BULLETIN
UNIVERSITY OF WASHINGTON

GENERAL SERIES I
JULY, 1920
NO. 135

CATALOGUE
1919-1920

ANNOUNCEMENTS
1920-1921

SEATTLE, WASHINGTON
PUBLISHED QUARTERLY BY THE UNIVERSITY
1920
CATALOGUE

UNIVERSITY OF WASHINGTON
FOR 1919-1920

ANNOUNCEMENTS
FOR 1920-1921

SEATTLE, WASHINGTON

Seattle
University of Washington Press
1920
NOTICE

The University and its various schools and departments reserve the right to change the rules regulating admission to the University and its schools, and any other regulations affecting the student body, or the granting of degrees, and such regulations shall go in force whenever the proper authorities may determine and shall apply not only to prospective students, but also to those who may, at such time, be matriculated in the University.
The University Campus comprising 530 acres, lies between Fifteenth Avenue Northeast and Lake Washington, and East Forty-fifth Street and Lake Union. Ravenna and Cowen Park cars run one block west of the campus. Administration Hall is best reached by leaving the car at Fortieth Street and Fourteenth Avenue Northeast.
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UNIVERSITY CALENDAR
1920 - 1921

AUTUMN QUARTER
Registration days.................. Friday, Saturday, and Monday September 24, 25, and 27
Instruction begins................... Tuesday, September 28
President's Annual Address.......... Friday, October 1, 10 a. m.
Women's Assembly.................. Friday, October 8, 11 a. m.
Thanksgiving Recess................ Wednesday, November 24, 6 p. m. to....
Instruction ends .................. Thursday, November 29, 8 a. m.

WINTER QUARTER
Registration days.................. Monday and Tuesday, January 3 and 4
Instruction begins................... Wednesday, January 5
Instruction ends .................. Wednesday, March 23, 6 p. m.

SPRING QUARTER
Registration days .................. Tuesday and Wednesday, March 29 and 30
Instruction begins................... Thursday, March 31
Campus Day.......................... Friday, April 22
Junior Day.......................... Saturday, May 28
Instruction ends .................. Friday, June 17, 6 p. m.
Class Day.......................... Saturday, June 18
Baccalaureate Sunday............... June 19
Commencement and Alumni Day........ Monday, June 20

SUMMER QUARTER
Registration days.................. Tuesday and Wednesday, June 21 and 22
Instruction begins................... Thursday, June 23
Instruction ends .................. Tuesday, August 30, 6 p. m.

Examinations will be held at the close of each quarter during regular class periods.
Examinations for Seniors graduating at the end of the Spring Quarter will be completed by Tuesday, June 14.
THE BOARD OF REGENTS

ELDRIDGE WHEELER, President ........................................ Montesano
Term ends March, 1921

OSCAR A. FECHTER .......................................................... Yakima
Term ends March, 1922

JOHN A. REA ................................................................. Tacoma
Term ends March, 1922

WILLIAM A. SHANNON ....................................................... Seattle
Term ends March, 1923

RUTH KARR McKEE ............................................................ Olympia
Term ends March, 1923

WINLOCK W. MILLER ............................................................ Seattle
Term ends March, 1926

WILLIAM T. PERKINS ............................................................ Seattle
Term ends March, 1926

WILLIAM MARKHAM, Secretary to the Board

COMMITTEES OF THE BOARD OF REGENTS

March 1920 to March 1921

AUDITING AND FINANCE—Perkins (chairman), Shannon, Fechter.
BUILDINGS AND GROUNDS—Miller (chairman), Perkins, Shannon.
COOPERATIONS—Shannon (chairman), Miller, Perkins.
DEMONSTRATION FOREST—Perkins (chairman), Rea, Fechter.
EDUCATION—McKee (chairman), Fechter, Rea.
LANDS—Rea (chairman), Miller, McKee.
METROPOLITAN BUILDING Co.—Fechter (chairman), McKee, Miller.
PUget SOUND BIOLOGICAL STATION—Perkins (chairman), McKee, Rea.
RETIREMENTS AND ANNUITIES—Fechter (chairman), Miller, McKee.
STUDENT'S WELFARE—Shannon (chairman), McKee, Perkins.
OFFICERS OF ADMINISTRATION

THE UNIVERSITY

HENRY SUZZALLO, Ph. D., LL. D. .......... President of the University Administration Hall
JOHN THOMAS CONDON, LL. M. .......... Dean of Faculties Administration Hall
HERBERT THOMAS CONDON, LL. B. .......... Comptroller Administration Hall
EDWARD NOBLE STONE, A. M. .......... Registrar Administration Hall
EDWIN BICKNELL STEVENS, A. M. .......... Executive Secretary Administration Hall
ARTHUR RAGAN PRIEST, A. M. .......... Dean of Men Administration Hall
ETHEL HUNLEY COLDWELL, A. M. .......... Dean of Women Administration Hall
WILLIAM ELMER HENRY, A. M. .......... Librarian Administration Hall
FRANK STEVENS HALL .......... Director of Museum Administration Hall
JAMES GARFIELD FLETCHER, A. B. .......... Vocational Secretary Administration Hall

THE COLLEGES AND SCHOOLS

DAVID THOMSON, B. A. .......... Dean of the College of Liberal Arts Science Hall
HENRY LANDES, A. M. .......... Dean of the College of Science Science Hall
STEPHEN IVAN MILLER, LL. B., A. B. .......... Dean of the College of Business Administration Commerce Hall
FREDERICK ELMER BOLTON, Ph. D. .......... Dean of the College of Education Home Economics Hall
CARL EDWARD MAGNUSSON, Ph. D. .......... Acting Dean of the College of Engineering Engineering Hall
IRVING MACKAY GLEN, A. M. .......... Dean of the College of Fine Arts Meany Hall
JOHN NATHAN COBB .......... Director of the College of Fisheries Fisheries Hall
HUGO WINKENWERDER, M. F. .......... Dean of the College of Forestry Forestry Hall
MATTHEW LYLE SPENCER, Ph. D. .......... Director of the School of Journalism Commerce Hall
JOHN THOMAS CONDON, LL. M. .......... Dean of the Law School Commerce Hall
WILLIAM ELMER HENRY, A. M. .......... Director of Library School Library
MILNOR ROBERTS, A. B. .......... Dean of the College of Mines Mines Hall
CHARLES WILLIS JOHNSON, Ph. C., Ph. D. .......... Dean of the College of Pharmacy Bagley Hall
J. ALLEN SMITH, Ph. D. .......... Dean of the Graduate School Mines Hall
FREDERICK MORGAN PADELFORD, Ph. D. .......... Dean of the Graduate School Denny Hall

THE EXTENSION SERVICE

EDWIN AUGUSTUS START, A. M. .......... Director Extension Hall

¹ Resigned February 1, 1920. ² Resigned, April 1, 1920.
OFFICERS OF ADMINISTRATION

OTHER ADMINISTRATIVE OFFICERS

LILIAN BROWN GETTY, Secretary to the President.
MAX HIPKOS, Assistant Purchasing Agent.
WILLIAM BEACH JONES, A. B. Cashier.
ALMIRA WILSON, Secretary to the Comptroller.
LOIS J. WENTWORTH, Assistant Registrar.
CHRISTINE BERTHOLAS, A. B., Secretary to the Registrar.
RAY WARD, A. B., Assistant Dean of Women.

BUILDINGS AND GROUNDS

FREDERICK ELWELL, Superintendent.
SANDY MORROW KANE, Engineer.
L. R. KETTENRING, Acting Electrician.
STANLEY O. CARPENTER, Head Carpenter.
GEORGE WARNER, Head Gardener.

UNIVERSITY COMMONS AND RESIDENCE HALLS

CHLOE CLARKE ELDER, B. S., Supervisor of Dining Halls.

UNIVERSITY INFIRMARY

DAVID CONNOLLY HALL, M. D., University Health Officer.
LILIAN COLLISON IRWIN, M. D.
JOSEPHINE BROWNE, Nurse.

STATE FOOD AND DRUG WORK

CHARLES WILLIS JOHNSON, PH. C., PH. D., State Chemist.
FRANCES EDITH HINDMAN, M. S., Assistant State Chemist and Bacteriologist.
MANIA OROSA, PH. C., Assistant State Chemist.

ENGINEERING EXPERIMENT STATION

CARL EDWARD MAGNUSSON, PH. D. Director.

UNIVERSITY OF WASHINGTON STATION OF THE UNITED STATES FOREST SERVICE

CONRAD W. ZIMMERMAN, A. B., Engineer in Timber Tests, in charge.

UNITED STATES SHIPPING BOARD SCHOOLS

JAMES E. GOULD, A. M., Special Expert in charge of Navigation Classes.
EVERTT O. EASTWOOD, A. M., C. E., in charge of Marine Engineering Classes.

UNITED STATES DEPARTMENT OF AGRICULTURE BUREAU OF PLANT INDUSTRY

JAMES THOMPSON, B. S., Specialist in charge of Medicinal Plants.

UNITED STATES GEOLOGICAL SURVEY

HENRY LANDES, A. M., State Geologist.

UNITED STATES BUREAU OF EDUCATION RESEARCH STATION

CLIFFORD WOODY, PH. D., Supervisor.
UNIVERSITY OF WASHINGTON

UNITED STATES ARMY RESERVE OFFICERS' TRAINING CORPS

CHARLES LEONARD PHILLIPS, Colonel C. A. C., U. S. A., Professor of Military Science and Tactics.

WILLIAM DAVID FRAZER, Captain, C. A. C., U. S. A., Assistant Professor of Military Science and Tactics.

ALFRED JOHN BETCHER, Captain, Infantry, U. S. A., Assistant Professor of Military Science and Tactics.

EVAN KIRKPATRICK MEREDITH, Captain, Infantry U. S. A., Assistant Professor of Military Science and Tactics.

EARL THOMAS, First Sergeant, C. A. C., Assistant.

FRANK A. PETERS, Sergeant, C. A. C., Assistant.

ROBERT M. KOONTZ, Sergeant, C. A. C., Assistant.

LESTER A. KENT, Sergeant, Infantry, Assistant.

UNITED STATES BUREAU OF MINES SEATTLE MINING EXPERIMENT STATION

OLIVER C. RALSTON, Superintendent.

JAMES H. ROBINSON, Chief Clerk.

CLYDE E. WILLIAMS, Electro-Metallurgist.

EARL R. McMillan, Mining Engineer

JOHN G. SCHONING, Foreman Miner.

J. L. FRIST, Chemist.

BYRON M. BIRD, Junior Mining Engineer.

LIBRARY STAFF

WILLIAM ELMER HENRY, A. M. (Indiana); Librarian and Director of the Library School.

CHARLES WESLEY SMITH, A. B., B. L. S. (Illinois); Reference Librarian and Associate Professor of Library Economy.

EMMA PEARL MC DONNELL, A. B. (Washington); Periodicals Librarian.

'ETHEL MAY BLODGETT, A. B. (Vassar); Pratt Institute Library School.

MARGARET SCHUMACHER, A. B. (Washington); Circulation Librarian.

ROBINSON SPENCER, A. B. (Wesleyan), B. L. S. (Illinois); Catalogue Librarian and Instructor in Library Economy.

ELLEN F. HOWE, A. B. (Washington), (Carnegie Library School), Assistant Reference Librarian and Instructor in Library Economy.

LYTHA McCUTCHEON, A. B. (Iowa); (Washington Library School); Assistant Reference Librarian.

ETHEL M. STANLEY, A. B. (Fairmount), (Illinois Library School); Order and Accession Librarian.

BARRADA MADEL BOLLES, A. B. (Boston), B. S. (Simmons); First Assistant Cataloguer.

HELEN DURAND GOODWIN, A. B. (Montana); B. L. E. (Washington); Second Assistant Cataloguer.

MAY ALICE BERGH, A. B. (Washington); Assistant in Circulation.

THE MUSEUM

FRANK STEVENS HALL, Director of the Museum.

CLARENCE JOHN ALBREGCUT, A. B. (Iowa); Curator of Zoological Exhibits.

SAMPLER F. RATHBUN, Honorary Curator of Birds.

MARTHA FLANHART, A. B. Assistant.

1 Absent on leave, 1919-1920.
UNIVERSITY FACULTY

In this list the names of the faculty are arranged in six groups—professors, associate professors, assistant professors, associates, lecturers, and instructors—followed by the names of the teaching fellows and assistants. In each of the six groups the names occur in the order of academic seniority. An alphabetical list of the faculty is given on pages 14-21.

HENRY SUZZALLO, President of the University, ex-officio Chairman.
EDWARD NOBLE STONE, Registrar, ex-officio Secretary.

**PROFESSORS**

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<td>HENRY KENTFER BENSON</td>
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<td>EDMOND STEPHEN MANTY</td>
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<td>HUGO WINKINKER</td>
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<td>CAROLINE HAVEN OTHER</td>
<td>VERNON LOUIS PARRINGTON</td>
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<td>JOHN THOMAS CONDON</td>
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<td>EDWIN JOHN VICKNER</td>
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<td>FREDERICK MORGAN PADDILFOID</td>
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<td>FREDERICK ARTHUR OSBOIN</td>
<td>WILLIAM PIERE GOSBON</td>
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<td>CLARK FREDERICK BISSET</td>
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<td>FINNIS JOSEPH FLEEN</td>
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<td>ALLEN ROGER BENHAM</td>
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<td>DAVID CONNOLLY HALL</td>
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<td>OLIVER HUNTINGTON RICHARDSON</td>
<td>MATTHEW LYTLE SPENCER</td>
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<td>IVAN WILSON GOODNESS</td>
<td>GEORGE McPhail SMITH</td>
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<td>CHARLES CHURCH MOORE</td>
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**ASSOCIATE PROFESSORS**

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<tr>
<td>LOREN DOUGLAS MILLMAN</td>
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<td>SAMUEL LATIMER BOOTHROYD</td>
<td>CHARLES EDWIN WEAVER</td>
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<td>BURT PERSONS KIRKLAND</td>
<td>EDWARD GODFREY COX</td>
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<td>THOMAS KAY SIDY</td>
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<td>GEORGE WALLACH WMPHER</td>
<td>WILLIAM DANIEL MURRAY</td>
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<td>OTTO PATERSON</td>
<td>PAUL HOWARD DOUGLAS</td>
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<td>CHARLES WILLIAM HARRIS</td>
<td>HARRY EDWIN SMITH</td>
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<td>VANDERVISCH CURTIS</td>
<td>ARTHUR MILLIVIN WINSWLOW</td>
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<td>EDWARD ALLEN LOWE</td>
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<td>JOSEPH DANIELS</td>
<td>JOHN LOCKI WOOLSTEPS</td>
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**ASSISTANT PROFESSORS**

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<tr>
<td>EDWIN JAMES SAUNDERNS</td>
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<td>GEORGE IRVING GAYETT</td>
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<td>ROBERT MAX GARNETT</td>
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<td>ELI VICTOR SMITH</td>
<td>ERNEST OTTO ECKELMAN</td>
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<td>CHARLES LOUIS HEMHANGEN</td>
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<td>WM. THEODORE DARBY</td>
<td>JOHN WILLIAM HOTSON</td>
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<td>HARVEY EDISON DENSMORE</td>
<td>THERESA SCHMID MCMANON</td>
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<tr>
<td>CLARENCE RAYMOND CORBY</td>
<td>LOUIS IRVING NEHINKIRK</td>
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* Absent on leave, 1919-1920.
* Absent on leave, autumn and winter quarters.
* Reigned, February 1, 1920.
* Died, December 15, 1919.
UNIVERSITY OF WASHINGTON

FRANCES Dickey
MOUNT ROSSN
ALBERT FRANZ VENO
SAMUEL HERBERT ANDERSON
FRIEDRICH KURT KIRSTEN
SHERING HURTON CLARK
MAGNUS MILLMANN SKINNER
Ralph HASWELL LUAZ
Curt JOHN DUCASSE
ERNEST TEMPLE BELL
BAGUS LEONARD GRONDAL
LUI S SANTANDER
FRED HAVERTY HEATH
VICTOR LOTTOTT OAKES CHITTICK
LESLEY FORREST CURTIS
EMILIO GOSSIO
GEORGE EARL FREELAND
GEORGE HENRY JENSEN
HERMAN VANCE TATAR
EDWIN HAY GUTHRIE
FRANK DEMETRIUS HAYDEN

CARL PAGE WOOD
BARBARA HADERSER BARTLEY
ROY MARTIN WINGER
EVAN KIRKPATRICK MEREDITH
NATHAN FASTEN
THOMAS GORDON THOMPSON
DILBERT NICKSON
VIRGINIA CUNNINGHAM PATTY
ELIZABETH AMERY
HERWITZ WILSON
MARY ELA GROSS
WILLIAM FRASER
ALFRED JOHN BETCHER
IRA LEOAD COLLIER
RALPH DROZ CASEY
WILLIAM EDWARD COX
GEORGE EDWARD GOOSPEED
CARL SPENCERS DARAN
CHARLES CULBERTSON MAY
JOHN CHARLES RATHBUN
DOROTHY BRANN

LECTURERS AND ASSOCIATES

HARVEY GLENN
FREDERICK POWELL
CONRAD'S OSSEWARD
CONRAD ZIUERAN
LILIAN COLLISON IRWIN
GEORGE EARL FREELAND
GEORGE HENRY JENSEN
HERMAN VANCE TATAR
EDWIN HAY GUTHRIE
FRANK DEMETRIUS HAYDEN

