee
Livesey, Esther E.	A. B.	Seattle
Lucas, Mayme	Min. E.	Seattle
Marlow, Junia E.	A. B.	Seattle
Meyer, Stacy	A. B.	Snohomish
Miller, Joseph W.	A. B.	Seattle
Mitchell, Darwin DuB.	A. B.	Seattle
Morrison, Elmer H.	Pharm.	Bellingham
Needam Delos	A. B.	Lewiston, Ida.
Nefzger, Gertrude G.	A. B.	Seattle
Nichols, Charlotte L.	A. B.	Seattle
Niedergesaess, Gertrude L.	A. B.	Seattle
Norton, Chas. A.	A. B.	Seattle
Parker, William E.	A. B.	Seattle
Pendleton, Katherine K.	A. B.	Tacoma

Name.	Course.	Home Address
Peterson, Henry E.	A. B.	Fremont
Peterson, Roy J.	Min. E.	Skagway
Preble, Nora	A. B.	N. Yakima
Pugsley, Harriet	A. B.	Seattle
Pullen, Daniel D.	Mech. Eng.	Skagway, Ala.
Railsback, Llewellyn G.	A. B.	Hatton
Russell, Helen R.	A. B.	Spokane
Secrest, Thos. W.	C. E.	Oakesdale
Sherman, Herme	A. B.	South Park
Sieler, George	A. B.	Odessa
Simpson, Bessie A.	A. B.	Kalama
Sinclaire, Marguerita	A. B.	Seattle
Snyder, Henry M.	A. B.	Snohomish
Staeger, David A.	A. B.	Dryad
Steele, Harry	Min. E.	Seattle
Stule, Hany	A. B.	Seattle
Taylor, Margaret	A. B.	Bellingham
Tenneson, Alice M.	A. B.	Cheney
Thompson, Edward B.	Pharm.	Seatle
Tilley, Hal Cecil	A. B.	Portland, Ore.
Tomlinson, Grace E.	A. B.	Seattle
Tozeland, James A.	C. E.	Killarney, Can.
Trumbull, Harlan L.	A. B.	Seattle
Urehara, Geo. E.	A. B.	Japan
Waddington, Elsie K.	A. B.	Seattle
Wagner, Charles	Mech. E.	Seattle
Wagner, Walter C.	Mech. E.	Green Lake
Waite, Jennie E.	A. B.	Seatle
Wells, Clyde E.	Min. E.	Seattle
Wheeler, Amy	A. B.	Green Lake
Wheeler, Effie B.	A. B.	Seattle
White, Eugene A.	Min. E.	Seattle
Wilbur, Bess R.	A. B.	Seattle
Willimann, Magdalene	A. B.	Seattle
Willis, Agnes L.	A. B.	Chehalis

Name.	Course.	Home Address.
Zednick, Victor H.	C. E.	Seattle
Zook, Carl S.	A. B.	Normal, Ill.

FRESHMEN.

Name.	Course.	Home Address.
Albers, Otto J.	A. B.	Chehalis
Alexander, Nellie	A. B.	Seattle
Allen, Eva	A. B.	Seattle
Ames, Ezra F.	E. E.	Seattle
Anderson, Alice J.	A. B.	Seattle
Andrews, Ray	A. B.	Sunnyside
Armstrong, Edward	Min. E.	San de Fuca
Ashman, Raymond N.	A. B.	Cosmopolis
Atkinson, Carrie	A. B.	Seattle
Auld, Ray R.	A. B.	Bellingham
Babcock, Frank D.	Pharm.	Pt. Angeles
Bach, Lois	A. B.	Seattle
Balyeat, Ira G.	A. B.	Van Wert
Bartlett, Phoebe	A. B.	Seattle
Berg, Roscoe E.	E. E.	Seattle
Birkett, Don S.	A. B.	Seattle
Blethen, Florence A.	A. B.	Seattle
Bliss, Amelia	A. B.	Seattle
Blodgett, Emma	A. B.	Dunlap
Bolong, J. W. A.	E. E.	Ballard
Borie, Fanchon	A. B.	Pendleton, Ore.
Botten, Alfred H.	Mech. E.	Madelia, Minn.
Brennerholtz, Richard C.	A. B.	Waterville
Brown, R. B.	A. B.	Seattle
Brown, Vera M.	A. B.	Seattle
Burke, Gordon	A. B.	Tacoma
Burwell, Edgar H.	Mech. E.	Tacoma
Caffery, Margaret	A. B.	Green Lake
Cales, Tony F.	E. E.	Bucoda