INSTRUCTORS

SAMUEL THOMAS BEATIE
SANDY MORROW KANE
HAROLD BELL WHITTLING
RUDOLPH HERBERT EUSTIS
JOSEPH BARLOW HARRISON
LOTT LEHMAN SMALL
CLIMENT AKERMAN
FRANK JOSPEH LAURID
JOSEPH GRIFFITH O'BRYAN
HAROLD OCHEN SKEEN
ALETTA GILLETTE
ALBERT PORTER ADAMS
HORACE HARDY LESTER
LOUIE VAN OGLE
MAX FATTEN FIELDHICK
KATE ELSA GREGG
CHLOE CLARKS ELDER
ANNETTE EDENS
ROBERT FULTON MCCLELLAND
JAMES BAKER HAMITSON
GORDON RUSSELL SHUCK
EARL THOMA
ALICE COOLEN BOGARDUS
MARTHA DREWES
FREDERICK JACKSON GOODRICH
SARA VINSCHER
ADOLPH WILBUR BARLOW
CLINTON LOUIS UTTERBACK

MARY WELTON
M. MARY DUNYER
MILDRED LEMON
ROBINSON SPENCER
ELLEN HOWE
CLARENCE LOUIS ANDERSON
RALPH MASON BLAKE
ELSIE ZIEBE
RUSSELL HUBBARD WHITE
GEORGE KIRCHNER
WILLIAM RONALD WILSON
WILLIAM SPARAGAN
HARLY JOHN MCINTIRE
EDWARD BROWN
JOSEPH TAYLOR
EARL DON'S WERT
EDMOND CLARENCE MILLER
JOHN HOWARD THOMPSON
ROBERT QUINIONS BROWN
ROBERT VAN HORN
LOUIS GUSTAV GERHARDT
ELWOOD MORTON WILBUR
HOMER ELMAR GOOSKY
CHRIS GREENBEER DORIAN
FOREST CHARLES DANA
LOU EASTWOOD ANDERSON
ELEANOR CAMPBELL

1 Absent on leave, 1919-1920.
2 Absent on leave, autumn quarter.
3 Resigned, March 31, 1920.
4 Died, February 20, 1920.
ASSISTANTS, TEACHING AND RESEARCH FELLOWS

FORD BROWN, Assistant in English.
ETHA COOK CLARK, B. M., Accompanist and Assistant in Music.
KENNETH COLLINS, Assistant in English.
EBBA DAHLIN, A. B., Assistant in English.
DOUBTHY DOUGLAS, M. A., Assistant in Sociology.
CLARENCE EDMUNDSON, Assistant in Physical Education and Athletic Trainer.
HELEN FERRYMAN, B. M., Assistant in Music.
MARIA FLAHAN, A. B., Assistant in the Museum.
OLIVE GWINN, A. B., Assistant in English.
PAUL HIGGS, B. S., Demonstrator in Physics.
MATTHEW HILL, LL. B., Debate Coach.
ANNA HOLMES, A. B., Assistant in English.
HAROLD HOTELLING, A. B., Assistant in Mathematics.
GLEN HUGHES, A. B., Assistant in English.
HELEN KAHIN, M. A., Assistant in English.
LESTER KENT, Sergeant, Infantry, Assistant in Military Science and Tactics.
ROBERT KOPPZ, Sergeant, C. A. C., Assistant in Military Science and Tactics.
MINERVA LOOMIS, A. B., Assistant in Spanish.
HELEN MACKENZIE, A. B., Assistant in Physical Education and Hygiene.
WILLIAM CARLTON MCKEEN, A. B., Assistant in Sociology.
FRANK PETERS, Sergeant, C. A. C., Assistant in Military Science and Tactics.
WALDO SEASON, Lecturer Assistant in Chemistry.
DOVIS SUMMERS, Assistant in French.
DOROTHY THOMAS, A. B., Assistant in English.
EARL THOMAS, 1st Sergeant, C. A. C., Assistant in Military Science and Tactics.
JONATHAN TRUMBULL, Assistant in Spanish.
HAROLD TURFIN, Assistant in Business Administration.
MYRON HENRY WETZEL, Assistant in Shopwork in Mechanical Engineering.
MADE WILKINSON, A. B., Assistant, Gatzerf Foundation.
FLORENCE ERNE WILSON, B. M., Assistant in Music.
RITA WILSON, Assistant in English.
ELIZABETH WRIGHT, A. B., Assistant in English.

EWAN CLAGUE, A. B., Teaching Fellow in Political Science.
HERBERT FISHER, B. L., Teaching Fellow in History.
GEORGE LESLIE HOARD, B. S., (E. E.), Teaching Fellow in Electrical Engineering.
CHANDLER HOWARD, A. B., Teaching Fellow in Botany.
CHARLES JOHNSON, B. S., Teaching Fellow in Chemistry.
GERTRUDE KRAFFT, A. B., Teaching Fellow in Germanic Languages and Literature.
OLIVE KUNTZ, A. B., Teaching Fellow in History.
MARGARET DICKINSON, A. B., Teaching Fellow in French.
EMILE MEREDIAN, M. Ph., Teaching Fellow in Education.
ESTHER PALMER, B. S., Teaching Fellow in Zoology.
WILBUR HAMMON PATCHIN, B. Ed., Teaching Fellow in Spanish.
CATHERINE SMITH, B. S., Teaching Fellow in Botany.
JACK RODENHO TOLMIE, B. S., Teaching Fellow in Electrical Engineering.
ROBIN WILKES, Ph. G., Teaching Fellow in Pharmacy.
ELLIAN WOOD, B. S., Teaching Fellow in Chemistry.
JENNIE YOUNG, A. B., Teaching Fellow in Romance Languages.

FRED ANDERSON, B. S., Fellow in Industrial Chemistry.
ARTHUR PAUL WICHEL, B. S., Research Fellow in Metallurgy.
## UNIVERSITY OF WASHINGTON

### ALPHABETICAL LIST OF THE UNIVERSITY FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Degree(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HENRY SUZZALLO</td>
<td>President of the University</td>
<td>A. B., Stanford, 1890; A. M., Columbia, 1902; Ph. D., 1905; LL. D., California, 1918.</td>
</tr>
<tr>
<td>ALBERT PORTER ADAMS</td>
<td>Instructor in Music</td>
<td></td>
</tr>
<tr>
<td>WILLIAM FRANKLIN ALLISON</td>
<td>Professor of Municipal and Highway Engineering</td>
<td>B. S., South Dakota State College, 1908; B. S. (C. E.), Purdue, 1897; C. E., Cornell, 1904.</td>
</tr>
<tr>
<td>ELISABETH AMERY</td>
<td>Assistant Professor of Home Economics</td>
<td>B. S. Wisconsin, 1913.</td>
</tr>
<tr>
<td>CLARENCE LOUIS ANDERSON</td>
<td>Instructor in Fisheries</td>
<td></td>
</tr>
<tr>
<td>BARBRA HAMMER BARTLETT</td>
<td>Assistant Professor of Nursing and Public Health</td>
<td>B. S., Teachers College, Columbia, 1917.</td>
</tr>
<tr>
<td>ARTHUR WILLIS BARTON</td>
<td>Instructor in Chemistry</td>
<td>Ph. G., Washington, 1897; A. B., 1902; Ph. D., Northwestern, 1918.</td>
</tr>
<tr>
<td>SAMUEL HERBERT ANDERSON</td>
<td>Assistant Professor of Physics</td>
<td></td>
</tr>
<tr>
<td>FRED CARLSTON AVEN</td>
<td>Professor of Education</td>
<td></td>
</tr>
<tr>
<td>LESLIE JAMES AVEN</td>
<td>Professor of Law</td>
<td>B. S., Upper Iowa University, 1899; J. D., Chicago, 1906</td>
</tr>
<tr>
<td>BARBARA HAMMER BARTLETT</td>
<td>Assistant Professor of Nursing and Public Health</td>
<td>B. S., Teachers College, Columbia, 1917.</td>
</tr>
<tr>
<td>ARTHUR WILLIS BARTON</td>
<td>Instructor in Chemistry</td>
<td>Ph. G., Washington, 1897; A. B., 1902; Ph. D., Northwestern, 1918.</td>
</tr>
<tr>
<td>ERIC TEMPLE BELL</td>
<td>Assistant Professor of Mathematics</td>
<td>A. B., Stanford, 1894; A. M., Washington, 1908; Ph. D., Columbia, 1912.</td>
</tr>
<tr>
<td>ALLEN ROGERS BENHAM (E.)</td>
<td>Professor of English</td>
<td>B. S., Teachers College, Columbia, 1917.</td>
</tr>
<tr>
<td>HENRY KREITZER BENSON</td>
<td>Professor of Chemical Engineering</td>
<td>A. B., Franklin and Marshall, 1890; A. M., 1902; Ph. D., Cornell, 1907.</td>
</tr>
<tr>
<td>ALFRED JOHN BUCHER</td>
<td>Captain, Infantry</td>
<td>U. S. A. Assistant Professor of Military Science and Tactics</td>
</tr>
<tr>
<td>CLARK PRESCOTT BISSETT</td>
<td>Professor of Law</td>
<td>A. B., Hobart College, 1896.</td>
</tr>
<tr>
<td>RALPH MASON BLAKE</td>
<td>Instructor in Philosophy</td>
<td>A. B., Williams College, 1911; A. M., Harvard, 1912; Ph. D., 1915.</td>
</tr>
<tr>
<td>LILIAN BLOOM</td>
<td>Associate in Physical Education</td>
<td>Graduate, Medical Gymnastic Institute, Stockholm.</td>
</tr>
<tr>
<td>ALICE COLEMAN BOGARDUS</td>
<td>Instructor in Singing</td>
<td>B. L., Mills College, 1913; Columbia.</td>
</tr>
<tr>
<td>FREDERICK ELMER BOLTON</td>
<td>Professor of Education and Dean of the College of Education</td>
<td>B. S., Wisconsin, 1893; M. S., 1896; Ph. D., Clark, 1898.</td>
</tr>
<tr>
<td>SAMUEL LATTIMER BOOTHROYD</td>
<td>Associate Professor of Astronomy</td>
<td>B. S., Colorado Agricultural College, 1898; M. S., 1894.</td>
</tr>
<tr>
<td>HENRY LOUIS BRAZEL</td>
<td>Associate Professor of Engineering Physics</td>
<td>B. A., Olivet, 1902; A. M., Washington, 1905; Ph. D., Cornell, 1912.</td>
</tr>
<tr>
<td>EARL THEODORE BROWN</td>
<td>Associate in Physics</td>
<td>B. S., Washington, 1918.</td>
</tr>
<tr>
<td>EDWARD BROWN</td>
<td>Instructor in Physical Education and Hygiene</td>
<td>Pennsylvania State College; Washington.</td>
</tr>
<tr>
<td>ELRANOR CAMPBELL</td>
<td>Acting Instructor in Design (spring quarter.)</td>
<td>School of Industrial Arts, Pennsylvania Museum, Philadelphia.</td>
</tr>
<tr>
<td>ALLEN FULLER CARPENTER</td>
<td>Associate Professor of Mathematics</td>
<td>A. B., Hastings, 1901; A. M., Nebraska, 1900; Ph. D., Chicago, 1915.</td>
</tr>
<tr>
<td>RALPH DIBO CASEY</td>
<td>Assistant Professor of Journalism</td>
<td>A. B., Washington, 1913.</td>
</tr>
<tr>
<td>VICTOR LOVETT OAKES CRUTCHTON</td>
<td>Assistant Professor of English</td>
<td>A. B., Acadia, 1906; A. M., 1908; A. M., Harvard, 1908; Ph. D., Columbia, 1919.</td>
</tr>
<tr>
<td>ELIAS TEDT CLARK</td>
<td>Assistant Professor of Forestry</td>
<td>Ph. B., Yale, 1907; M. F., 1908.</td>
</tr>
</tbody>
</table>
FACULTY AND OTHER OFFICERS

SERENO BURTON CLARK, Assistant Professor of Latin and Greek. A. B., Michigan, 1901; Ph. D., Harvard, 1907.

JOHN NATHAN COBB, Professor of Fisheries and Director of the College of Fisheries.

BERN HENRY COLDWELL, Dean of Women.

B. S. Mills College, 1884; A. M., Stanford, 1889.

ISA LEONARD COLLIER, Assistant Professor of Civil Engineering.

B. S. (C. E.), Washington, 1918; C. E., 1917.

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

LL. B., Michigan, 1861; LL. M., Northwestern, 1892.

CLARENCE RAYMOND COUR, Assistant Professor of Mining and Metallurgy.

B. E., Montana State School of Mines, 1900; A. M., Columbia, 1915.

GEORGE SILVESTER COUNTS, Professor of Education.

A. B. Baker, 1911; Ph. D., Chicago, 1918.

EDWARD GODFREY COX, Associate Professor of English.

A. B., Wabash, 1888; A. M., Cornell, 1901; Ph. D., 1906.

WILLIAM EDWARD COX, Assistant Professor of Business Administration.


LESLIE FORREST CURTIS, Assistant Professor of Electrical Engineering.

B. S., Tufts, 1910; M. S. (E. E.), University of Washington, 1916.

VANDEBEER CURTIS, Associate Professor of Economics.


C. A. SPENCER DAKAN, Assistant Professor of Business Administration.

B. S., Missouri, 1909.

FOREST CHARLES DANA, Acting Instructor in Civil Engineering (winter and spring quarters.)

B. S. (C. E.), Washington, 1914.

JOSEPH DANIELS, Associate Professor of Mining Engineering and Metallurgy.

S. B., Massachusetts Institute of Technology, 1906; M. S., Lehigh, 1908.

WILLIAM THEODORE DAREY, Assistant Professor of English.

A. B., Yale, 1905; A. M., Columbia, 1907.

IRENE HUNT DAVIS, Acting Associate in Chemistry, (autumn quarter.)

A. B., Washington, 1908.

JACOB ANTON DE HAAS, Professor of Business Administration.


WILLIAM WARWICK DEHN, Professor of Organic Chemistry.

A. B., Hope, 1893; A. M., 1896; Ph. D., Illinois, 1903.

GEORGE GOLDEN DENVY, Assistant Professor of Home Economics.

A. B., Nebraska, 1907; A. M., Columbia, 1910.

HARVEY BRUCE DENSMORE, Assistant Professor of Greek.

A. B., Oxford, 1907.

MARY MOTTZ DEVER, Instructor in Physical Education and Hygiene.

A. B., Goucher College, 1912; A. M., Columbia, 1915.

FRANCES DICKERT, Assistant Professor of Music.

Graduate, Iowa State Teachers College, 1901; B. S., Columbia, 1912; A. M., 1918.

C. E. W. GREENE DORSON, Acting Instructor in Civil Engineering (winter and spring quarters.)

B. S., Montana, 1915.

PAUL HOWARD DOUGLAS, Associate Professor of Business Administration.

A. B., Bowdoin, 1913; A. M. Columbia, 1915.

MARTHA ESTELLA DRESSLER, Instructor in Home Economics.

B. A., University of Southern California, 1913; B. S., University of Washington, 1917; M. S., Teachers College, Columbia, 1919.

CURT JOHN DUGASSE, Assistant Professor of Philosophy.


EVERETT OWEN EASTWOOD, Professor of Mechanical Engineering.

C. E., Virginia, 1886; A. B., 1897; A. M., 1899; S. B., Massachusetts Institute of Technology, 1902.

ERNEST OTTO EICKELMAN, Assistant Professor of German.

A. B., Northwestern (Watertown, Wis.), 1897; B. L., Wisconsin, 1898; Ph. D., Heidelberg, (Germany), 1906.

ANNE WEBB EDENS, Instructor in Drawing.

New York School of Fine and Applied Arts, Columbia.

GRACE HARTLEY EDGINGTON, Associate and Editorial Secretary in the Department of Journalism.

A. B., Oregon, 1916.

CHLOE CLARK EDENS, Instructor in Institutional Management.

A. B., Alfred University, 1911; B. S., Columbia, 1915.

RUDOLF HERBERT EINSTEIN, Instructor in English.


WILLIAM JOHN FARRAR, Associate in Historical Research.