Name	Course	Home Address
Campbell, Jessie	A. B.	Seattle
Campbell, John W.	A. B.	Edwall
Campbell, Lucy	A. B.	Seattle
Chambers, Lydie M.	A. B.	Seattle
Chapin, Gilbert L.	A. B.	Seattle
Chestnut, Vivian L.	Min. E.	Seattle
Chloupek, Edward H.	A. B.	Manitowoc, Wis.
Christie, Morris W.	E. E.	Ottumwa, Ia.
Churchill, Elsa T.	A. B.	Seattle
Clark, Arthur M.	Min. E.	Centralia
Claycomb, Granville R.	Mech. E.	Seattle
Cobb, Asa A.	Mech. E.	Haverly.
Cody, Cora E.	A. B.	Anacortes
Collins, Edward D.	A. B.	Kirkland
Colsky, Rose	A. B.	Seattle
Cooper, Alton	A. B.	Seattle
Cooper, John F.	Min. E.	Seattle
Coulter, Chester	E. E.	Seattle
Cox, Royal E.	E. E.	Kennewick
Crane, Harry S.	Min. E.	Seattle
Crim, Edward O.	E. E.	Seattle
Cumbo, George S.	Chem. E.	Waterville.
Dalby, Edward	A. B.	Seattle
Dalgity, Annie D.	A. B.	Seattle
Dalton, Catherine D.	A. B.	Seattle
Dankel, John C.	A. B.	Seattle
Davidson, Carlon C.	A. B.	Seattle
Davis, Fannie Lela	A. B.	Van Assalt
Davis, Reba	A. B.	Spokane
Day, Elmer	Mech. E.	Pt. Madison
Dean, Homer L.	Pharm.	Bellingham
Derrickson, George P.	C. E.	Seattle
Duby, Marie C.	A. B.	Seattle
Duffy, Gilbert L.	Mech. E.	Seattle
Dunlap, Nellie M.	A. B.	Seattle

Name	Course	Home Address
Easter, Roderick R.	C. E.	Seattle
Eastlick, Mary E.	A. B.	Issaquah
Eaton, William L.	C. E.	Spokane
Engleland, Eunice G.	A. B.	Seattle
Erickson, Charles E.	C. E.	Seattle
Erickson, Helga	A. B.	Astoria, Or.
Everett, Johnston R.	C. E.	Custer
Fallis, Anna L.	A. B.	Centralia
Farley, Harry R.	A. B.	Bellingham
Fisher, May D.	A. B.	Seattle
Foltz, Mary E.	A. B.	Seattle
Forbes, Ethel	A. B.	Seattle
Foreman, Lemuel	A. B.	Spokane
Fowler, William P.	E. E.	Bellingham
Frieday, Grace W.	A. B.	Tacoma
Garvey, Victor H.	C. E.	Green Lake
Geary, Lester E.	Mech. E.	W. Seattle
Gibbons, Helen M.	A. B.	Seattle
Gilson, Chris E.	A. B.	Green Lake
Goodner, Henry E.	A. B.	Spokane
Grant, Elsie	A. B.	Spokane
Grant, Terence T.	A. B.	Spokane
Gray, Ruth Pearl	A. B.	Seattle
Griffith, Ora A.	A. B.	Seattle
Hackshaw, Maud	A. B.	Seattle
Hansen, John	A. B.	Seattle
Harris, Alexander	E. E.	N. Yakima
Hartman, Fred L.	A. B.	Pendleton, Ore.
Hawley, Louise A.	A. B.	Seattle
Hewett, Frank C.	A. B.	Tacoma
Heyes, Mary	A. B.	Seattle
Hidden, Julia	A. B.	Vancouver
Himelhoch, Coral	A. B.	Seattle
Hinckley, Grace F.	A. B.	Seattle
Hipkoe, Max O.	B.	Chilliwack, B. C.

Name	Course	Home Address
Houlahan, Kathleen	A. B.	Seattle
Houlahan, Mary A.	A. B.	Seattle
Houston, Madge	A. B.	Seattle
Hussey, Anna	A. B.	Snohomish
Isbell, Harry R.	E. E.	Seattle
Jacobson, Clara	A. B.	Woodinville
Jacobson, Sara	A. B.	Woodinville
James, Sydney T.	A. B.	Seattle
Johns, David P.	A. B.	Fremont
Judge, Redman P.	A. B.	Ballard
Kahan, Rose	A. B.	Seattle
Karr, Arthur T.	A. B.	Hoquiam
Kelsey, Eva M.	A. B.	Hatton
Kilbourne, Edna F.	A. B.	Seattle
Kiemle, Florence A.	A. B.	Spokane
Kittredge, Frank E.	C. E.	Seattle
Kittredge, Margaret	A. B.	Seattle
Langdon, Fanny	A. B.	Sumner
Leigh, Charles T.	Mech. E.	Seattle
Lindsay, William R.	C. E.	Utsallady
Lingermann, Birdena A.	A. B.	Tacoma
Linne, Agnes E.	A. B.	Seattle
Linne, Edna H.	A. B.	Seattle
Lough, Jacob W.	Pharm.	Ballard
Luby, Florence E.	A. B.	Seattle
Lumbard, George A.	Min. E.	Seattle
Luzader, Floy L.	A. B.	Tacoma
Lysons, Edward	E. E.	Snohomish
Mackie, Paul D.	A. B.	Ballard
Maggs, John M.	Mech. E.	Seattle
Marble, James E.	C. E.	Seattle
MacFate, Harry W.	Mech. E.	Seattle
McArdle, Joe F.	A. B.	Seattle
McCurdy, Uriah F.	Pharm.	Seattle
MacDaniells, Meta L.	A. B.	Tacoma

Name	Course	Home Address
MacDonald, LaVelle Morehouse	A. B.	Pendleton, Ore.
McDonald, Helen	A. B.	Green Lake
McDonald, Kittie	A. B.	Seattle
MacDonnell, David M.	E. E.	Tacoma
McLachlan, Margaret M.	Pharm.	Seattle
McMillan, Marie G.	A. B.	Seattle
Miller, Claude A.	A. B.	Hatton
Miller, Mamie B.	A. B.	Seattle
Mitchell, Margaret S.	A. B.	Redmond
Morrow, Clare	A. B.	Waitsburg
Mortell, Mamie	A. B.	Seattle
Moultray, Will E.	A. B.	Bellingham
Munson, Grace	A. B.	Seattle
Murchison, Alice	A. B.	Seattle
Murphy, Joseph M.	A. B.	Westfield
Murray, May	A. B.	Seattle
Nash, Lulu May	Pharm.	Tacoma
Newell, Roy E.	Min. Eng.	Centralia
Newton, Earl B.	A. B.	Norwich, N. Y.
Osburn, Cora M.	A. B.	Seattle
Ovitt, Goldia	A. B.	Foster
Palmer, John R.	Mech. Eng.	Tacoma
Parr, Myrtle I.	A. B.	Seattle
Patterson, Frank L.	A. B.	Wenatchee
Perry, Percy J.	C. E.	Aberdeen
Peters, William G.	C. E.	Bellingham
Philben, Honoria	A. B.	Puyallup
Phillips, Earl E.	A. B.	Davenport
Pierce, Emily B.	A. B.	Seattle
Preble, Mattie	A. B.	N. Yakima
Pratt, Daniel L.	A. B.	Sioux Falls, Ia.
Price, Isabella M.	A. B.	Seattle
Prosch, Beatrice	A. B.	Seattle
Pugley, Edmund F.	C. E.	Seattle
Reeves, Clara H.	A. B.	Seattle

Name	Course	Home Address
Richards, Louis M.	Min. Eng.	...
Roberts, George B.	C. E.	Kalama
Rockefellow, Ruth	A. B.	Seattle
Roller, Floyd H.	Mech. Eng.	Seattle
Rosaaen, Archie G.	A. B.	Seattle
Rothchild, Ernest E.	A. B.	Port Townend
Rowell, Alfred J.	A. B.	Seattle
Ruchle, Godfrey L A.	Pharm.	Port Townsend
Rumbaugh, Orrel A.	A. B.	Endicott
Rutherford, George	E. E.	Falls City
Ryan, Edith E.	A. B.	Sumner
Sander, Fred	A. B.	Ellensburg
St. John, Wm. M.	A. B.	Snohomish.
Scatcherd, Roy	Pharm.	Seattle
Schneider, Hugo H.	Mech. Eng.	Snohomish
Scott, Nellie May	A. B.	Seattle
Sharkey, Fred J.	E. E.	N. Yakima
Shay, Emily	A. B.	Seattle
Shaw, Herbert A.	E. E.	N. Yakima
Shaw, Royal N.	A. B.	N. Yakima
Shay, Zachariah B.	Min. Eng.	Willapa
Shea, John H.	Mech. Eng.	Seattle
Sheerer, Harold M.	Min. Eng.	Seattle
Sherwood, Homer D.	A. B.	Seattle
Sloss, Nellie	A. B.	Seattle
Smith, Eugene Rex.	Chem. Eng.	Seattle
Smith, Glenwin Harry.	A. B.	Seattle
Smith, Guy L.	Pharm.	Everett
Smith, J. G. B.	A. B.	Tacoma
Smith, Myra G.	A. B.	Seattle
Smith, Sadie E.	A. B.	W. Seattle
Snoke, Rupert P.	Mech. Eng.	Seattle
Snow, Nina	A. B.	Seattle
Spencer, Aluria	A. B.	Seattle
Starr, George E.	A. B.	Waterville