A. B., Wisconsin, 1911; A. M., 1912.
NATHAN FASTER, Assistant Professor of Zoology.
B. Sc., College of New York, 1910; Ph. D., Wisconsin, 1914.
EMMANUEL JACOB FORD, Extension Lecturer on Water Transportation.
WILLIAM DAVID FRASER, Captain, C. A. C., U. S. A., Assistant Professor of Military Science and Tactics.
GEORGE EARL FREELAND, Assistant Professor of Education.
A. B., Kansas Normal, 1909; A. L., Clark, 1913; Ph. D., Clark, 1920.
WOOD FREEMAN, Acting Associate in Chemistry.
University of Washington.
PIERRE JOSEPH FREIN, Professor of Romance Languages.
A. B., Williams, 1892; Ph. D., Johns Hopkins, 1899.
THEODORE CHRISTIAN FAY, Professor of Botany.
B. S., Illinois, 1894; Ph. D., Chicago, 1902.
ROBERT MAX GARETT, Assistant Professor of English.
GEORGE IRENE GAVETT, Assistant Professor of Mathematics.
B. S. (C. E.), Michigan, 1895.
LOUIS GUSTAV GERLUND, Acting Instructor in Civil Engineering (winter quarter.)
B. S., (Minn.), Washington, 1917; M. S., (Met.), Utah, 1918.
ALFRETTA GILLETTE, Extension Instructor in English.
IRVING MACKIET GLEN, Professor of Music, and Dean of the College of Fine Arts.
A. B., Oregon, 1894; A. M., 1897.
HARVEY GLENN, Lecturer on Assaying of Bullion.
B. S., Iowa State College.
EMILIO GOGNO, Assistant Professor of Romance Languages.
IVAN WILHELM GOTTLEB, Professor of Law.
LL. B., Nebraska, 1897.
FOREST JACKSON GOODRICH, Instructor in Pharmacy.
Ph. C., Washington, 9118; B. S., 1914; M. S., 1917.
GEORGE EDWARD GOODFREDSON, Assistant Professor of Geology.
B. S. (Minn. E.), Massachusetts Institute of Technology, 1910.
WILLIAM PIETTE GORSUCH, Professor of Dramatic Art.
A. B., Knox, 1888.
CARL FRELINGHUYSEN GOULD, Associate Professor of Architecture.
A. B., Harvard, 1884.
JAMES EDWARD GOWNER, Lecturer on Navigation.
B. Ph., Washington, 1900; B. Pd., 1898; A. M., Haridard, 1918.
HERBERT HENRY GOWEN, Professor of Oriental History, Literature and Institutions.
St. Augustine's College (Canterbury); D. D., Whitman College, 1912.
KATE LELIA GROCE, Instructor in English.
A. B., Washington, 1908; Ph. D., 1916.
HOMER EWART GREGORY, Acting Instructor in Business Administration (winter and spring quarters.)
BOB LEONARD GRONDA, Assistant Professor of Forestry.
A. B., Bethany (Kans), 1910; M. S. F., Washington, 1913.
MARY ANNA GROSS, Assistant Professor of Physical Education.
A. B., Goucher College, 1912; A. M., Columbia, 1915.
EDWIN RAY GUTHERIE, Acting Assistant Professor of Psychology.
A. B., Nebraska, 1907; A. M., 1910; Ph. D., Pennsylvania, 1912.
WILLIAM BENSON HAGGETT, Associate in English.
A. B., Olivet, 1897; A. M., Michigan, 1898.
DAVID CONNOLLY HALL, University Health Officer and Professor of Hygiene.
Ph. B., Brown, 1901; Sc. M. Chicago, 1903; M. D., Rush Medical College, 1907.
JAMES BAKER HAMILTON, Instructor in Civil Engineering.
Washington.
CHARLES WILLIAM HARRIS, Associate Professor of Civil Engineering.
B. S. (C. E.), University of Washington, 1908; C. E. Cornell, 1905.
JOSEPH BARLOW HARRISON, Instructor in English.
FRANK DEMETRIUS HAYDEN, Assistant Professor of Civil Engineering.
B. C. (C. E.), Massachusetts Institute of Technology, 1905.
FRED HARVEY HEATH, Assistant Professor of Chemistry.
B. S., New Hampshire, 1905; Ph. D., Yale, 1909.
CHARLES LOUIS HELMINGE, Assistant Professor of Romance Languages.
WILLIAM BENNET HENDERSON, Extension Lecturer on Foreign Trade.

WILLIAM ELMER HENRY, Librarian and Director of the Library School.
A. B., Indiana, 1891; A. M., 1892.

JOHN WILLIAM HOTTEN, Assistant Professor of Botany.
A. B., McMaster, 1901; A. M., 1903; Ph. D., Harvard, 1918.

ELLEN FAYE HOWE, Assistant Reference Librarian and Instructor in Library Economy.
A. B., Washington, 1911; Carnegie Library School.

CLAUDE HUNT, Director of Athletics.
A. B., De Pauw, 1911.

ELLEN FORD HOWE, Assistant Reference Librarian and Instructor in Library Economy.
A. B., Washington, 1891; A. M., 1892.

JOHN WILLIAM HUNTSON, Assistant Professor of Botany.
A. B., McMaster, 1901; A. M., 1902; Ph. D., Harvard, 1918.

ELLEN FORD HOWE, Assistant Reference Librarian and Instructor in Library Economy.
A. B., Washington, 1891; A. M., 1892.

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A. B., McMaster, 1901; A. M., 1902; Ph. D., Harvard, 1918.

ELLEN FORD HOWE, Assistant Reference Librarian and Instructor in Library Economy.
A. B., Washington, 1891; A. M., 1892.
Evan Kirkpatrick Meredith, Captain Infantry U. S. A., Assistant Professor of Military Science and Tactics.

Edmond Clarence Miller, Acting Instructor in Civil Engineering.

Stephen Ivan Miller, Professor of Economics and Dean of the College of Business Administration.


Loren Douglas Milliman, Associate Professor of English.

A. B., Michigan, 1900.

Charles Church More, Professor of Civil Engineering.

C. E., Lafayette, 1898; M. C. E., Cornell, 1899; M. S. Lafayette, 1901.

William Daniel Moriarty, Associate Professor of Business Administration.

A. B., Michigan, 1904; A. M., 1905; Ph. D., 1909.

Robert Edward Morris, Professor of Mathematics.

B. S., Hastings, 1892; Ph. M., Chicago, 1899; Ph. D., Nebraska, 1901; Ph. D., Universitaet Strassburg, 1902.

Hermance Mullemester, Associate in Mathematics.

Ph. D., Royal University of Utrecht, Holland, 1910; Ph. D., 1913.

Catherine Murray, Lecturer on Sociology (winter and spring quarters).

A. B., Trinity College, 1900; A. M., Columbia, 1915.

David John Myers, Associate in Architecture. (Fall and winter quarters.)

Massachusetts Institute of Technology.

Lewis Irving Nemich, Assistant Professor of Mathematics.

B. S., Colorado, 1898; M. S., 1901; Ph. D., Pennsylvania, 1903.

Kirsten Larson Newbury, Associate in physics (winter and spring quarters).

B. S., Washington, 1919.

Delbert Nickson, Assistant Professor of Pathology.

B. S., Wisconsin, 1918; M. D., Oregon, 1917.

Caroline Haven Otis, Professor of Spanish.

Joseph Gnatian O'Bryan, Lecturer on Law.

A. B., Jesuit College (Denver), 1883.

Frederick Arthur Osborn, Professor of Physics and Director of Physics Laboratories.

Ph. B., Michigan, 1896; Ph. D., 1907.

Cornelius Ossewaard, Lecturer on Commercial Pharmacy.

Ph. G., Columbia; Ph. C., Northwestern.

Frederick Morgan Padelford, Professor of English, and Dean of the Graduate School.

A. B., Colby, 1899; A. M., 1899; Ph. D., Yale, 1899.

Vernon Louis Parington, Professor of English.


Ambrose Patterson, Associate in Fine Arts.

Melbourne National Gallery, Victoria, Australia; Julien, Chicago, and Deceleuse Academies, Europe.

Virginia Cunningham Patty, Assistant Professor of Home Economics. Industrial Institute and College, Columbus, Miss; Shuguilak College, Miss.; Teachers College, Columbia.

Otto Patzen, Associate Professor of French.

B. L., Wisconsin, 1896; M. L., 1899; Ph. D., 1907.

Max Patton Philbrick, Instructor in Romance Languages.

A. B., Colby College, 1902.

Frederick Powell, Lecturer on Gold Dredging.

E. M., Columbia.

Sargent Powell, Associate in Chemistry.

B. S., M. S., Washington, 1916; Ph. D., Princeton, 1919.


A. B., Colby, 1878; graduate, U. S. Military Academy, West Point, 1881; C. E. University of Maine, 1888; graduate, Coast Artillery School, 1890.

Arthur Ragan Prust, Professor of Debating and Dean of Men.

A. B., De Pauw, 1893; A. M., 1894.

Ethel Sanderson Bradfure, Associate in Chemistry.

A. B., McGill, 1905.

Ezra Isabel Ratty, Professor of Home Economics.


John Charles Rathbun, Assistant Professor of Civil Engineering.


Gino Antonio Ratti, Assistant Professor of Romance Languages.

A. B., Middlebury, 1907; A. M., 1909; Docteur de l'Universite de Grenoble, 1911.

Oliver Huntington Richardson, Professor of European History.

A. B., Yale, 1889; A. M., Ph. D., Heidelberg (Germany), 1907.
GEORGE BURTON RICKS, Associate Professor of Botany.
B. S., Iowa, 1886; B. A., Washington, 1890; Ph. D., Chicago, 1914.

MILNOR ROBERTS, Professor of Mining Engineering and Metallurgy and Dean of the College of Mines.
A. B., Stanford, 1890.

LOTTIE LEE ROSTEEN, Associate in English.
A. B., University of Washington, 1916.

MORTON ROSEN, Assistant Professor of Music.
Graduate Warsaw Conservatory, Russia.

HARRY RUBAY, Associate Professor of Civil Engineering.
B. S. (C. E.), Illinois, 1905.

LUI SANTANDER, Assistant Professor of Spanish.
B. S., Ph. B., University of Santiago, Chile, 1894; LL. B., 1898; Licenciate in Laws, 1898.

EDWIN JAMES SAWYERS, Assistant Professor of Geology.

WILLIAM SAVORY, Professor of Philosophy.

RICHARD FREDERICK SCHOLZ, Professor of Ancient History.
A. B. Wisconsin, 1902; A. M., 1908; Ph. D., 1911.

HAROLD ODEN SIXSMITH, Instructor in Architecture.
Armour Institute of Technology; Chicago Art Institute.

MYRTA DOROTHY SHANK, Associate in Psychology.

GORDON RUSSELL SHUCK, Instructor in Electrical Engineering.
E. E. Minnesota, 1908.

THOMAS KAY SIDET, Associate Professor of Latin and Greek.
B. A. Toronto, 1891; Ph. D., Chicago, 1900.

ELVIN SIMON, Associate in French.
Graduate, St. Anne's School, (Gymnasium) Petrograd, 1902; University of Geneva.

FRANCES BECKWITH SKINNER, Associate in Home Economics for Extension Service.
B. S. Teachers' College, Columbia, 1916.

MACK MILMORE SKINNER, Acting Assistant Professor of Business Administration.
A. B., Harvard, 1894; A. M., 1895; Ph. D., 1897.

LODGE LEROY SMITH, Instructor in Mathematics.
A. B., Washington, 1911; A. M., 1912; Ph. D., Columbia, 1913.

CHARLES WESLEY SMITH, Reference Librarian and Associate Professor of Library Economy.
A. B., Illinois, 1905; B. L. S., 1905.

ELI VICTOR SMITH, Assistant Professor of Zoology.

J. ALLEN SMITH, Professor of Political Science.
A. B., Missouri, 1886; LL. B., 1887; Ph. D., Michigan, 1904.

GEORGE McPHAIL SMITH, Professor of Inorganic Chemistry.
B. S., Vanderbilt, 1905; Ph. D., Freiburg, 1908.

HARRY EDWIN SMITH, Associate Professor of Business Administration.
A. B., De Puw, 1908; Ph. D., Cornell, 1913.

STEVENSON SMITH, Professor of Psychology.
A. B., Pennsylvania, 1904; Ph. D., 1909.

WILLIAM SPRAGAN, Instructor in Electrical Engineering.
B. S. (B. E.), Union College, 1916.

MATTHEW LYLE SPENCER, Professor of Journalism and Director of the School of Journalism.
A. B., Kentucky Wesleyan College, 1898; A. M., 1904; A. M., Northwestern University, 1906; Ph. D., Chicago, 1910.

ROBINSON SPENCER, Catalogue Librarian and Instructor in Library Economy.
A. B., Wesleyan University, 1903; B. L. S., Illinois, 1913.

EDWIN AUGUSTUS STEAR, Director of the Extension Service.
A. B., Tufts, 1884; A. M., Harvard, 1885.

CHARLES MERWIN SHONG, Assistant Professor of Spanish.
A. B., Missouri, 1897; A. M., 1900.

MILDRED STRAUSS, Associate in English.

FOLK TADAMA, Extension Lecturer on Fine Arts.

HINNAN VANCE TARTAR, Acting Assistant Professor of Chemistry.
B. S., Oregon Agricultural College, 1902.

JOSEPH MARION TAYLOR, Acting Instructor in Mathematics.
M. S., Adrian College, 1896.

CURTIS THING, Acting Associate in Chemistry, (autumn and winter quarters.)
B. S. Lenox College, 1914; M. S. Washington, 1917.
UNIVERSITY OF WASHINGTON

EARL THOMAS, Acting Instructor in Business Administration.
State Normal, Fremont, Nebraska.

JOHN HOWARD THOMPSON, Acting Instructor in Civil Engineering.
B. S., (Met.), Washington, 1919.

THOMAS GORDON THOMPSON, Assistant Professor of Chemistry.
A. B., Clark College, 1914; M. S., Washington, 1915; Ph. D., 1918.

DAVID THOMSON, Professor of Latin and Dean of the College of Liberal Arts.
B. A., Toronto, 1892.

PAUL ALEXIS UMOPF, Extension Lecturer on the Russian Language.
Polytechnic Institute of Petrograd.

GEORGE WALLACE UPHAM, Associate Professor of Romance Languages.

CLINTON LOUIS UTTENREICH, Instructor in Physics.
B. S., Purdue, 1908; M. S. University of Washington, 1918.

ROBERT BOWLMAN VAN HORN, Acting Instructor in Civil Engineering, (winter and spring quarters.)

LOUISE VAN OGLE, Instructor in Music.

THEORETICAL WORK, Dr. Bridge, Chester, England; Richter, Leipzig; Piano, Godowsky, Berlin; Lhevinne, Berlin; Harold Bauer, Paris.

ALBERT FRANZ VENNO, Assistant Professor of Music.

NEW YORK CONSERVATORY OF MUSIC; PUPIL OF LESCHETIZKY.

EDWIN JOHN VICKNER, Professor of the Scandinavian Language.
A. B., Minnesota, 1901; A. M. 1902; Ph. D., 1905.

SARA REA VINSONHALE, Acting Instructor in Fine Arts (autumn and winter quarters.)

THOMAS TALBOT WATERLUN, Associate Professor of Anthropology.
A. B., California, 1907; Ph. D., Columbia, 1913.

CHARLES EDWIN WEAVER, Associate Professor of Geology.
B. S., California, 1904; Ph. D., 1907.

JAMES WHEN, Associate in Modeling and Sculpture.

JAN KERN ZIEL, Professor of Bacteriology.
B. S., Wisconsin, 1896; M. S., 1899; Ph. D., 1906; Dr. P. H. Harvard, 1918.

FRED FALCONER WELD, Associate in Civil Engineering.
B. S., Pennsylvania State College, 1903; C. E., 1902.

EARL DOWNS WEB, Instructor in Mathematics.
B. S., Ohio State College, 1909; A. M. Adrian College, 1909.

MARY ALMA WETTON, Instructor in Chemistry.
B. S., Chicago, 1915.

RUSSELL HUBBARD WHITE, Instructor in Civil Engineering.
B. S., Massachusetts Institute of Technology, 1916.

WALTER BELL WHITTENBERG, Instructor in French.

GEORGE WHITWELL, Associate in Chemical Engineering.
B. S., Massachusetts Institute of Technology, 1915.

MARJORIE HELEN WHITSEL, Associate in Chemistry (winter and spring quarters.)
A. B., Colorado College, 1917.

ELWOOD MORTON WILDER, Instructor in Civil Engineering (winter and spring quarters.)
B. S., (C. E.), Maine, 1917.

ARTHUR McKNIGHT WINSLOW, Associate Professor of Mechanical Engineering.
Ph. B., Brown University, 1903; B. S., Massachusetts Institute of Technology, 1906.

GEORGE SAMUEL WILSON, Associate Professor of Mechanical Engineering.
B. S., Nebraska, 1906.

HEWITT WILSON, Assistant Professor of Ceramics.
Cer. Engr., Ohio State University, 1913.

WILLIAM RONALD WILSON, Instructor in Psychology (winter and spring quarters.)

ROY MARTIN WINDER, Assistant Professor of Mathematics.
A. B., Bekor, 1906; Ph. D., Johns Hopkins, 1912.

HOWARD WINKENWORDER, Professor of Forestry and Dean of the College of Forestry.
B. S., Wisconsin, 1902; M. F., Yale, 1907.

CARLEPAGE WOOD, Assistant Professor of Music.

CLIFFORD WOODS, Associate Professor of Education.

HOWARD WOODSON, Professor of Sociology.
A. B., Yale, 1898; S. T. B., Chicago, 1901; M. A., Harvard, 1902; Ph. D., Columbia, 1909.
FACULTY AND OTHER OFFICERS

JOHN LOCKE WORCESTER, Associate Professor of Anatomy.
M. D., Birmingham School of Medicine, University of Alabama, 1900.

EUGENE HUTCHINSON WOMAN, Associate in Fine Arts.
Pratt Institute.

ELSE CLARISSA ZIESE, Instructor in Design.
B. S., Teachers College, Columbia, 1917.

CONRAD ZIMMERMANN, Lecturer on Timber Physics.
A. B., University of Washington, 1908.

BOARDS AND COMMITTEES

1920-1921

ADMINISTRATIVE BOARDS

ADVISORY TO THE PRESIDENT—The Board of Deans, Meany, Padelford, Gowen, Osborn, Kincaid, Eastwood.


SUMMER QUARTER—Board of Deans and the Comptroller.

CONSULTING ENGINEERS—Eastwood, Magnusson and Harris.

COMMITTEES OF THE FACULTY

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

ADMISSIONS AND REGISTRATION—The Registrar and the Deans of the Colleges and Schools.

ART—Gould, Densmore, Patterson, Edens and Wehn.

ASSEMBLY—Densmore, Glen and Benson.

ATHLETICS—L. J. Ayer, Hall, Moritz, Dehn, Densmore.


HONORS—Padelford, Savery, Carpenter, Curtis, and T. S. McMahon.


LIBRARY—Henry, Thomson, Padelford, Frye, Richardson, Patzer and Loew.

PRE-MEDICAL COURSES—Worcester, Johnson, Welnirl, Kincaid and Hall.

PUBLICATIONS—Henry, Landes, Padelford, Start, Umphrey, Densmore, Bell and Kennedy.

RELATIONS WITH SECONDARY SCHOOLS—Bolton, Thomson, Padelford, Frye, Frein and Stone.

RULES—Benham, Goodner, Strong, Bell and Stone.

SCHEDULE—Stevens, Wilson, Daniels, Rigg, Woody, Chittick, Wood, and Sexsmith.

SPECIAL STUDENTS—The Registrar and Deans.

STUDENT AFFAIRS—Thomson, Winkenwerder, Padelford, Scholz, McMahon, Curtis, Haggett and eight representatives of student organizations.

STUDENT HEALTH AND WELFARE—Hall, Coldwell, Welnirl, Allison, E. V. Smith, Worcester and Bartlett.

RHODES SCHOLARSHIP—Densmore, L. J. Ayer, Scholz and Harrison.


MILITARY AND NAVAL AFFAIRS—Osborn, Eastwood, More, Start, Boothroyd and Harrison.
GENERAL INFORMATION

HISTORICAL

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

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

On November 4 following the University was opened for students.

GOVERNMENT

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

ENDOWMENT AND SUPPORT

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

The legislative maintenance appropriation for the biennium 1919-1921 will yield $1,633,489, based upon the tax levy of .74 of a mill. This is augmented from sundry receipts from property income.

Besides this, the Legislature appropriated the tuition and endowment receipts for the biennium for a permanent building fund. This was expected to provide for the erection of one or two new buildings.

The Legislature also appropriated $20,000 for the establishment and cooperative maintenance of the Seattle Mining Experiment Station of the United States Bureau of Mines on the University campus; and $7,500 for the expense of cruising the University timber lands throughout the state, looking to the exchange of these lands for a centralized demonstration forest.

(22)
The property of the University includes:

(1) The two townships of land granted by Congress in 1854. There remains of this old grant some 3,000 acres.

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

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

**Bequests**

The Board of Regents of the University of Washington is authorized by law to receive such bequests or gratuities as may be given or granted to the University, and to invest or expend the same according to the terms of such bequests or gratuities. The Board of Regents has adopted rules to govern and protect the principal of such gifts and the income therefrom so that the same will be forever applied to the purposes designated by the donors of the gifts.

Those who desire to aid the work of the University of Washington by means of gifts *inter vivos* or by wills may do so, feeling assured that their wishes as outlined in the deed of gift or will are to be carried into effect as provided by law.

A simple statement in a will as follows:

"I give, devise and bequeath to the Board of Regents of the University of Washington the sum of __________ dollars. In Trust, However, for the following uses and purposes to be invested in securities to be approved by said Board and the interest therefrom to be expended in the maintenance of" (scholarship or fellowship subject named), will be sufficient.

These bequests may be applied to the maintenance of scholarships and fellowships in any subject desired by the donor which meets the approval of the Board of Regents.
EQUIPMENT

Grounds

The grounds are ample to meet every need of the University. There are approximately 450 acres, all within the city limits of Seattle, lying between Lakes Union and Washington, with a shore line of over one mile on Lake Washington and about a quarter of a mile on Lake Union.

Buildings

The following buildings are now in use on the University campus: Administration Hall, Architecture Building, Armory for the cadet regiment, Astronomical Observatory, Bagley Hall, Book Store, Commerce Hall, Crew House for men, Denny Hall, Dry Kiln, Engineering Hall, Engineer's residence, Executive residence, Faculty Club House, Forestry Hall, Forge and Foundry Building, Gazert Building, Gymnasium, Home Economics Hall, Lewis Hall and Clark Hall, Library, Meany Hall, Men’s Hall, Mines Hall, Museum, Power House, Practice Cottage, Science Hall, U. S. Bureau of Mines, U. S. Mine Safety Station, Wood Preservation Plant. Philosophy Hall will be completed for occupancy for the coming autumn quarter.

Library Facilities

The general library contains 96,644 volumes, and receives 550 current magazines. About 6,000 volumes a year are being added.

The Law School library contains more than 25,000 volumes. All books of both libraries are upon open shelves and are easily accessible to all who care to use them.

In addition to the library facilities upon the campus, the Seattle Public Library, containing approximately 350,000 volumes, is open free to the University.

The Museum

By an enactment of the Legislature of the State of Washington in 1899 the museum at the University of Washington was “constituted the State Museum and the depository for the preservation and exhibition of documents and objects possessing an historical value, of materials illustrating the fauna, flora, anthropology, mineral wealth, and natural resources of the state, and for all documents and objects whose preservation will be of value to the student of history and the natural sciences.”

(24)
The nucleus of this museum, consisting of a small ethnological collection, was formed in the late '70s by Dr. A. J. Anderson, president of the University, and later supplemented by a collection of fish, presented by Dr. David Starr Jordan. The real start toward a permanent museum, however, was made in 1904, when the extensive collections of the Young Naturalists' Society of Seattle were presented to the University. These collections have been augmented from time to time by accessions from the World's Fair at Chicago; the Lewis and Clark Exposition at Portland; the Alaska-Pacific-Yukon Exposition at Seattle; and by gifts, purchases, and loans from private individuals. The museum is at present located in the Forestry Building, a building of Grecian design, constructed of 126 main columns of Douglas fir, from five to six feet in diameter, and from 42 to 54 feet high, a remarkable exhibit in itself of the timber resources of the Northwest.

LABORATORIES

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

ANATOMY LABORATORY

The laboratory for human anatomy has been arranged to secure a maximum of light and cleanliness. Besides laboratory tables, study tables have been installed. All necessary equipment in the way of skeletal, chart and model materials are available.

ASTRONOMY LABORATORIES

The observatory is housed in a substantial sandstone structure containing dome for equatorial, room for transit and clocks, office, room for lectures and laboratory work and dark-room. Part of the roof is flat, making an admirable place for evening study of the heavens. The instruments include a six-inch refracting telescope and accessories; a Bamberg transit, Riefler clock, Bond chronometer, Gaetner chronograph, Astro-Petzel objective with accessories, a barometer, sextants, etc. The clock is enclosed in a constant temperature chamber. The minor equipment consists of a good assortment of transparencies and lantern slides, globes, planetarium, and other equipment for experiments in laboratory and lecture work in astronomy.

BOTANY LABORATORIES

The botanical and bacteriological laboratories are on the third floor and in basement of Science Hall. They occupy about 5,000
feet of floor space divided as follows: Three large laboratories of about 1,000 square feet each; three small laboratories, one for physiology, one for mycology and one for research. The laboratories are fitted with the apparatus and conveniences usual for the work.

CHEMICAL LABORATORIES

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

CIVIL ENGINEERING LABORATORIES

Hydraulic.—The hydraulic laboratory will soon be transferred to its new location on the shore of Lake Union, where facilities are available for both medium and high experiments. For medium head, a free water surface, one acre in extent, is provided at an elevation of 100 feet above the laboratory floor. For high heads, connection is made with an 8 in. pipe leading from an elevated tank 300 feet above the floor.

Structural Materials.—The structural materials testing laboratory contains five universal testing machines with capacities from 30,000 to 200,000 pounds, two impact machines with various hammers ranging in weight from 550 to 1,500 pounds, with the necessary auxiliary apparatus for general work.

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

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

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

ELECTRICAL ENGINEERING LABORATORIES

The dynamo laboratory contains seventeen alternating and thirty-four current generators and motors. The machines are of
modern design and have a combined capacity of 300 kilowatts in direct current machines and 225 kilowatts in alternating current machines. Most of the machines are of five or ten-kilowatt capacity. Power from a storage battery of 130 cells is available at a separate switchboard in the dynamo laboratory. The university power house, containing two steam-driven units of 200 and 100 kilowatts, serves as a commercial laboratory for operating and testing purposes.

Nine smaller rooms are devoted to the following: (a) Instrument making and repairing, (b) grinding room and shop, (c) instrument and stock room, (d) telephone laboratory, (e) electrolysis and special thesis problems, (f) storage battery rooms, (g) three dark rooms for photometry work. The instrument room contains a large collection of standard indicating and recording ammeters, voltmeters and wattmeters, two three-element G. E. oscillographs, and a Tinsley A. C. potentiometer.

FISHERIES LABORATORIES

Ichthyology Laboratory.—The ichthyology laboratory contains an extensive collection of named fishes, particularly rich in species from Puget Sound and Alaska. By exchange and other means it is hoped to build up a representative series of the fishes found in American waters, with particular reference to forms of economic importance. The foundation has also been established for a collection to illustrate the species of shellfish, crustaceans, and other invertebrate animals constituting the bases for the corresponding industries.

Fish Diseases Laboratory.—The laboratory for fish diseases is equipped for the study of life histories of the various parasites of aquatic animals, including aquaria for live subjects, dark room for studying the effect of various colored lights upon the animals, etc.

Fisheries Laboratories.—The apparatus laboratory is equipped with working models of the larger forms, and fully rigged types of the smaller forms of fishery apparatus, also detailed plans for the construction of same; equipment for the manufacture, repair, care and preservation of nets; models of fishing vessels and boats, and samples of various fishery products prepared for market in the United States.

The canning laboratory is equipped with all the machinery and appliances necessary for canning all varieties of fishery products, and in addition to practical instruction in canning methods, tests are made of various species, while research in food canning is carried on under conditions similar to those prevailing in commercial plants.

The curing laboratory contains all the necessary equipment for the pickling, dry-salting, mild-curing and smoking of fishery products.
Ultimately a small refrigeration and cold storage plant will be installed for the purpose of economic study of the various methods of freezing and preserving fishery products in cold storage.

A smokehouse will be built for the purpose of carrying on experiments in the smoking of various species and their utilization as food either in this condition or canned.

The testing room will have a constant temperature of approximately 98° Fahrenheit, and in it samples of canned fishery products may be incubated, by means of which swells may be separated from the other cans and the sufficiency of the process used in the cannery determined. Various vacuum gauges and can testers will also be available.

Fish Hatchery.—The fish hatchery occupies about seven hundred square feet of floor space in Fisheries Hall No. 2. It is furnished with hatching troughs, baskets, and other essential equipment for the care of 500,000 salmon or trout eggs. A complete equipment consisting of batteries of open-top and closed-top jars is provided for the care of several million of semi-buoyant eggs. Feeding tanks and aquaria are also provided in which experimental work in fish culture may be carried on. A number of cement-lined ponds are available in the College grounds for the rearing of various species of aquatic animals.

Forest and Lumbering Laboratories

Dendrology.—Individual lockers. Extensive collections of tree seeds, cones and bark specimens. An aboretum is under way.

Lumbering.—Field work is given at logging camps and sawmills about Seattle. A complete equipment of instruments and tools is available for work in logging engineering. Collections of lumber, showing grades and patterns, charts of lumber grades, exhibits of sawmill and woods saws, logging equipments such as wire ropes, axes, hooks, blocks, special appliances for donkey engines, sawmill belts, a model of high lead logging, and other tools or equipment used in logging and milling.

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

Silviculture.—Forests in and near Seattle offer wide opportunities for practical studies and demonstrations. An extensive forest tree nursery of the College of Forestry affords an excellent opportunity for practice in modern nursery methods.

Timber Physics.—Laboratory work is carried on in the U. S. Forest Service Timber Testing Laboratory, operated in cooperation with the University. The laboratory is magnificently equipped
Equipment

with seven large testing machines for static and impact loading, circular and band saws, planer and other shop equipment for woodworking.

*Wood Technology.*—Individual lockers, gas, water, compound microscopes and all apparatus for preparing and sectioning wood for the microscopic study are provided. Hand specimens and planks of domestic and foreign commercial timbers are provided in large quantities. Microscopic slides of nearly all American woods are kept on hand for check specimens.

*Forest Products Laboratories.*—A movement is now on foot for the establishment of a completely equipped Forest Products Laboratory to cost approximately $60,000. The laboratories for work in forest products now ready on the campus consist of four distinct units, as follows:

1. General Laboratory.—This is equipped with microtome, water baths, drying ovens, microscopes, chemical and pulp balances, all apparatus necessary for technical examination of wood preservatives, standardized thermometers, cameras and other apparatus required for photomicrography, dark room, and all incidental apparatus required for the detailed study of wood tissues.

2. Wood Preservation Laboratory.—This consists of both an open tank and a pressure plant. The former is of commercial size for treating ties. It is composed of two treating tanks and two storage tanks, one of steel for creosote, the other a wooden tank for salt solutions and other preservatives. The pressure plant consists of a 12-foot retort, air compressor and vacuum pumps and a duplex pressure pump, and is so constructed that it may be used for any of the different pressure processes.

3. Wood Distillation Plant.—This plant consists of a retort of one-half cord capacity per charge, gas tank, and refining apparatus. The retort has been installed by the U. S. Forest Service for cooperative work with the University.

4. The Dry Kiln.—This is a plant of about one carload capacity, and is equipped with a recording hygrometer and thermometer, hygrodeik, and automatic temperature control.

*Commercial Plants.*—Plants for the manufacture of paper, wood pipe, cooperage, excelsior, wood conduit, veneers, furniture, boxes, and numerous other secondary wood products are available for study. Four large creosoting plants and several smaller preservative plants are also available.

*Demonstration Forest and Experiment Station.*—This consists of a 60,000-acre tract comprising the Pilchuck-Sultan watersheds formerly a part of Snoqualmie Forest. It is very conveniently reached from Seattle, and offers almost ideal conditions for a school forest. It has a total stand of timber of over a billion and a half
feet, representing nearly all species of the Pacific Northwest, but more than three-fourths is composed of Douglas fir, cedar and hemlock. As there is an excellent representation of age classes, it will lend itself readily to scientific forest management. It is estimated that the tract will yield from $20,000 to $25,000 annually on a sustained yield basis.

GEODESY LABORATORIES

The geology laboratories, four in number, are in Science Hall. Two are on the first floor, and consist of large rooms, arranged for general geology, physiography, meteorology, mineralogy, petrography and paleontology. Two laboratories are in the basement, in well-lighted rooms at the southwest end of the building.

For work in mineralogy and petrography extensive collections of minerals and rocks are supplied; and for paleontological study collections of fossils and casts represent the principal geological formations. In the study of meteorology practical work is done by the use of a complete set of weather bureau instruments. For the study of earthquake phenomena a Bosch-Omori seismograph has been installed for some years. For general laboratory and lecture work the latest model Bausch & Lomb Balopticon with reflectoscope and polariscope attachments is provided.

JOURNALISM LABORATORY

The journalism laboratory, occupying a space 30x60 feet in the basement of Commerce Hall, is equipped with chases, imposing stones, type materials (head, body and advertising type), borders, and everything necessary to teach students how to dress a newspaper. For the student interested in the advertising and commercial printing end, there is other special equipment. A laboratory library of literature from supply houses always contains the newest information on type, paper, furniture, engravings and all equipment of the publishing and allied trades.

The journalism laboratory opens into the University printing plant, where practically all University printing is done. This makes convenient regular assignment hours on various types of machinery, since the plant has its own slug casting and type setting machines, cylinder, platen and rotary presses, folder, cutter stitcher, etc.

MECHANICAL ENGINEERING LABORATORIES

The steam and experimental laboratory is fully equipped with steam apparatus, including engines aggregating 900 H. P., of simple and compound, high speed and Corliss types; steam turbine; jet and surface condensers; injector; centrifugal pump; steam calorimeters; indicators; calibrating appliances; oil testing
Equipment

Machine; gas engine of stationary and automobile types; gas pro­ducer plant; refrigerating apparatus; compressed air machinery for two stage compression and Westinghouse full train equipment; fuel testing facilities, including Mahler Bomb, Junkers and other calorimeters, with accessories for determining heating value and analysis of solid, liquid and gaseous fuels.

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

Mining, Metallurgical and Ceramic Laboratories

The College of Mines is housed in a two-story building of pressed brick. The main portion of the structure, contains the offices, library, classrooms, drafting room and museums, as well as laboratories, desks, stockroom and balance rooms for assaying and general metallurgy. The rear wing, is occupied by mining and milling machinery, electric furnaces, and stocks of ores, coals and clays. An addition contains a metallographic laboratory.

Mining Equipment.—The equipment consists of an air com­pressor, receiver, three rock drills, aerial tram, loading and tamping models, hand tools, full equipment for practice in blasting, models, drawings blueprints, photographs, lantern with 1200 slides, and collections of ores and minerals. The College of Mines' mill contains breakers, rolls, 8-stamp battery, feeders, screens, classifiers, jigs, four concentrating tables, flotation cells of six types, coal washing equipment, and accessory apparatus.

Metallurgical Equipment.—The equipment includes standard size furnaces fired by six methods—coal, coke, gasoline, gas, fuel­oil and electricity. Electric current to the amount of 200 kilowatts is available for extensive experiments in electric smelting. Other important pieces of equipment are a reverbratory furnace, pyro­meters of several types, cyanide equipment, amalgamating devices, blowers, calorimeters, balances, sampling machines, and exhibits of metallurgical processes and products.

Ceramic Equipment.—Structural and Refractory Wares: Crusher, rolls, four-foot dry and wet pan, Meuller auger machine for brick, tile and hollow building block, steam dryer and kilns. Terra cotta: Plaster molds, De Vilbiss spraying apparatus, trans-
verse and tensile strength machine, engobe and glaze materials, ball mills. Pottery: Patterson clay washing outfit, including double blunger, power screens, agitator, pump and filter press, potter's pug mill, potter's wheel, plaster mold and pottery kiln. General testing: Brass sample molds, overflow type of volumeters, pyrometric cone mold, constant temperature electric dryer, gas fired fritt kiln, hygro-deik, Brown radiation pyrometer, carbon resistance electric furnace for high temperatures and a complete series of standard pyrometric cones.