Name	Course	Home Address
Stead, Maude A.	A. B.	Seattle
Stewart, Elsie H.	A. B.	Seattle
Stewart, Louis H.	A. B.	Tacoma
Stone, Seymore I.	A. B.	Kodiak, Alaska
Strout, Rena	A. B.	Tacoma
Sutherland, Katherine B.	A. B.	Seattle
Sutherland, G Ray	C. E.	Walla Walla
Sutherland, John.	E. E.	Seattle
Sveinson, Makkin	A. B.	Blaine
Talmadge, Henry O.	Min. Eng.	Ballard
Taylor, Josephine	A. B.	Bellingham
Thomas, Bert C.	A. B.	Seattle
Thompson, Amos W.	E. E.	Stanwood
Thompson, Hugh L.	E. E.	Kelown, B. C.
Thompson, Leta L.	A. B.	Seattle
Thompson, William P.	A. B.	Seattle
Tilley, Homer H.	M. E.	Portland, Ore.
Tilton, Charles S.	A. B.	Jelloway, O.
Tierney, Ray L.	A. B.	Seattle
Tripple, John W.	A. B.	Seattle
Turner, Katherine	A. B.	Seattle
Urase, Masajiro	Mech. Eng.	Bozeman, Mont
Vincent, Fred W.	A. B.	Pendleton, Ore.
Vogt, Edith F.	A. B.	Seattle
Waite, Genevieve	A. B.	Seattle
Wakefield, Clio M.	A. B.	Seattle
Wallace, John B.	A. B.	Centralia
Walsh, Elsa.	A. B.	Seattle
Walsh, Gertrude.	A. B.	Seattle
Ware, John F.	A. B.	St. Paul, Minn
Warren, Margaret.	A. B.	Seattle
Watson, Grace E.	A. B.	Seattle
Way, Evelyn D.	A. B.	Seattle
Way, Edith Elizabeth.	A. B.	Seattle
Way, Stephen F.	Min. Eng.	Seattle

Name	Course	Home Address
Wells, Floy	A. B.	Seattle
Wernecke, Chauncey	A. B.	Seattle
West, Ruth	A. B.	Seattle
Whidden, John B.	A. B.	Wardner, Idaho
Whitney, Glenn T.	A. B.	Seattle
Williams, Blanche L.	A. B.	Seattle
Wimmler, Norman	Min. Eng.	Seattle
Winn, Grover C.	A. B.	Juneau, Alaska
Winsor, William	Mech. Eng.	Seattle
Woodbridge, Laura F.	A. B.	Marietta, Ohio

UNCLASSIFIED STUDENTS.

Name	Course	Home Address
Allen, Floyd W.	C. E.	Seattle
Allen, Herman	A. B.	Kent
Anderson, L. Bliss	A. B.	Seattle
Armstrong, Mrs A.	A. B.	Seattle
Austin, Frank C.	A. B.	Seattle
Baker, Cecil C.	Pharm.	Port Townsend
Baldwin, Geo. R. Jr.	A. B.	Seattle
Balthus, Lillian C.	A. B.	Seattle
Bantz, Burwell	Mech. Eng.	Coupeville
Baumbach, August O.	Pharm.	S. Seattle
Bell, Arelia Key	A. B.	Nashville, Tenn
Benham, Robert R.	Min. Eng.	Tacoma
Bennett, Mary P.	A. B.	Seattle
Bogle, Bess L.	A. B.	Seattle
Borie, Earl D.	Min. Eng.	Pendleton, Ore
Brackett, Geo. G.	Min. Eng.	Seattle
Brown, James DeKoven	Min. Eng.	Seattle
Burwell, Edgar H.	C. E.	Tacoma
Beyers, Roy B.	A. B.	Seattle
Carter, Cora B.	Pharm.	Kerby, Ore
Charlton, Arlene B.	A. B.	Seattle