UNITED STATES BUREAU OF MINES SEATTLE MINING EXPERIMENT STATION

The United States Bureau of Mines maintains a mining and metallurgical experiment station for the Pacific Northwest and the coast regions of Alaska at the College of Mines. The headquarters of the station, from which all operations in this territory are directed, are in the Bureau of Mines building, between Mines and Bagley halls. An analytical laboratory is in the same building, while the electric furnace and other equipment used by the Bureau in cooperation with the College are housed in the Mines building. At present the principal investigations being conducted by the station are in electro-metallurgy, the treatment and uses of coal, and in ceramics.

UNITED STATES MINE SAFETY STATION

The Mine Safety Station occupies a separate building. The "smokeroom," fitted with track and car, overcast airway and smudge floor, is the largest of its kind in the country. Several sets of rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work, or emergencies such as asphyxiation, drowning, electric shock, and the like. A White automobile truck of 45 H.P., with a capacity of six men and six sets of rescue apparatus, is kept in constant readiness for service in the nearby mining fields of the state.

PHARMACY AND MATERIA MEDICA LABORATORIES

Rooms devoted to pharmacy and materia medica are located in Bagley Hall. A room accommodating thirty-two students working at one time is used for manufacturing pharmacy. Work in prescription practice receives special attention in a room constructed as a model prescription pharmacy. The materia medica room contains a drug museum of several hundred samples of official and unofficial crude drugs. This room is fitted with desks suitable for microscopic work. Work in drug analysis and the several courses in chemistry are located in suitable rooms in other parts of the building.
EQUIPMENT

PHYSICS

The laboratories set apart for the use of the department consists of: (1) A general laboratory for students in arts and sciences, (2) a general laboratory for students in applied science, (3) an electrical laboratory, (4) a heat laboratory, (5) a sound and light laboratory, (6) a photometry room, (7) a battery room.

The laboratories are supplied with apparatus from the best American and European makers.

The Bureau of Testing.—The bureau is equipping itself as rapidly as possible to meet the demand for a bureau where scientific instruments may be accurately calibrated and tested. The standards of the bureau will be calibrated by our National Bureau of Standards at Washington, D. C.

The bureau is prepared to calibrate direct and alternating current instruments, to determine candle power of lamps, to measure temperature, both high and low, and to a limited extent standardize weights. Those desiring to have work done should address the director, Frederick A. Osborn.

PSYCHOLOGY LABORATORY

In the fall of 1920 the psychology laboratory will occupy most of the third floor of Philosophy Hall. The fourth floor of this building, which will ultimately be a part of the laboratory, is to be occupied temporarily by another department.

ZOOLOGY LABORATORIES

The laboratory work of the department of zoology is conducted in six rooms located on the second floor of Science Hall. Here are adequate facilities for pursuing the following lines of investigation: General zoology, physiology, cytology, parasitology, plankton, entomology, and research.

BAILEY AND BABETTE GATZERT FOUNDATION FOR CHILD WELFARE

On December 21, 1910, this foundation was established by a gift to the University of $30,000 made by Sigmund Schwabacher and by the executor of the will of the late Abraham Schwabacher. The purpose of the foundation is (1) to conduct a laboratory for the mental and physical examination of children in order to determine their individual defects and aptitudes and, in accordance with the results of the examination, to suggest the best means of education and treatment; (2) to assist in establishing child welfare agencies and child study laboratories throughout the state, and (3) to carry on research in child psychology.

In December, 1915, the Bailey and Babette Gatzert Foundation for Child Welfare was created a separate department of the University.
The Engineering Experiment Station was formally organized in December, 1917, in order to coordinate the engineering investigations in progress and to facilitate the development of industrial research in the University.

A large number of investigations in the industrial field have been in progress for many years in the University, either by the efforts of individual faculty members and students or through organized groups, such as the Timber Testing Laboratory, the Bureau of Testing, Radio Experiment Station, and especially the Bureau of Industrial Research. As an indication of the research already accomplished, reference is made to the important papers already published.

The Engineering Experiment Station includes all the bureaus and departmental groups previously active in engineering and industrial research, as well as the field occupied by individual investigators.

The scope of the work is twofold:

(a) To investigate and to publish information concerning engineering problems of a more or less general nature that would be helpful in municipal, rural and industrial affairs;

(b) To undertake extended research and to publish reports on engineering and scientific problems.

The purpose of the station is to aid in the industrial development of the state and nation by scientific research and by furnishing information for the solution of engineering problems. Every effort will be made to cooperate effectively with professional engineers and the industrial organizations in the state. Investigations of primary interest to the individual or corporation proposing them, as well as those of general interest, will be undertaken through the establishment of fellowships.

The control of the Engineering Experiment Station is vested in an administrative staff consisting of the president of the University, the dean of the College of Engineering, as ex-officio director, and seven members of the faculty.

For administrative purposes, the work of the station is organized into seven divisions: (1) Forest products, (2) mining and metallurgy, (3) chemical engineering and industrial chemistry, (4) civil engineering, (5) electrical engineering, (6) mechanical engineering, (7) physics standards and tests.

Inquiries in regard to the work of the Engineering Experiment Station should be addressed to the Director.
ENTRANCE INFORMATION

THE UNIVERSITY ORGANIZATION

The University of Washington is one of the five institutions of higher education which complete the system of public education of the state, the others being the State College and the three normal schools. To the University is given exclusive authority to instruct in the following major lines: Aeronautical engineering, architecture, commerce, fisheries, forestry, journalism, law, library science, marine engineering, and medicine.

The University has concurrent authority with the State College to instruct in the following major lines: Chemical engineering, civil engineering, electrical engineering, home economics, liberal arts, mechanical engineering, mining, pharmacy, professional training of high school teachers, school supervisors, and school superintendents, and pure science.

Schools and Colleges and Their Fields.—To carry out its share of this educational responsibility, the University is organized in the following schools and colleges:

(A) The Colleges of Liberal Arts and Science, which provide a liberal education in the fields of arts and of pure science, leading in a course, normally requiring twelve quarters of residence, to the degrees of bachelor of arts and bachelor of science.

(B) The professional and technical schools and colleges, including:

(1) The College of Business Administration, covering a course of twelve quarters the fundamentals of scientific training for industry and commerce. The degree given is bachelor of business administration.

(2) The College of Education, in a course of twelve quarters, prepares students for careers in the field of education as high school teachers and school administrators. The degree is bachelor of education. Students in the College of Liberal Arts may major in the department of education and take the degree of bachelor of arts.

(3) The College of Engineering has four departments, chemical, civil, electrical, and mechanical engineering (including aeronautical and marine), their curricula leading in twelve quarters to the degree of bachelor of science in the special field chosen by the student. The degree of master of science in each field is open to graduate students.

(4) The College of Fine Arts offers curricula of twelve quarters in architecture, vocal, instrumental, or pub-
lic school music, or musical theory, painting and design, public school drawing, and music and drawing, leading to the degrees of bachelor of architecture, or bachelor of fine arts, with a major in one of the subjects named.

(5) The College of Fisheries, recently established, lays a scientific foundation for work connected with the fisheries industry, one of the chief resources of the Pacific Coast. The degree offered is that of bachelor of science in fisheries.

(6) The College of Forestry offers a curriculum of twelve quarters preparing for work in scientific forestry or in the industry of lumbering. The degree offered is that of bachelor of science. The full professional course is fifteen quarters, with a liberal allowance of electives, giving opportunity for specialization in forest service and state work, logging engineering, forest products, or the lumber business. For this course the degree of master of science may be given in the Graduate School.

(7) The School of Journalism requires for entrance the junior certificate, elsewhere explained, based on the completion of the first two years of college work in arts or science. The curriculum leads to the degree of bachelor of arts and prepares its students for practical newspaper work.

(8) The School of Law is the standard of approved law schools for admission to the bar of this state. For admission the student must present a junior certificate from the College of Liberal Arts or the College of Science, or its equivalent. The curriculum of the school requires three school years or nine quarters, and leads to the degree of bachelor of laws. The degree of master of laws is also given. Students may carry on work in liberal arts or science and law concurrently, taking both bachelors' degree in six years, or eighteen quarters.

(9) The Library School likewise has a three-year or nine-quarter curriculum, which must be preceded by the work required for a junior certificate in the College of Liberal Arts or the College of Science. It prepares for professional library work and gives the degree of bachelor of library economy. The degree of bachelor of arts or bachelor of science may be obtained at the end of the second year in the Library School.
The College of Mines offers four-year or twelve-quarter curricula, leading to the degree of bachelor of science in mining engineering, geology and mining, metallurgical engineering, or coal mining engineering. The fields open to graduates of this college are indicated by these divisions. The college also offers a curriculum in ceramics (clay, glass and cement products.) The degree of master of science, with a major in one of these lines, may be obtained in the Graduate School.

The College of Pharmacy offers two, three, and four-year courses, the first preparing for practical pharmacy, the second for commercial pharmacy, and the third providing a well rounded scientific training in this field. The two-year course leads to the degree of graduate in pharmacy, the three-year course to that of pharmaceutical chemist, and the four-year course to that of bachelor of science in pharmacy. A fifth year, taken in the Graduate School offers an opportunity for graduate and research work and leads to the degree of master of science in pharmacy.

The Graduate School. In this school the master's degree in arts or science is given after at least one year of resident work of high grade and special character. The degree of doctor of philosophy is given in four departments, botany, chemistry, English, and mathematics.

Definitions and Explanations.—In all statements relating to the University the word course refers to a single study pursued for a definite period, for which credit may be given toward university requirements for graduation in accordance with the number of hours taken; a curriculum is a group of courses arranged to be taken consecutively or concurrently; a department is the unit of instructional organization in a particular science or art, as the department of geology; a college gives full curricula, beginning with the work of the freshman year and covering twelve quarters; while the work of a school is based upon two or more years of college work.

The four-year programs of the Colleges of Liberal Arts and Science are further divided into the lower division (freshman and sophomore) and upper division (junior and senior). The junior certificate is given for the completion of the requirements of the lower division. The more advanced work of the upper division leads to graduation with the bachelor's degree. The specialized work of the schools is upper division or graduate work and requires the junior certificate as a minimum to enter upon it.
Special Curricula Within the Schools.—There are also given certain semi-professional curricula for which no special school or college is provided. Such is the curriculum in nursing and public health, given in the College of Science.

The University does not give a medical course, but it offers a pre-medical curriculum especially planned as a foundation for study in a medical school. This may be two years in length for schools not requiring college graduation, or four years for schools requiring that amount of preparation.

Under the provisions of the National Defense Act, students in the University may attain commissions as reserve officers in the United States Army by meeting the requirements for advanced work in military science. This is done without interference with the students' regular academic work.

The Four-Quarter System.—The University is now operated on the four-quarter system, each quarter having approximately twelve working weeks. These quarters or terms begin in October, January, April and the latter part of June. The University is closed only through the month of September. A careful reading of the calendar will show the working of this plan in detail. Students may enter at the beginning of any quarter. This permits them to do a full quarter of university work in the summer, in most curricula, to complete a university course in three years, if health and resources permit, or otherwise to adjust their university residence to meet personal conditions. This flexible plan is of especial advantage in the University of Washington because the absence of extremes in climatic conditions is favorable to mental work at all times of the year.

Admission to the University

GENERAL STATEMENT

Students are admitted to the resident work of the University by certificate or by examination, only graduates of fully accredited four-year secondary schools being admitted on certificate. They are classified as graduates and undergraduates. Undergraduates are classified as regular students (freshmen, sophomores, juniors, and seniors), unclassified students, and special students.

All correspondence regarding the admission of students to the resident courses of the University, as well as the requirements for graduation, should be addressed to the Registrar. Every applicant for admission at the beginning of the autumn quarter, is requested to forward his credentials as early in the summer as possible, at the same time indicating the college or school of the University that he intends to enter. Credentials for students expecting to enter the autumn quarter should be received in the Registrar's office before August 16.
Admission by Certificate.—A graduate of a four-year accredited secondary school, whose course has covered the requirements for entrance as either a regular or an unclassified student (see pages 13-16) will be admitted upon recommendation of his principal and the presentation of a satisfactory certificate. Since the school diplomas do not give the necessary information, they cannot be accepted for this purpose. The principals of all accredited high schools in the state are furnished with the official blanks, which may also be obtained from the Registrar’s office.

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

The list of accredited secondary schools in the State of Washington is as follows:

I. PUBLIC HIGH SCHOOLS

Aberdeen
Almira
Anacortes
Arlington
Asotin
Asburn
Battle Ground
Bellingham
Whatcom
Fairhaven
Bickleton
Black Diamond
Blaine
Bothell
Bremerton (U. H.)
Brewster
Buckley
Burlington
Burton (U. H.)
Camas
Cashmere
Castle Rock
Centralla
Chelah
Chelan
Chehalis
Cheyney
Chewelah
Clarkston
Clo Blum
Coffax
Colville (U. H.)
Coele City
Couperville
Creston
Davenport
Dayton
Deer Park
Deming
Deyo
Dryad
Durval
Eatonville
Edison
Edmonds
Edwall
Eldenburg
Elma
Endicott
Eunice
Ephrata
Everett
Fairfield
Fall City
Farrington
Ferndale
Foster
Friday Harbor
Garfield
Goldendale
Grandview
Granger
Granite Falls
Harmony
Harrington
Hartline
Hillyard
Hoquiam
Ilwaco
Issaquah
Kalama
Kelso
Kenswick
Kent
Kettle Falls
Kirkland (U. H.)
Kittitas (U. H.)
La Conner
La Crosse
Latah
Leavenworth
Leam
Lind
Lynden
Mabton
Malden
Marysville
Mead
Medical Lake
Meridian (U. H.)
Monroe
Montesano
Mossy Rock
Mount Vernon (U. H.)
Napavine
Newport
Nookachamp
North Bend
Oakdale
Oakville
Odean
Okanogan
Olympia
Omak
Groveland
Ogel
Outlook
Palouse
Pasco
Pe Ell
Pomeroy
Port Angeles
Port Townsend
Prescott
Prosper
Puyallup
Raymond
Reardan
Redmond
Renton
Republic
Richland
Ridgefield
Ritzville
Rochester
Rockford
Roselia
Roslyn
Roy
Seattle—
Ballard
Boulevard
Franklin
Lincoln
Queen Anne
West Seattle
Sedro Woolley
Selah
Sequim
Shelton
Shinomish
South Bend
Spangle
Spokane—
Lewis and Clark
North Central
Orchard Avenue
Sprague
Stanwood
Stevenson
St. John
Sultan (U. H.)
Sumas
Sumner
Sumraide
Tacoma—
Lincoln
Stadium
Tekoa
Teano
Toledo
Ton (U. H.)
Tonasket
Toppenish
Tucubet
Vader
Vancouver
Vashon
Vera
Wailburg
Walla Walla
Wapato
Washougal
Wintermill
Waterville
Wenatchee
White Salmon
Wilbur
Wilson Creek
Winlock
Wishaw
Woodland
Yacolt
Yakima
Zillah
II. OTHER SECONDARY SCHOOLS

Annie Wright Seminary, Tacoma
Forest Ridge Convent, Seattle
Holy Angels Academy, Seattle
Holy Names Academy, Seattle
Holy Names Academy, Spokane
Moran School, Rolling Bay
Pacific Lutheran Academy, Parkland
Seattle Pacific College, Seattle (academy)
Spokane College, Spokane (preparatory department)
St. Helen’s Hall, Portland, Oregon
St. Martin’s College, Lacey (high school department)
St. Nicholas School, Seattle
St. Paul’s Academy, Walla Walla
Walla Walla College Academy, Walla Walla
Y. M. C. A., Seattle

III. SCHOOLS OUTSIDE OF WASHINGTON

Graduates of secondary schools outside of Washington will be admitted on the same terms as graduates of accredited schools of Washington, provided the school in question is fully accredited, (1) by the North Central Association of Schools and Colleges, (2) by the New England College Entrance Certificate Board, or (3) by a leading university whose standards of admission are practically the same as those of the University of Washington.

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

Entrance examinations are held at the University on Thursday, Friday and Saturday preceding the opening of each quarter. The schedule of hours for examination may be obtained from the Registrar.

Certificates of successful examinations before the College Entrance Examination Board will be accepted in lieu of Matriculation examinations conducted by the University of Washington.

Examinations for Exemptions in English.—The department of English will give an entrance examination in English composition for those students who wish to attempt it, with the view to being excused from all or a part of the required course in college composition. It is hoped that a large number of entering students will present themselves for this examination, which will be held on the same dates as the regular entrance examinations.

REGISTRATION

Registration of all students for the autumn quarter will take place on Friday, Saturday and Monday, September, 24, 25, and 27, 1920; for the winter quarter on Monday and Tuesday, January 3 and 4, 1921; for the spring quarter, Tuesday and Wednesday, March 29 and 30, 1921; and for the summer quarter, Tuesday and Wednesday, June 21 and 22, 1921.

Applicants for admission who fail to send in full credentials in time to be checked before registration cannot be assured of an opportunity to register until after the regular registration dates.

Late Registration.—The dates noted above are officially set apart for registration and enrollment, and all students are expected

* To count as a “unit” a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.
to complete their registration (including payment of all required fees) in those days. Students who fail to do this are charged an additional fee of $2 for the first day's delay, and a further cumulative fee of $1 for each day thereafter during the first week following the final official registration date. After the first week following the final official registration date, no student will be permitted to register except by special action of the Board of Deans. Registration by proxy is not permitted.

Changes in Registration.—A fee of $1 is charged for each change made by a student in his election of studies after his registration is completed, unless such change is made upon the initiative of University authorities.

Requirements for Admission

Correspondence.—Credentials and all correspondence relating to admission to any college or school of the University should be addressed to the Registrar, University of Washington, Seattle.

Freshman Standing.—Freshman standing in the University is granted to any recommended graduate of a four-year accredited secondary school who presents fifteen units* of credit, distributed as follows:

(a) 3 units of English.
(b) 1 unit of algebra.
(c) 1 unit of plane geometry.
(d) 3 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented).
   (1) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
   (2) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).
   (3) History, civics, economics (at least one unit to form a year of consecutive work in history).
   (4) Physics, chemistry, botany, zoology, general biology, physical geography, geology, physiology. (Not less than one unit will be counted in physics, chemistry, or general biology. No science will be counted as applying on this requirement unless it includes a satisfactory amount of laboratory work).
(e) 2 units in subjects presented in the above groups (1) - (4).
(f) 5 units selected from subjects accepted by an approved high school for its diploma. Not less than one full unit will be counted in physics, chemistry, general biology, or a modern foreign language and not less than 2 full units in Latin. A maximum of 4 units will be counted in vocational subjects, except for admission to the College of Business Administration. For admission to this college only a maximum of 8 units in vocational subjects will be accepted, of which at least 4 units must be in commercial branches; and a student presenting 8 such vocational units and 2 units in history, and fulfilling requirements (a), (b), and (c), will be given freshman standing in that college without being held for requirements (d) and (e). If the student is transferred later to another college, only 4 vocational units will be counted, and the student will be required to meet the requirements (d) and (e).

A candidate who fulfills these requirements will be admitted to freshman standing in any of the colleges of the University. How-

* To count as a "unit" a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.
ever, if he has not taken in high school certain of the subjects recommended for admission to the college that he may decide to enter, he will take them in the University. These subjects may apply toward a degree, as far as elective courses make this practicable. In certain curricula, however, these subjects must be taken in addition to the prescribed subjects.

Entrance with condition, to freshman standing, is not permitted. Excess admission credit does not establish any presumptive claim for advanced standing, unless the student has taken a graduate course in the high school of at least one semester.

Specific Subjects Recommended for Admission to the Several Colleges

COLLEGES OF LIBERAL ARTS AND SCIENCE (GENERAL COURSES)

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
* 2 units in one foreign language.

CURRICULUM PREPARATORY TO MEDICINE (COLLEGE OF SCIENCE)

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
1 unit of United States history and civics.
1 unit of medieval and modern history.
1 unit of physics.
2 units of either French or German.

CURLRICULUM FOR NURSES (COLLEGE OF SCIENCE)

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
1 unit of United States history or civics.
1 unit of medieval and modern history.
2 units of either French or German.

CURRICULUM IN HOME ECONOMICS (COLLEGE OF SCIENCE)

For admission to any of these curricula, a student may satisfy the entrance requirements of either the College of Science or the College of Liberal Arts.

COLLEGES OF EDUCATION AND FINE ARTS*

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
2 units in one foreign language.
1 unit in one of the following: physics, chemistry, botany, zoology.
1 unit in a history course.
or 1/2 unit U. S. history, and 1/2 unit civics.

COLLEGE OF BUSINESS ADMINISTRATION

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
2 units of history, (American and modern history preferred).

* Beginning with 1921, two years of one foreign language will be definitely required for admission to the College of Liberal Arts, the College of Science, or the College of Fine Arts. For the College of Science this language must be French or German; for the College of Fine Arts any modern foreign language; for the College of Liberal Arts any foreign language. If the requirement has not been met in high school, it must be made up in college without credit.
ENTRANCE INFORMATION

COLLEGES OF ENGINEERING AND MINES

3 units of English.
1 1/2 units of elementary and advanced algebra.
1 1/2 units of plane and solid geometry.
1 unit of physics.

COLLEGE OF FORESTRY

3 units of English.
1 1/2 units of elementary and advanced algebra.
1 1/2 units of plane and solid geometry.
1 unit of physics.
1 or 1/2 unit of botany.
2 units in one foreign language.

COLLEGE OF PHARMACY

For the two-year and three-year courses:

3 units of English.
1 unit of algebra.
1 unit of plane geometry.

For the four-year course:

3 units of English.
1 unit of algebra.
1 unit of plane geometry.
2 units in one foreign language.
1 unit in one of the following: physics, chemistry, botany, zoology, physiology, general biology. (Must include satisfactory amount of laboratory work).

COLLEGE OF FISHERIES

3 units of English.
1 unit of algebra.
1 unit of plane geometry.

SCHOOL OF LAW, LIBRARY SCHOOL AND SCHOOL OF JOURNALISM (See following page.)

Unclassified Standing.—A graduate of a four-year accredited secondary school who does not meet the requirements for admission to freshman standing may, upon recommendation of his principal, be admitted as an unclassified student. Such a student will be allowed to enroll for those courses only for which he has had adequate preparation. By virtue of his classification, he is not a candidate for a degree, but he may ultimately become a candidate for a degree by fulfilling as part of his college prescriptions all the requirements for entrance to and graduation from the college in which he is registered.

Special Students.—All courses offered by the University are organized for regular students, that is, students who have had the equivalent of a good high school education fully covering college entrance requirements. Under certain regulations, however, a student who cannot be admitted to freshman standing or as an unclassified student, may be admitted, classified as a special student, and allowed to register for those courses only for which he shows special preparation.
The number of such students admitted is necessarily limited by the facilities of the University. The regulations governing the admission of special students are as follows:

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

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

3. All available certified credits for previous school work must be submitted to the Registrar and an application blank for admission as a special student filled out, giving, in addition to other information, the kind of work desired, the reasons for desiring such work, and, when no credits can be presented a detailed statement of any previous educational work and practical experience. When it seems necessary to assure the applicant's preparation for the particular courses desired, an examination will be required.

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

5. By virtue of his classification, a special student is not eligible for any degree. He may ultimately become a candidate for a degree, however, by completing the admission requirements of the college in which he is registered.

6. Persons desiring to be admitted as special students will apply to the Registrar for the necessary application and credential blanks.

In order that applicants for admission as special students may receive full consideration, their applications should be filed with the Registrar four weeks, at least, before the beginning of the quarter in which the applicant wishes to attend the University.

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

Admission to the School of Law, Library School and School of Journalism.—Clear entrance to the College of Liberal Arts or the College of Science, and 102 hours (2 years) of advanced credit in freshman and sophomore courses, covering all prescriptions for the
junior certificate, are required for admission to the School of Law the Library School and the School of Journalism.

Admission of Normal School Graduates to Advanced Standing.—Graduates of the normal schools of this state and of institutions of like standing elsewhere, who have completed at least two full years of normal school work after graduating from a four-year accredited high school, will be admitted to junior standing in the Colleges of Liberal Arts, Science, or Education. For graduation with the degree of bachelor of arts, bachelor of science or bachelor of education, these students are required to earn a minimum of 90 credits in the University, including the satisfaction of such of the requirements for graduation from the respective colleges as have not been fairly covered by previous work. Normal graduates desiring admission to any of the other colleges of the University will be given such credit or exemption as their preparation may justify.

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

Auditors.—With the consent of the instructors concerned, any mature person, not registered as a student in the University, may be enrolled at the Registrar's office as an auditor in not more than two courses, without payment of any fee. This provision does not apply to laboratory courses, or to any courses offered in the summer quarter.

No such person may regularly attend any course in which he has not been registered, or enrolled as an auditor.

EXPENSES

Tuition.—By authority of a special act of the legislature of the State of Washington passed in 1919, vesting the Board of Regents with full power to modify existing fees and to establish new ones, the following fees became effective at the opening of the summer quarter of 1919.

University Tuition.—A general tuition fee of $10 per quarter will be collected from each student at the beginning of each quarter, excepting as noted below under "exemptions."

Law Tuition.—In addition to the general university tuition fee of $10 paid by each student, a special tuition fee of $10 a quarter will be collected from all students registering in the School of Law. Students taking work in the School of Law and also in other schools and colleges of the University will pay at the rate of $1 for each credit hour of law work elected.

Short Courses.—The tuition for registration in all short courses, such as mining, forestry, fisheries, and marine biological station is the same as for any quarter, viz. $10.
Exemptions.—Any honorably discharged soldier, sailor, marine, or nurse, who served during the war with Germany, is entitled to register and attend courses without the payment of any fees except special or individual instruction fees and except student laboratory deposit fees and disciplinary fees.

The university authorities may, in their discretion, also grant exemption from the payment of tuition for a given quarter to a limited number of students who after one quarter of residence at the University have shown themselves worthy from the standpoint of scholarship and financial need.

Application for the war, as well as the scholarship, exemption must be made in person to the Dean of Men or the Dean of Women. In the case of war exemptions, proper evidence of an honorable discharge must be offered.

Refunding of Fees.—Tuition fees are not returnable in whole or in part, except that in extreme cases, one-half of such tuition may be returned in case the student is compelled to withdraw within sixty days of the date of his registration by reason of sickness or other causes entirely beyond his control. Students withdrawing under discipline forfeit all rights to the return of any portion of the fees.

No part of the tuition may be refunded under any circumstances after sixty days from the date of the student’s registration.

Associated Students’ Fee.—The regular Associated Student fee has been increased from $5 to $10 for the year (exclusive of the Summer Quarter).

This fee may, at the option of the student, be paid entirely in advance, subject to refunds designated by the A. S. U. W., or it may be paid $5 for the first quarter, and $2.50 each for the second and third quarters. The corresponding fee for the Summer Quarter is $1.

Payment of this A. S. U. W. fee is optional with graduate students, teachers attending classes on Saturdays only and at irregular hours, regularly enrolled extensions students, any students registered for not more than six hours of work, and Seattle teachers who have served or are serving the University by training cadet teachers. Provided their cases have been reported to the Registrar by the department of education.

University Health Service.—A health service is maintained by the University in conjunction with the Associated Students. Ten per cent of the fees collected by the Student Association, for its special activities, are assigned to the health fund, out of which the infirmary is maintained. The University provides a suitable building, with equipment, a corps of two physicians and two nurses. The infirmary contains medical offices for both men and women, nurses’ offices and quarters, and 40 beds. Medical advice and
office treatment are available at all times. If a student is taken ill and is unable to call at the medical office, he should notify the infirmary clerk and the public health nurse will call upon the patient. The disposition of the case is determined on report of this visit. If the patient is a contagious suspect, or if he is in unsatisfactory quarters, he is taken to the infirmary and cared for free of cost, except for board. If serious disease develops he is transferred to one of the Seattle hospitals of his choice, and further responsibility of the University health service ceases. In the event of scarlet fever, or smallpox, the patient is sent to Firlands Sanitarium and cared for by the city. A local physician may be called in at any time at the patient's expense.

LABORATORY DEPOSITS

The actual amount of material that a student may use during a laboratory course cannot always be stated in advance. The student's deposit therefore, as announced in the catalogue, and made at the Comptroller's office, is an amount which is expected to cover the value of the material that will be consumed; this includes the expense involved in the actual repair—and replacements—of the scientific apparatus used by the student. In case these charges overrun this amount it becomes necessary for the student to make a further deposit. At the end of the quarter the student receives a rebate order from the department concerned, which informs the Comptroller as to the amount consumed and a refund is paid accordingly. This rebate order must, however, be presented for payment on or before September 15 next following the date of the receipt. The books are closed after this date and no orders will be honored thereafter.

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

Anatomy.—105, 106, 107—$3; 104—$5; 101, 102, 103—$7.50; 108 to be arranged.

Astronomy.—1, 3, 11, 124, 125—$1; 123, 171—$2; 172—$5.

Architecture.—54, 55, 56, 104, 105, 106, 154, 155, 156—$2.


Botany.—8, 9, 10, 271, 272, 273—$1; 13, 14—$1.50; 1, 2, 3, 11, 12, 26, 53, 105, 106, 107, 119, 130, 140, 141, 142, 143, 144, 145, 200, 233, 250, 251, 252, 253, 254, 261, 262, 263, 279, 280—$2.

Chemistry.—All courses—$5; breakage ticket—$5; desk key—$.50.

Civil Engineering.—1, 4—$1; 21, 22, 23, 24, 27, 55, 56, 142—$1.50; 30, 38—$2; 167—$3.
Economics and Business Administration.—1, 7, 11, 12, 51, 53, 57, 58, 64, 65, 66, 84, 85, 86, 100, 102, 103, 105, 151—$1; 115—$2.50; 81, 82, 83—$3.

Education.—171, 186, 187—$1.


Forestry and Lumbering.—5, 53, 104—$1; 1, 51, 52, 58; 101, 102, 105—$2; 183, 187, 188, 213, 214—$3.

Geology.—1, 2, 5, 11, 12, 31, 32, 112, 113, S. C. 1—$1; 120, 121, 123, 124, S. C. 2—$2; 21—$3.

Home Economics.—8, 11, 12, 189, 200—$1; 143—$1.50; 25, 32, 35, 101, 102—$2; 105, 106, 107, 108, 130, 131—$3; 1, 2, 3, 4, 103, 121, 135, 150—$4; 5, 6—$6.

Journalism.—51, 52, 53, 61, 62, 63, 75, 76, 77, 101, 102, 103, 105, 120, 121, 122, 130, 131, 132, 135, 136, 140, 141, 142, 160, 161, 162, 170, 171, 172, 173, 174, 175—$2; (maximum deposit for any one student first three quarters—$4.)

Library Science.—One or more courses—$1; collected first two quarters.

Lockers.—$.50 per year at Mines, Chemistry and Engineering buildings.


Mines and Mining.—21—$2; 101, 151—$3; 152, 176—$5; 154, 155—$5 or $10.


Ceramics.—110, 111, 120, 121, 122—$5; 130, 131, 132—$5 or $10.

Music.—31, 32, 33, 68, 69, 70, 118, 119, 120, 168, 169, 170—$15 to $27 the quarter for one lesson hour according to instructor; practice rooms, 1 hour—$3; 2 hours—$5; pipe organ for practice, 1 hour—$5 per month.

Painting, Sculpture and Design.—5, 6, 7, 9, 10, 11—$1; 53, 54, 55, 72, 73, 74, 103, 104, 157, 158—$2; 56, 57, 58, 107, 108, 109, 160, 161, 162, 163, 164, 165—$3.

Pharmacy.—15—$1; 9, 10, 11—$2.50; 1, 2, 5, 6, 7, 37, 38, 39, 105, 106, 107, 108—$5; 109, 110, 111, 113, 114, 115, 121, 122, 123, 201, 202, 203 to be arranged; breakage ticket—$5; desk key—$.50.
ENTRANCE INFORMATION

Physical Education and Hygiene.—$1 per year, locker and apparatus; paid by all taking one or more courses. Women's suits, style and cost to be arranged.

Physics.—1, 2, 3, 47, 48, 49, 50, 51, 89, 90, 92, 93, 97, 98, 99, 114—$1.75.

Political Science.—1—$1.

Psychology.—1—$1.

Zoology and Physiology.—1, 2, 3, 4, 5, 7, 51, 101, 103, 106, 107, 155, 156, 157—$2; 54, 55, 56—$3; 151, 152—$5.

Uniform Deposits.—Each student who is held for military drill is required to make a deposit of $15 before he draws his uniform. Fourteen ($14) dollars of this amount is returnable upon the presenting of proper clearance papers from the Military Headquarters: The one ($1) dollar is retained as a breakage fee.

Special Examinations.—A fee of $1. will be charged for all examinations given outside of the regular schedule.

Late Registration.—A penalty of $2. is imposed for the first day's delay in registering and $1. per day additional thereafter up to the close of the week during which registration is permitted.

Changes of Registration.—A fee of $1. will be charged for changes in election, including additions or withdrawals of individual courses, after completion of registration.

Graduation 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 teacher's diploma. This teacher's diploma fee does not include the legal registration fee of $1 paid to the county school superintendent who first registers a teacher's diploma.

Board and Room.—The University Dormitories consist of Lewis Hall and Clark Hall for women and Lander Hall and Terry Hall for men. During the past year, the young women paid $28.50 a month for board and room at their residence halls and the young men paid $30. It now seems probable that no change will be necessary in these rates for the ensuing year. The rooms are furnished with necessary articles of plain furniture, but the student is expected to supply his own bed linen, bedding, towels, and rugs.

An amount equal to the first month's account is paid in advance and left on deposit to be applied on the board and room account for the last month of the school year.

All remittances should be made in favor of the University of Washington and be addressed to the Comptroller of the University of Washington, Seattle.
The University also operates The Commons on the campus where students so desiring may secure the best of food at reasonable rates, cafeteria style.

Outside the campus, board and room may be secured at rates ranging from $40. to $50 a month.

Student Help.—A considerable number of students who have found it necessary to support themselves, in part or wholly, while at the University, have been enabled to do so by securing occupation of various sorts. There is an employment bureau conducted by the Y. M. C. A. to secure work for men who have to make their own expenses. There is also a faculty committee which lends its assistance in securing aid for such students. The dean of women renders a similar service for women.

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

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

ACADEMIC AND VOCATIONAL GUIDANCE

Vocational Secretary.—The office of vocational secretary has been newly created to assume the responsibility of all placement work. It is desirable that every student have a conference with the vocational secretary sometime before graduation. The office is also available to undergraduates for the purpose of advisement. The vocational secretary is also the executive secretary of the alumni association of the University. A great mutual service may be rendered by reporting to this office any positions open that would be of interest to university graduates. Offices, Administration Hall.