Name	Course	Home Address
Coskin, Ivanilla	A. B.	Puyallup
Cole, Clarence M.	Mech. Eng.	Clear Lake
Concklin, Alice	A. B.	Seattle
Conover, Douglas C.	Min. Eng.	Seattle
Crim, Lemuel P.	E. E.	Seattle
Cuddihy, James F.	Min. Eng.	Seattle
Dana, Lee H.	A. B.	Seattle
Davis, Chas D.	Min. Eng.	Seattle
DeBruler, Alice R.	A. B.	Seattle
Dohm, Edward C.	Mech. Eng.	Seattle
Donahoe, Paul	A. B.	Chehalis
Dorffel, Walter G.	Min. Eng.	Seattle
Douglas, Edward S.	A. B.	Seattle
Drummond, Herbert L.	Min. Eng.	Seattle
Eichinger, Geo. W.	C. E.	
Ekenbeck, Annie	A. B.	Seattle
Elliott, Orlienis A.	Pharm.	Tacoma
Emerson, Lathie B.	Pharm.	Ellensburg
Enoch, Burtie	A. B.	Seattle
Erven, Lois C.	A. B.	W. Seattle
Fisher, John I.	Min. Eng.	St. Louis, Mo.
Fletcher, Rufus W.	C. E.	Seattle
Foster, Fannie	A. B.	Seattle
Frink, Athena	A. B.	Seattle
Gow, Aimee H.	A. B.	Seattle
Gow, Alec M.	A. B.	Seattle
Grant, William B.	A. B.	Seattle
Green, Harold	Min. Eng.	Seattle
Griffin, Joseph H.	A. B.	Seattle
Grubb, Cleveland	A. B.	Green Lake
Hamlin, Nelson	Min. Eng.	Seattle
Hammond, Frank	A. B.	Seattle
Hancock, Floyd M.	A. B.	Winlock
Hanson, Annie	A. B.	Seattle
Harp, Maxime	Pharm.	Seattle

Name	Course	Home Address
Hendricks, Helen	A. B.	W. Seattle
Herman, Harry E.	Pharm.	Seattle
Hesse, Wm A.	Min. Eng.	
Hewson, Myra A.	Min. Eng.	Seattle
Hibbs, Walter A.	A. B.	Seattle
Howard, Annie	A. B.	Henderson, Ky.
Huntington, Eva A.	A. B.	Castle Rock
Jacobson, Maria	A. B.	Tacoma
Jessamin, William J.	Pharm.	Seattle
Johnson, Myrtle	A. B.	Fremont
Joyce, Lenore	A. B.	Seattle
Kirby, Homer	A. B.	Castle Rock
Kirk, Carroll	A. B.	Seattle.
Knipe, Robert T.	C. E.	England
Kolbe, B R.	Min. Eng.	Aberdeen
Lambert, Cecil L.	E. E.	Seattle
Larson, Josephine C.	A. B.	Seattle
Lincoln, Julia	A. B.	Seattle
Lovett, Joseph	Pharm.	Seattle
Ludden, Hazel K.	A. B.	Spokane
Lum, Charlotte	A. B.	N. Yakima
McLean, Vera	A. B.	Georgetown
McDonald, Thomas C.	A. B.	Seattle
McDonald, William J.	A. B.	Seattle
Mead, Minna J.	A. B.	Seattle
Metsker, Charles W.	A. B.	Seattle
Moran, John P.	Pharm.	Seattle
Oliver, Louis D.	A. B.	Seattle
Osburn, Cora M.	A. B.	Seattle
Paley, Eugenie	A. B.	Seattle
Parton, John A.	Pharm.	Seattle
Peters, James E.	Min. Eng.	Bellingham
Pitzer, Robert D.	Pharm.	Galer, Kans.
Place, Lester H.	Min. Eng.	Kent
Ratcliffe, Iris G.	A. B.	Seattle

Name.	Course.	Home Address.
Ray, Dora B.	Pharm.	Van Asselt
Rosenthal, Lizzie	A. B.	Seattle
Ryrierson, Curtis P.	Min. Eng.	Seattle
Ryus, Floyd E.	Pharm.	Seattle
Shaw, Harry.	Pharm.	Seattle
Shelley, D. Howard.	Min. Eng.	Seattle
Shelton, Mary Elizabeth.	A. B.	Seattle
Sherrill, Elmer	Min. Eng.	Seattle
Shuttleworth, Alfred	E. E.	Victoria, B. C.
Shuttleworth, Mrs. Maude.	A. B.	Victoria, B. C.
Sigrist, Charles F.	A. B.	Seattle
Smith, Wellington W.	A. B.	Seattle
Stafford, Chas F.	Pharm.	Cle Elum
States, Waldo B.	C. E.	Juneau, Alaska
Stone, Marie J.	A. B.	Seattle
Sutton, Fred H.	A. B.	Cashmere
Tanner, Harry H.	C. E.	Seattle
Taylor, Margaret M.	A. B.	Bellingham
Thompson, Helen	A. B.	Dayton
Thorp, John E.	Pharm.	Ballard
Tilton, Guy C.	Chem. Eng.	Seattle
Troth, Ray L.	Pharm.	Vandalia, Ind
Trumbull, Frances	A. B.	Seattle
Vernon, Frank L.	Chem. Eng.	Tacoma
Wagner, Leota	A. B.	Green Lake
Ward, Henry	A. B.	Seattle
Warne, Harry F.	Pharm.	Winlock
Waterhouse, Ruth	A. B.	Marietta, Ohio
Whaley, Myrtle M.	A. B.	Chelan
Wheeler, A. A.	A. B.	
Wheeler, Elmer G.	Pharm.	Seattle
Wheeler, Roy R.	A. B.	Seattle
White, Dolly D.	A. B.	Seattle
Wilkinson, Madge W.	A. B.	Port Blakeley
Wilkinson, Percy D.	E. E.	Clinton

Name.	Course.	Home Address.
Willard, Arthur L.	A. B.	Seattle
Wilson, Alfred P.	A. B.	Oakville
Wilson, William C.	Mech. Eng.	Aberdeen
Winchell, Birdie M.	A. B.	Dunlap
Wright, Mrs Emma	A. B.	Tacoma

SPECIAL TEACHERS' COURSES.

Name.	Course.	Home Address.
Allen, I. S.	A. B.	Seattle
Bartlett, Eva M.	A. B.	Seattle
Berkley, Grace	A. B.	Tacoma
Brayton, Anna C.	A. B.	Ballard
Brooke, Sally	A. B.	Tacoma
Brown, B D.	A. B.	Tacoma
Bryan, Clara M.	A. B.	Seattle
Bulen, Martha A.	A. B.	Tacoma
Burgess, Edith L.	A. B.	Tacoma
Burr, Margaret	A. B.	Tacoma
Clarahan, Elizabeth	A. B.	Seattle
Clayton, Mrs. S E.	A. B.	W. Seattle
Cone, Mary Alice.	A. B.	Tacoma
Covey, Alma	A. B.	Seattle
Cowen, Mary S.	A. B.	Tacoma
Curtiss, James D.	A. B.	Seattle
Dorman, Harriet	A. B.	Ballard
Eggert, Johanna B.	A. B.	Tacoma
Elliott, Jeannie	A. B.	Tacoma
Forbes, Amanda	A. B.	Tacoma
Frier, Laura	A. B.	Tacoma
Garrettson, H. H.	A. B.	Tacoma
Gilkey, Myrtle	A. B.	Seattle
Gray, Ida May.	A. B.	Tacoma
Grout, Flora B.	A. B.	Tacoma
Hall, May	A. B.	Tacoma

Name.	Course.	Home Address.
Hanquet, Louis C	A. B	Seattle
Harrington, Mrs W. L	A. B	Waterville
Hawk, Alice R	A. B	Tacoma
Hitchcock, Elizabeth J	A. B	Tacoma
Hopp, Katharine	A. B	Seattle
Houghton, Mabel	A. B	Tacoma
Irwin, Mary J	A. B	Tacoma
Jamieson, Anna W	A. B	Seattle
Johnson, B. W	A. B	Seattle
Johnson, Winnifred	A. B	Seattle
Jones, Adelaide	A. B	Foster
Kane, Anna B	A. B	Seattle
Kaps, Clara E	A. B	Seattle
Karsener, H. J	A. B	Tacoma
Kelly, Elizabeth J	A. B	Tacoma
Kingsbury, J. A	A. B	Seattle
LaPrad, Elspeth	A. B	Tacoma
Loveless, Frances	A. B	Tacoma
McCarney, Margaret	A. B	Seattle
McConnell, Mary E	A. B	Seattle
McMicken, Virginia	A. B	Seattle
Male, Mary E	A. B	Tacoma
Massey, Joy Lillian	A. B	Tacoma
Metzler, Hugo	C. E	Santa Cruz, Cal.
Murray, Eleanor	A. B	Tacoma
Myers, Stella B	A. B	Tacoma
Parker, Adella M.	A. B	Seattle
Parker, Lena M.	A. B	Seattle
Pearce, Stella E	A. B	Seattle
Peterson, Louis C	A. B	Seattle
Plum, F H	A. B	Georgetown
Pope, Arthur E	A. B	Kent
Powell, Margaret	A. B	Tacoma
Prudden, Adah J	A. B	Tacoma
Randall, Alice M	A. B	Seattle

Name.	Course.	Home Address.
Redding, Anna L.	A. B.	Seattle
Resor, E. B.	A. B.	Seattle
Rice, Angie	A. B.	Tacoma
Rust, Louisa	A. B.	Tacoma
Scholl, G	A. B.	Hoquiam
Scholds, Marion E.	A. B.	Tacoma
Scholds, Josephine	A. B.	Tacoma
Scholds, Stella	A. B.	Tacoma
Schwager, William L.	A. B.	Seattle
Shane, Elizabeth	A. B.	Tacoma
Smith, Julia F.	A. B.	Tacoma
Smith, Terna	A. B.	Seattle
Straight, Florence	A. B.	Tacoma
Streeter, Gertrude	A. B.	Seattle
Taylor, Laura	A. B.	Tacoma
Van Slyke, Minnie E.	A. B.	Tacoma
Warner, A. B.	A. B.	Tacoma
Whitehead, Reah	A. B.	Seattle
Whiting, Agnes	A. B.	Tacoma
Wilcka, Paula	A. B.	Tacoma
Wright, Harriet E.	A. B.	Tacoma
Young, E. P.	A. B.	Tacoma

LAW SCHOOL.