Dean of Men.—When entering the University, young men who have not fully decided on a vocation for life are urged to consult the Dean of Men. Through his office the University is attempting to direct men into vocations for which they are naturally adapted and to point out lines of work in which there is an insufficient supply of well trained men. The dean is always ready, also, to aid students in any of their individual or group problems.

Dean of Women.—The Dean of Women is always ready to help or advise any woman student who may need assistance. She will supply lists of approved boarding and lodging places, correspond with parents or guardians who desire to make inquiry concerning their daughters or wards, give advice regarding courses of study, and offer vocational information of a general nature. She acts as counselor to the officers of organizations for women and supervises all student houses of residence.
ENTRANCE INFORMATION

STUDENT GOVERNMENT

As a result of action taken by the A. S. U. W. and ratified by the faculty, the plan has been adopted of having the student members of the board of control act as a discipline committee to deal with cases of misconduct among students. The success of this plan makes it probable that before long student government will be still further advanced.

DEGREES

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

Degrees With Honors.—A degree with honors may be conferred upon a student who, upon recommendation of the honors committee and upon vote of the faculty is declared worthy of unusual distinction. Early in May each head of a department brings to the attention of the committee on honors such seniors majoring in his department as he thinks may be eligible for honors. A student is not allowed to take honors in more than one subject.

The University Normal Diplomas.—The University is authorized by law to issue teacher's diplomas, valid in all public high schools of the state. Candidates for these diplomas should register in the department of education as early as possible after the beginning of the sophomore year, and should consult with the department from time to time as to their work for the diploma and their preparation for teaching. Fuller information may be found in the bulletin of the College of Education.

FELLOWSHIPS, SCHOLARSHIPS AND AID

Graduate Fellowships.—By the will of Sarah Loretta Denny the sum of $25,000 was bequeathed to this University for the establishment of university fellowships. The income from this fund is at present $1,250, and affords three graduate fellowships of equal amount, which will be awarded by May 1 of each year by the graduate faculty.

Six Arthur A. Denny Fellowships of $500 each, open to students in the departments of civil engineering, education, English, history, mining engineering, and pharmacy respectively. Awarded by the departments concerned on the basis of scholastic excellence and general merit, but only to those who need financial assistance. Applicants must be residents of the state of Washington. Applications for these fellowships should be made to the heads of the departments concerned on blanks supplied by them, and must be in their hands on or before March 15 preceding the academic year for which the fellowships are to be granted.

Fellowships in physics and chemistry, offered by the National Research Council, are open to promising research students, prefer-
ably those who have already taken the doctor's degree. A successful candidate can pursue his research at the University. The salary will ordinarily be $1500 for the first year. Fellows are eligible for successive reappointments, ordinarily with increase of salary.

The College of Mines of the University in cooperation with the United States Bureau of Mines offers five fellowships in mining and metallurgical research. The fellowships are open to graduates of universities and technical schools who are properly qualified to undertake research work. The value of each fellowship is $720 per year of twelve months. Fellowship holders are required to register as graduate students and to become candidates for the degree of master of science in mining engineering or metallurgy, unless an equivalent degree has previously been earned. Applicants are due not later than May 15, and should be addressed to the Dean, College of Mines, University of Washington, Seattle, Washington.

The university honor fellowships are awarded annually, under the same scholarship qualifications as those obtaining for the Loretta Denny fellowships.

The Mars Fellowship.—A research fellowship in astronomy, given by the late Dr. Percival Lowell, of the Lowell Observatory, Flagstaff, Arizona, carrying a stipend of $600, may be awarded annually.

University Teaching Fellowships.—The University each year provides a number of teaching fellowships in various departments. The graduate student receiving such a fellowship divides his time equally between his studies and assistance in the teaching work of the department in which he is enrolled.

Columbia University Fellowship.—Columbia University offers each year a fellowship of $250, open to students in mining, engineering, and chemistry.

Isabella Austin Scholarship.—The Isabella Austin scholarship for entering freshmen women was established in 1916 from the income of a fund given in memory of Isabella Austin, Dean of Women, University of Washington, 1909-1915. The award is made annually to a young woman of promise on the basis of scholarship and financial need.

Chemistry Scholarship.—An anonymous donor offers a scholarship of $100 annually to the student doing the best work in chemistry.

Senior Scholars.—In June preceding their senior year, juniors who have 132 or more credits with high grade may be elected senior scholars. A senior scholar may be relieved from attendance at regul-
lar lectures or recitations, and may be granted other special privileges in order that he may devote himself to more intensive and more correlated study than the classroom system permits. His work must be in not less than two or more than four allied subjects and it must be correlated so that it will bear upon some common field.

The Rosenberg Scholarship.—Mrs. Ella S. Rosenberg of Seattle has established a scholarship in French to be known as the "Samuel Rosenberg Scholarship, endowed in loving memory by his wife, Ella S. Rosenberg." This scholarship produces $200 a year, and is to be awarded annually to the student who, in the opinion of the department, is the most worthy of it. In making this award, account will be taken of the scholarship, personality and needs of the candidates.

Washington Alumnae Scholarship.—The Washington Alumnae offers an annual scholarship of $100 to be awarded to a woman member of the Junior Class on the basis of scholarship, activity in student affairs, personal character and wholesome influence in university life.

The DuPont Scholarship.—The E. I. DuPont de Nemours & Company of Wilmington, Delaware, offers an annual scholarship of $350 for the purpose of encouraging advanced students to continue the study of chemistry. The scholarship is to be granted to a senior or graduate student who makes chemistry or chemical engineering his major subject.

Imperial Order of Daughters of British Empire Scholarship.—The Vimy Ridge Chapter of the Imperial Order of the Daughters of the British Empire offers an annual prize of $100 for an essay on some phase of history, politics, philosophy or sociology making distinctly for the maintenance and development of good relations between Great Britain and the United States. It is open to all students.

Prizes

For Excellency in Public Speaking and Debate.—Judge Alfred Battle offers an annual cash prize of $75 to the Washington debating team chosen to meet representative debaters from the University of Oregon.

Each alternate year, beginning with the spring of 1908, the Seattle Bar Association gives the sum of $50 to defray the expenses of a debate between the representatives of the law schools of Oregon and Washington.

For Essays.—The Philo Sherman Bennett prize of twenty-four dollars annually is "for the best essay discussing the principles of free government."
In memory of the Hon. Edwin A. Jaggard, late justice of the supreme court of Minnesota, Miss Anna Wright Jaggard offers an annual cash prize of $50 for the best essay on a topic connected with courses in history of law or jurisprudence.

The University State Bank offers an annual cash prize of $25 for the best essay on banking, submitted by a student in the College of Business Administration.

The Judge Kenneth Mackintosh Prize in Debate.—Judge Kenneth Mackintosh offers an annual prize of $75 to the University of Washington debating team, consisting of two men, who compete with Leland Stanford Junior University in debate.

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

Men's Freshmen Latin Prize.—Through the kindness of a friend of the University, a prize of $50 in gold will be awarded to the man in the freshman class who passes the best examination in Latin work of the year.

Sophomore Latin Prize.—A cash prize of $25, from an anonymous donor, will be awarded to that member of the sophomore class who has done the best work in Latin during the year.

For Scholarship in French.—Judge Thomas Burke offers two cash prizes, one of $15 and one of $25, for general excellence in French.

Military Science Prize.—The members of the Non-Commissioned Officers Training School have established a fund of $400, the income of which shall be utilized as a prize to be awarded to the student completing his junior year with the highest honors in military science.

The A. B. C. China Club Prize.—The A. B. C. China Club Prize of $25 is awarded annually for the best pamphlet giving in outline a statement of facts concerning China that would be of particular interest to business men.

The Burke China Club Prize.—The Burke China Club Prize of $25 is awarded annually for the best essay on some subject related to the Chinese Literature, History or Language. Competitors are restricted to those who have had at least one term's work in Chinese Literature, History or Language.

The Frank Buty Prize in Italian.—The Frank Buty Prize of $20 is offered annually for the best essay on some subject related to the Italian Language and Literature.
The Kellogg Prize in Architecture.—The William W. Kellogg Prize of $20 is awarded annually for competitive work in architecture and design and is open to juniors and seniors.

The Denny-Renton Clay Company Prize.—An annual prize of $25. for the best design in architectural terra cotta. Open to juniors and seniors in architecture. Program arranged by the department of architecture. The designs are judged by a jury of visiting architects.

STUDENT LOAN FUNDS

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

Several minor loan funds have been established which help considerably in the efforts of the university authorities to assist students, both men and women, through financial emergencies. These are placed at a low rate of interest in small amounts for short periods. Young women interested in securing this assistance should consult the Dean of Women.

ASSOCIATIONS AND CLUBS

Alumni Association.—The permanent executive secretary of the Alumni Association is J. G. Fletcher, who is also vocational secretary of the University, with offices in Administration Hall.

The Associated Students.—The Associated Students of the University of Washington (incorporated) is an organization of the entire student body. This corporation transacts annually a business of over $200,000 and includes the operation of the Student Co-operative Book Store, the University of Washington Daily, and all the other activities of the students. The students have vested the power of government in an annually elected board of control, composed of seven representatives from the undergraduate students, one representative from the graduate students, three representatives from the faculty, three from the alumni, and the president of the A. S. U. W., who acts as chairman of the board. This board appoints the coaches for the various sports, the manager of the book store, the manager of the Daily, and a general manager who has the financial control of all branches of athletics, musical organizations, and contests in debate and oratory. The general manager in turn appoints student assistants for the various activities. The Associated Student fee
of $10 a year, entitles the student to a subscription to the University of Washington Daily, free admission to all athletic, debating, and oratorical contests given under the auspices of the A. S. U. W., the annual musical concert, the discounts in the co-operative book store, and to all the voting and other privileges of the Association.

Christian Associations.—The Young Men's and Young Women's Christian Associations each maintain an organization among the students. They are active in making the new students feel at home and in assisting them in many ways. The "W" book or student handbook will be ready for distribution at registration time. The University Y. M. C. A. is located in the Men's building, and will be glad to assist all men of the University in finding rooms, and part-time employment if desired.

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

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

The Pacific Coast Triangular Debating League, consisting of the Universities of Washington, Oregon, and Stanford, holds an annual triangular debate. Each institution has two teams, representing the affirmative and negative of the question under discussion.

The men of the University also have dual debate leagues with Whitman College, Oregon Agricultural College and British Columbia University.

The women of the University have similar dual leagues with the University of Oregon and Whitman College.

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

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

Honor Societies.—The following honor societies have been established at the University: Phi Beta Kappa, Sigma Xi, Phi Delta Phi, Phi Delta Chi, Phi Delta Kappa, Phi Lambda Upsilon, Tau Kappa Alpha, Theta Sigma Phi, Sigma Delta Chi, Mim Kaph Mim, Tau Beta Pi, Mu Phi Epsilon, Alpha Kappa Psi, Beta Gamma Sigma, Phi Sigma Chi, Phi Lambda Theta, Hammer and Coffin, Phi Delta Delta, Phi Alpha Delta, Pan Xenia.
WASHINGTON UNIVERSITY STATE HISTORICAL SOCIETY.—The Washington University State Historical Society has for its purpose the preserving of the historical documents and records of the Northwest and of the state of Washington, and to preserve or publish the results of all investigations.

GENERAL SCHOLASTIC REGULATIONS

STUDIES

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

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

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

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

PHYSICAL EXAMINATIONS

All students on entering the University for the first time are required to present themselves for physical examination at the call of the Department of Physical Education. Failure to be examined constitutes a delinquency on the records.

REGULATIONS FOR WITHDRAWAL

Withdrawal is the voluntary severance by a student of his connection with a course or with the University and is indicated on the registrar's books by a "W." During the first four weeks of a quarter, a student may withdraw from a course and be given a "W" with the written consent of his dean and his instructor. If he desires to withdraw at a later period, he may do so, as above, but if his work has not been satisfactory he shall be given an "E" instead
of a "W"; provided, however, that, if in either case, a withdrawal will reduce the student's hours below 12, it must be approved by his dean. A student who drops a course without withdrawing shall be given an "E" in the course.

**SCHOLARSHIP STANDING**

Any student who is reported at any time during a quarter as doing unsatisfactory work in two or more of his subjects, aggregating more than one-third of his registered hours, shall be placed on probation for the remainder of said quarter. If at the end of the quarter he fail in two or more subjects, aggregating more than one-third of his registered hours, he shall not be allowed to re-register except under conditions prescribed by his dean, who shall be his registering officer.

Appeal from the decision of the dean may be taken to the board of deans.

Any student who fails in two or more subjects, aggregating more than one-third of his quarter's work shall be placed on probation for the following quarter. If in said following quarter said student fail in more than one-half of his registered hours, he shall not be allowed to register except on recommendation of the board of deans.

Any student who fails in more than one-half of his registered hours, after the first quarter of residence, will not be allowed to re-register, except by permission of the board of deans.

**EXAMINATIONS**

The regular quarterly examinations are held during the last week of each quarter.

In certain courses running through two or more quarters the examination on the work of the first quarter is merely qualifying, final credit not being given until the examination for the entire course has been passed.

**SYSTEM OF GRADES**

1. The following is the system of grades:*  
   A ........................................... Honor  
   B ............................................. Intermediate  
   C .............................................  
   D .............................................  
   E ............................................. Failed  
   I ............................................. Incomplete

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

* These grades correspond approximately to the old marking scheme as follows: A, 100-96; B, 95-86; C, 85-76; D, 75-70; E, 70-0.
2. Candidates for the bachelor's degrees in the colleges of Liberal Arts, Science, Education, Business Administration, Fine Arts, Forestry, and the Library School and the School of Journalism, must receive grades of A, B, or C in three-fourths of the credits required for their respective degrees. This rule became operative in June, 1913, and does not apply to grades given before the year 1910-11.

FRATERNITY PLEDGING

No fraternity or sorority shall pledge any person for membership whose registration in the University is not complete.

Registration is complete when the election blank has been signed by the student and all required registering officers, when all required fees have been paid, and when all blanks have been left in the Registrar's office or other place designated by him.

No student having less than Junior standing shall be initiated into a fraternity or sorority until he or she has earned eighteen credits or provisional credits in two quarters, or fifteen in one quarter, at this University. Credits or provisional credits for work taken to remove entrance conditions may not be counted.

Candidates for initiation into either fraternities or sororities shall secure from the Registrar's office a certificate of eligibility.
COLLEGE OF LIBERAL ARTS

THE FACULTY

HENRY SUZZALLO, Ph. D. (Columbia), LL. D. (California), PRESIDENT
JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.
DAVID THOMSON, B. A., (Toronto), Professor of Latin; DEAN.
EDMUND STEPHEN MEANY, M. L. (Wisconsin), Professor of History.
J. ALLEN SMITH, Ph. D. (Michigan), Professor of Political Science.
CAROLINE HAVEN OBER, Professor of Spanish.
FREDERICK MORGAN PADELFORD, Ph. D. (Yale), Professor of English and Dean of the Graduate School.
WILLIAM SAVERT, Ph. D., (Harvard), Professor of Philosophy.
PIERRE JOSEPH FREIN, Ph. D., (Johns Hopkins), Professor of Romanic Languages.
OLIVER HUNTINGTON RICHARDSON, Ph. D., (Heldelberg), Professor of European History.
VERNON LOUIS PARRINGTON, A. B., (Harvard), A. M., (Emporia), Professor of English.
FREDERICK ELMER BOLTON, Ph. D., (Clark), Professor of Education and Dean of the College of Education.
EDWIN JOHN VICKNER, Ph. D., (Minnesota), Professor of Scandinavian Languages.
WILLIAM PIERCE GORSUCH, A. B. (Knox), Professor of Dramatic Art.
ALLEN ROGERS BENHAM, Ph. D., (Yale), Professor of English.
STEPHEN IYAN MILLER, JR., A. B., (Stanford), LL. B., (Michigan), Professor of Economics and Dean of the College of Business Administration.
RICHARD FREDERICK SCHOLZ, Ph. D., (Wisconsin), Professor of Ancient History.
FRED CARLTON ATER, Ph. D., (Chicago), Professor of Education.
ANTON DE HAS, PH. D., (Stanford), Professor of Business Administration.

LOREN DOUGLAS MILLIMAN, A. B., (Michigan), Associate Professor of English.
THOMAS KAY SIDET, PH. D., (Chicago), Associate Professor of Latin and Greek.
EDWARD MCMAHON, A. M., (Wisconsin), Associate Professor of American History.
GEORGE WALLACE UMPHREY, PH. D., (Harvard), Associate Professor of Romanic Languages.
OTTO PATZER, PH. D., (Wisconsin), Associate Professor of French.
VANDERVRE CURTIS, PH. D., (Harvard), Associate Professor of Economics.
THOMAS TALBOT WATERMAN, PH. D., (Columbia), Associate Professor of Anthropology.
EDWARD GODFREY COX, PH. D., (Cornell), Associate Professor of English.
CLIFFORD WOODY, PH. D., (Columbia), Associate Professor of Education.
WILLIAM DANIEL MOHARTY, PH. D., (Michigan) Associate Professor of Business Administration.
PALL HOWARD DOUGLAS, A. M., (Columbia), Associate Professor of Business Administration.
Harry Edwin Smith, Ph. D., (Cornell), Associate Professor of Business Administration.
ROBERT MAX GARRETT, PH. D., (Munich), Assistant Professor of English.
CHARLES MUNRO STRONG, PH. D., (Missouri), Assistant Professor of Spanish.
COLLEGE OF LIBERAL ARTS

WILLIAM THEODORE DARBY, A. M., (Columbia), Assistant Professor of English.