Seniors.

Brunn, Clinton A.	Seattle
Cross, A Emerson	Aberdeen
Doyle, Edward J.	Clarkston
Gillis, W. D.	Seattle
Ewing, Edwin C.	Seattle
Graham, Arthur E.	Aberdeen
Grinstead, Loren D.	Cheney
Harder, Benjamin E.	Milton, Oregon
Kennedy, T. J. L.	Puyallup
Kent, Carlus A.	Seattle

Klicks, Bernhard A. ..... Taranqua, Pa.
Lum, Burton O. ..... N. Yakima
Marsh, Eccleston B. ..... Berkeley, Cal.
Marsh, O. G. ..... Buchanan, Mich.
MacDonald, Donald A. ..... Seattle
Pearsall, Daniel B. ..... Brownsville, Pa.
Nevins, W. M. ..... Toledo, Ia.
Sumner, Sam R. ..... Sturgiss, Mich.
Thompson, Elmer E. ..... Seattle
Thompson, Richard E. ..... Vancouver
Smith, Fred A. ..... Goldendale
Trumbull, Allen ..... Seattle
Warner, Harry E. ..... New York City
Webb, O. T. ..... Lowell

Juniors.

Bigelow, George R. ..... Olympia
Bussabarger, Robert L. ..... Seattle
Carey, Stephen V. ..... Seattle
Coleman, John ..... Chehalis
Dunlap, J. W. P. ..... Seattle
Ellsbury, George C. ..... Centralia
Evans, Robert H. ..... Blaine
Farris, Herbert S. ..... Springfield, Mo.
Gregson, Arthur K. ..... Seattle
Gunn, Legrande B. ..... Everett
Hastings, Frederick ..... Seattle
Hatfield, Floyd A. ..... North Yakima
Hughes, Howard DeHart ..... Seattle
Jonson, Axel Ernest ..... Rockford, Ill.
Korstad, Fred. ..... Watsonville, Calif.
Korstad, Martin ..... Watsonville, Calif.
Laube, Frank J. ..... Bellingham
Manier, William W. ..... Rainier
Metcalf, John Baker ..... Seattle
Metzler, Hugo ..... Santa Cruz, Calif.

Mickleson, John E. ..... Christiana, Norway
Miller, Allen D. ..... Seattle
Randall, George C. ..... Seattle
Retzdoff, Carl C. ..... Seattle
Roller, Benjamin F. ..... Seattle
Rowell, Ralph R. ..... Seattle
Saboe, John A. ..... Dawson, Minn.
Sharpe, Raymond G. ..... Waukesha, Wis.
Slattery, John R. ..... Bellingham
Thacker, Gus L. ..... Chehalis
Van Horn, Robert ..... Columbia
Whitehad, Reah ..... Seattle
Whitfield, Jay A. ..... Kent

SUMMER SCHOOL STUDENTS.

Allen, Eva ..... Seattle
Babcock, H. A. ..... Port Angeles
Baldwin, Geo. B. Jr. ..... Seattle
Bollong, Archie ..... Ballard
Bond, E. A. ..... Coupville
Brayton, Annie ..... Ballard
Brewster, Ada E. ..... Vancouver
Bussard, Birdie ..... Lynden
Burns, Omar A. ..... Seattle
Cartwright, F. D. ..... Anacortes
Case, Kathryn ..... Snohomish
Clarahan, Elizabeth ..... Seattle
Clayton, Winnifred ..... Dayton
Cook, H. M. ..... Colfax
Crahan, May ..... Seattle
Craig, Frank ..... Burlington
Crosno, Olive ..... Davenport
Currie, Leone ..... Seattle
Cutting, F. B. ..... Walla Walla
Davis, Cora ..... Spokane

De Hart, Louise F. ..... Seattle
De Voe, Ralph ..... Seattle
Egan, Marie V. .....
Fahenstock, John ..... Seattle
Fauchei, Marie ..... Spokane
Fawcett, C. W. ..... Burnett
Fogarty, Rose ..... Springdale
Fogarty, Winnifred ..... Springdale
Gardiner, Alice ..... Everett
Gilkey, Myrtle R. ..... Seattle
Goodman, May ..... Puyallup
Graham, Lydia ..... Tacoma
Hallock, Edna ..... Tacoma
Hamilton, Rachael ..... Walla Walla
Haney, James F. ..... Seattle
Hansen, J. ..... Seattle
Haynes, Sara ..... Seattle
Hodge, J. W. ..... Moscow, Idaho
Hopp, Katheryn ..... Seattle
Hughes, Ingraham ..... Seattle
Huntoon, Grace ..... Seattle
Jackson, Edith ..... Spokane
Jacobson, Clare ..... Woodinville
Johns, David P. ..... Seattle
Johnson, Hannah ..... Moscow, Idaho
Jones, Nancy E. ..... Seattle
Kahan, Sarah ..... Seattle
Karshner, H. I. ..... Tacoma
Knepper, Margaret ..... Walla Walla
Lucas, M. E. ..... Seattle
MacMillan, Marie G. ..... Seattle
Mahaffy, Lucius E. ..... Port Angeles
Mahoney, Elizabeth ..... Seattle
Marston, C. May ..... Seattle
McCarney, Margaret L. ..... Seattle
McCarthy, William G. ..... Seattle

McCormick, Martha .....Georgetown
McDonnell, E. L. .....Hoquiam
McKown, J. E. .....Seattle
McLean, W. G. .....Georgetown
Meis, Joseph F. .....
Merguson, Walter .....
Millican, Laura E. .....Fremont
Mossman, Bertha B. .....Ellensburg
O'Meara, Mary G. .....Seattle
Peterson, S. L. .....Deerpark
Pium, F. H. .....Georgetown
Poage, W. C. .....Ellensburg
Pollock, Adelaide L. .....Seattle
Ray, Dora .....Van Asselt
Reeves, DeGarrish .....Vancouver
Russ, Louise .....Tacoma
Santes, Fred. .....
Scholl, G. W. .....Hoquiam
Scroggs, M. D. .....Eureka, Kan.
Smalley, A. D. .....Seattle
Steininger, S. D. .....Kirkland
Sterling, Mrs. Elizabeth C. .....Vancouver
Stevenson, Lillian .....Tacoma
Stone, Seymour I. .....Olympia
Taylor, F. V. .....Olympia
Thompson, T. P. .....
Thompson, W. P. .....Seattle
Toan, Isabel .....Seattle
Ullery, Ira L. .....Port Angeles
Vrooman, Grace .....Juneau, Alaska
Wheeler, Chetta M. .....Anacortes
Whitmer, Esther E. .....Walla Walla
Wilson, Ida .....Spokane
Wilson, Rose M. .....Spokane
Wyatt, N. Joanna .....Seattle

Research Work at Friday Harbor.

Blodgett, Eleanor,	South Bend
Brodie, Howard S.	Walla Walla
Carver, G. K.	Buckley
Coghill, Geo. E.	Forest Grove, Ore.
Corey, Anna	Seattle
Covey, Alma	Seattle
Flett, F. B.	Tacoma
Foster, A. S.	Portland, Ore.
Grumbling, C. M.	Tacoma
Hancock, Elizabeth	Seattle
Hubbard, Emma	Seattle
Hungate, Joseph	Walla Walla
Johnson, Aylett	Bellingham
Landes, Charles	Bellingham
Mehner, Albert	Juneau, Alaska
Moore, H. L.	Iowa City, Iowa
Pope, Arthur S.	Kent
Romine, A. P.	Bellingham
Sharpless, Ada W.	Port Townsend

SUMMARY OF ENROLLMENT.

By Schools.

Graduate School	52
College of Liberal Arts	503
College of Engineering	111
School of Mines	55
School of Pharmacy	35
School of Law	57
Counted twice	2
Net total	811

By Classes.

Graduate Classes	52
Seniors	40
Juniors	78
Sophomores	119
Freshmen	251
Unclassified Liberal Arts	96
Unclassified Engineering and Mining	36
Special Teachers' Coures	84
Senior Law	24
Junior Law	33
Counted twice	2
Net total	811

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ADDENDUM.

THE ALDEN J. BLETHEN PRIZES IN INTERSCHOLASTIC DECLAMATION.

To stimulate public speaking in the high schools, Colonel Alden J. Blethen, of the Seattle Daily Times, has authorized the University to announce that he will contribute annually the sum of fifty dollars for prizes in declamation. The contest will be held at the University in May of each year and will be open to students in attendance at any one of the accredited high schools or academies of the state. The prizes will be $25 for first place, $15 for second, and $10 for third.