HARVEY BRUCE DUNSMORE, A. B., (Oxford), Assistant Professor of Greek.

ERNST OTTO ECKELMAN, Ph. D., (Heidelberg), Assistant Professor of German.

CHARLES LOUIS HELMLINGE, A. M., (Washington), Assistant Professor of Romanic Languages.

THESSA SCHMID McMAHON, Ph. D., (Wisconsin), Assistant Professor of Economics.

SEBASTIAN CLARK CLARKE, Ph. D., (Harvard), Assistant Professor of Latin and Greek.

MAST M. SKINNER, Ph. D., (Harvard), Assistant Professor of Business Administration.

WILLIAM EDWARD COX, A. M., (Texas), Assistant Professor of Business Administration.

CARL DAAN, B. S., (Missouri), Assistant Professor of Business Administration.

RALPH MASON BLAKE, Ph. D., (Harvard), Instructor in Philosophy.

HOMER EWART GREGORY, M. A., (Chicago), Acting Instructor in Business Administration.

WALTER BILL WHITTLAND, A. M., (Washington), Instructor in French.

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

JOSEPH BARLOW HARRISON, A. B., (Oxford), Instructor in English.

CLEMENT AHERMAN, A. M., (Harvard), Instructor in Economics.

VICTOR JOHN FARRAR, A. M., (Wisconsin), Research Assistant in History.

FRANK LAURIE, A. M., (Washington), Instructor in Economics.


MAX P. PHILBRICK, A. B., (Colby), Instructor in Romanic Languages.

KATE GREGO, Ph. D., (Washington), Instructor in English.

ELAYNE SIMON, (University of Geneva), Associate in French.

WILLIAM BROWN, (Pennsylvania), Professor of Zoology.

FREDERICA ARTHUR OSBORN, Ph. D., (Michigan), Professor of Physics and Director of the Physics Laboratories.

DAVID CONNOLLY HALL, M. D., (Chicago), University Health Officer and Professor of Hygiene.

LEWIS MACKAY GLEN, A. M., (Oregon), Professor of Music and Dean of the College of Fine Arts.

EFFIE ISABEL RAFFET, M. A., (Columbia), Professor of Home Economics.

STEVENVIN SMITH, Ph. D., (Pennsylvania), Professor of Psychology.

SAMUEL LAITKIR BOOTHEB, M. S., (Colorado Agricultural College), Associate Professor of Astronomy.

GEORGE BURTON HIGG, Ph. D., (Chicago), Associate Professor of Botany.

ALLEN FULMER CARPENTER, Ph. D., (Chicago), Associate Professor of Mathematics.

EDWIN JAMES SANDERS, A. M., (Harvard), Assistant Professor of Geology.

FRED HARVEY HEATH, Ph. D., (Yale), Assistant Professor of Chemistry.

MAY EMMA GROSS, A. M., (Columbia), Assistant Professor of Physical Education.

EDWARD BROWN, (Pa. State College), Instructor in Physical Education and Hygiene.

SAMUR EDWARD GOULD, M. A., (Harvard), Lecturer on Navigation.
THE COLLEGE OF LIBERAL ARTS

The College of Liberal Arts provides instruction in the languages, education, economics and business administration, history, philosophy, political science, and sociology. Together with the College of Science, it affords the student an opportunity to acquire a general education which shall serve as a sure foundation for real success in whatever profession he may choose. In both these colleges the junior certificate plan is in operation, through which the work of the high school is closely articulated with that of the college. In order to obtain the degree of bachelor of arts, it is necessary for the student first to obtain his junior certificate. This represents the satisfactory completion of the work of the first two years in college, and leads, after two more years of work, to the degree. The details of the plan are set forth below.

It is highly desirable that students entering the College of Liberal Arts from another institution should obtain from the registrar, as soon as possible, a statement of what they must do in order to be granted the junior certificate and later, their bachelor's degree. Otherwise, by failing to fulfill the requirements, they will find their graduation postponed for a quarter or more, despite the fact that they may have earned credits sufficient in number to entitle them to the degree.

*REQUIREMENTS FOR ADMISSION

Correspondence—Credentials and all correspondence relating to admission to any college or school of the University should be addressed to the Registrar, University of Washington, Seattle.

Freshman Standing.—Freshman standing in the University is granted to any recommended graduate of a four-year accredited secondary school who presents fifteen units* of credit, distributed as follows:

(a) 3 units of English
(b) 1 unit of algebra.
(c) 1 unit of plane geometry.
(d) 8 units selected from one of the following groups (or 2 units, if 3 units of mathematics are presented).
   (1) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
   (2) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).
   (3) History, civics, economics (at least one unit to form a year of consecutive work in history).
   (4) Physics, chemistry, botany, zoology, general biology, physical geography, geology, physiology. (Not less than one unit will be counted in physics, chemistry, or general biology. No science will be counted as applying on this requirement unless it includes a satisfactory amount of laboratory work).

*More detailed information concerning admission is furnished on pages 41-45.

†To count as a "unit" a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.
(e) 2 units in subjects presented in the above groups (1) - (4).

(f) 5 units selected from subjects accepted by an approved high school for its diploma. Not less than one full unit will be counted in physics, chemistry, general biology, or a modern foreign language and not less than 2 full units in Latin. A maximum of 4 units will be counted in vocational subjects, except for admission to the College of Business Administration. For admission to this college only a maximum of 8 units in vocational subjects will be accepted, of which at least 4 units must be in commercial branches; and a student presenting 3 such vocational units and 2 units in history, and fulfilling requirements (a), (b), and (e), will be given freshman standing in that college without being held for requirements (d) and (e). If the student is transferred later to another college, only 4 vocational units will be counted, and the student will be required to meet the requirements (d) and (e).

A candidate who fulfills these requirements will be admitted to freshman standing in any of the colleges of the University. However, if he has not taken in high school certain of the subjects recommended for admission to the college that he may decide to enter, he will take them in the University. These subjects may apply toward a degree, as far as elective courses make this practicable. In certain curricula, however, these subjects must be taken in addition to the prescribed subjects.

Entrance with condition, to freshman standing, is not permitted. Excess admission credit does not establish any presumptive claim for advanced standing, unless the student has taken a graduate course in the high school of at least one semester.

Grouping of Subjects in Preparation for Admission.—In addition to the three units of English and two units of mathematics required of all students for admission to the University, the student expecting to enter the College of Liberal Arts is advised to take as many as possible of the subjects specified on a succeeding page among ‘Requirement of the Lower Division,” under group 2, “Subjects Required Either in High School or College.” He should also note paragraph 4 on the same page entitled, “Subjects Conditionally Required in College.” A careful observance of these paragraphs will furnish a more complete preparation for college work, and will give the student correspondingly greater freedom of election in college.

Admission of Normal School Graduates to Advanced Standing.—Graduates of the normal schools of this state and of institutions of like standing elsewhere, who have completed at least two full years of normal school work after graduating from a four-year accredited high school, will be admitted to junior standing in the College of Liberal Arts. For graduation with the degree of bachelor of arts, these students are required to earn a minimum of 90 credits in the University, including the satisfaction of such of the requirements for graduation from the respective colleges as have not been fairly covered by previous work. Claims for advanced university credit based on excess normal credit will be passed on by a committee consisting of the registrar, the dean of the college and the heads of the departments concerned.
REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS

To secure the degree of bachelor of arts (A. B.) the student must complete not less than a total of 192 credits and must observe the restrictions in regard to major and group requirements, scholarship requirements, and the requirements of the lower division and upper division.

I. MAJOR AND GROUP REQUIREMENTS

(a) From 36 to 60 credits must be in a single department known as the major department (except that with a major in English, 10 credits in English 1-2 may be counted in addition to 60 credits in other English courses).

(b) The number of credits taken in the major and any other single department combined must not exceed a total of 96 (except that when English is combined with the major department for the purpose of this total, credits in English 1-2 may be disregarded).

(c) Not less than 72 credits must be in the group in which the major department falls. For this purpose the departments are grouped as follows:

Group 1. Language and Literature.—Classical languages and literature, English, German, Oriental literature, Romanic languages and literature, Russian, Scandinavian.

Group 2. Philosophical.—Economics and business administration, education, history, philosophy, political science, sociology.

The group requirement of 72 credits does not apply to majors in home economics.

II. SCHOLARSHIP REQUIREMENTS

Not less than three-fourths of the credits required for graduation must be earned with grades of A, B, or C.

III. REQUIREMENTS OF THE LOWER DIVISION

The work of the lower division comprises the studies of the freshman and sophomore years of the undergraduate curriculum and leads to the junior certificate. This work consists primarily of the elementary or introductory courses of the various departments.*

*Note.—The following (or their equivalents) constitute the courses of the Lower Division:

1. Modern Foreign Language: The first two years.
2. Ancient Language: Intermediate Latin; the first two years of college work; courses in civilization and literature.
3. English: Composition; freshman and sophomore literature.
4. Mathematics and the Natural Sciences: The elementary courses (1 and 2) or equivalents.
5. History: The introductory courses in each line, e.g., medieval and modern (1-2-3), American (57-59-59), English (5 and 6), ancient (71-72-73).
6. Philosophy and Psychology: Elementary or introductory course in each line, e.g., general psychology, introduction to philosophy, ethics, logic.
7. Political and Social Science: Introducing courses in economics, government, sociology.
Its aim is to supplement the work of the high school, to contribute to a broad general training in preparation for the advanced work of the upper division.

To receive the junior certificate the student must have earned not less than 90 college credits (together with required credits in military science or physical education), and must have completed, in high school and college together, the amount of work specified in the subjects mentioned below. In addition thereto, he must have satisfied the qualitative test prescribed in English composition. The object of these requirements is to secure for the student a knowledge of a wide range of subjects, to distribute his knowledge over the fundamental fields. To this end the high school and college are viewed as essentially a unit.

The required subjects are grouped as follows:

1. **Subjects Required in High School.**
   (a) English, 3 years (3 units).
   In addition to the completion of this amount of work in English, the student must show by a test examination **proficiency in English composition**, or he must take English composition in the University, as provided under requirement (c) below.
   (b) Elementary algebra, 1 year (1 unit).
   (c) Plane geometry, 1 year (1 unit).
   Subjects (a), (b), and (c) are those required of all students for admission to the University.

2. **Subjects Required Either in High School or College.**
   (d) A foreign language, 2 years (2 units or 20 credits). See note 5.
   (e) U. S. history and civics, 2 quarters (1 unit or 9 or 10 credits). See note 1.
   (f) History, 2 quarters (1 unit or 10 credits). See note 2.
   (g) Physics or chemistry, 2 quarters, (1 unit or 10 credits).
   (h) Botany or zoology, 2 quarters (1 unit or 10 credits).
   (i) Mathematics or science, 2 quarters (1 unit or 10 credits). See note 3.

3. **Subjects Required in College.**
   (j) Philosophy, psychology, 2 quarters, (10 credits).
   (k) Economics, political science, sociology, 2 quarters (10 credits).
   (l) Physical education or military science, 2 years (12 credits).

4. **Subjects Conditionally Required in College.**
   (m) Ancient life and literature, 2 quarters, (10 credits). See note 4.
   (n) Modern foreign language, 2 or more quarters, (10 or more credits). See note 5.

**NOTES**

1. Students who do not take United States history and civics in the high school must take History 57-58-60 in the University.

2. One year of history is required in addition to requirement (e). It may be satisfied in any year (1 unit or 9 or 10 credits) of history.

3. The requirement in mathematics or science is in addition to (b), (c), (g), and (h). It may be satisfied by any of the following combinations, viz., two quarters of a science, a quarter of each of two sciences, two quarters of mathematics, or a quarter of mathematics and a quarter of science.

4. Two quarters' work in ancient life and literature is required of all students who have not taken, or do not plan to take, 3 or more years of ancient language. For such students courses are offered in the University on the civilization of the ancients and on the literature in translation.

5. Beginning with 1921, two years of one foreign language will be required for admission to the College of Liberal Arts or the College of Science. If the requirement has not been met in high school, it must be made up in college without credit.

6. English composition is required for the junior certificate except in the case of those persons who show by examination proficiency in that subject. (See University calendar for dates of examination.)
Schedule Limitations of the Lower Division.—As a rule students in the lower division must confine their elections to courses designed for such students, viz., courses numbered 1 to 99 in the catalogue. A student, however, who has had the proper prerequisite or who may be deemed in intellectual maturity sufficiently qualified, may, with the consent of the dean and the instructor concerned, register for an upper division course. (In a foreign language a student who has had the proper prerequisite may be enrolled in an upper division course merely with the consent of the class adviser.) Students who are granted this privilege should be careful not to allow it to interfere with the completion of all lower division requirements by the end of the sophomore year; otherwise, an extra quarter of residence in that division may be necessary in order to secure the junior certificate and graduation may be correspondingly postponed.

No student in the lower division shall be registered for more than 16 credit hours per quarter (exclusive of military science and physical education) or for less than 12 credit hours per quarter, except with the consent of the dean.

IV. REQUIREMENTS OF THE UPPER DIVISION

The upper division comprises the studies of the junior and senior years. It consists principally of the advanced work of the undergraduate curriculum, and is therefore differentiated, both in content and method, from that of the lower division.

To be enrolled in the upper division, the student must have completed all requirements for the junior certificate. The minimum amount of work to be done in the upper division will vary from 96 to 84 hours of credit, according to the number of credits offered for the junior certificate. The student must earn not less than 84 hours of credit (exclusive of physical education) while enrolled in the upper division. At least 60 of the credit hours taken in the upper division must be in upper division courses (Nos. 100 to 199). Of these 60 hours a minimum of 18 must be taken in the major subject.

Schedule Limitations of the Upper Division.—No student in the upper division shall be registered for more than 16 or less than 12 credit hours per quarter, except with the consent of the dean. A maximum of 19 hours per quarter may be granted to students who have made an exceptional record in scholarship in the lower division and who maintain that record in the upper division.

Scheme of Electives

For the purpose of election, outside the major department, the College of Liberal Arts, the College of Science, the College of
Education, the College of Business Administration and the School of Journalism are treated as one.

The following courses given outside the College of Liberal Arts may be counted toward a bachelor of arts degree. Not more than 24 such credits altogether shall be counted toward this degree except that from the College of Fine Arts 36 credits may be so counted.

**College of Pharmacy.**—Materia medica, therapeutics, toxicology. Total amount allowed, 12 credits.

**College of Engineering.**—Mechanical drawing, descriptive geometry, surveying, direct currents, alternating currents. Total amount allowed, 18 credits.

**College of Mines.**—General metallurgy.

**College of Fine Arts.**—A total number of 36 credits in the College of Fine Arts may be counted toward the bachelor of arts degree.

**College of Forestry.**—General forestry, characteristics of trees, forest economics, silviculture. The maximum number of hours elective from these subjects is 18.

**School of Law.**—Agency, constitutional law, contracts, general business law, equity, persons, property. From these subjects a total of 18 credits may be counted toward the bachelor of arts degree by a student majoring in the philosophical group; a total of nine credits may be so counted by a student majoring in any other group.

**SIX-YEAR ARTS AND LAW CURRICULUM**

This combined course allows the student with a good record to obtain an A. B. and an L. L. B. in six years. It is open only to those students who have maintained a uniformly good record for scholarship during the first three years of collegiate work. At the end of three years, after the student has earned 147 credits, including 12 credits in military science or physical education and including all of the required work, together with a major, he may for the fourth year register in the School of Law for the first year’s work in law. He must, however, earn in the College of Liberal Arts additional credits sufficient to make the total credits amount to 156. Thirty-six credits in the first year law work may apply toward the A. B. degree, thus making 192 credits required for this degree.

The last two years of this combined course are devoted to completing the rest of the required work in the School of Law.

Students are strongly advised to complete their full 147 credits in the College of Liberal Arts by the end of the third year so that they can enter the law work clear in the fourth year.
Students from other institutions entering this University with advanced standing may take advantage of this combined course, provided they are registered in the College of Liberal Arts for at least one full year of work, and earn at least 45 credits in this University before entering the School of Law.

This privilege will not be extended to normal graduates attempting to graduate in two years, nor to undergraduates of other colleges who enter this University with the rank of senior.

COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
COLLEGE OF SCIENCE

THE FACULTY

HENRY SUZIALLO, PH. D. (Columbia), LL. D. (California), PRESIDENT

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES

HENRY LANDES, A. M. (Harvard), Professor of Geology; DEAN

THEODORE CHRISTIAN FAYZ, PH. D. (Chicago), Professor of Botany.

TREVOR KINGLAD, A. M. (Washington), Professor of Zoology.

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

ROBERT EDWARD MORITZ, PH. D. (Nebraska), PH. D. (Strassburg), Professor of Mathematics.

DAVID CONNOLLY HALL, SC. M., M. D. (Chicago), Professor of Hygiene and University Health Officer.

HARRY KIRKES BUNSON, PH. D. (Columbia), Professor of Industrial Chemistry.

JOHN WHINZIE, DR. F. H. (Harvard), Professor of Bacteriology.

ERWIN ISAAC RAYT, M. A. (Columbia), Professor of Home Economics.

STEVENSON SMITH, PH. D. (Pennsylvania), Professor of Psychology.

SAMUEL LETIKIE BOOTHBOD, M. S. (Colorado Agricultural College), Associate Professor of Astronomy.

WILLIAM MAURICE DEHN, PH. D. (Illinois), Professor of Organic Chemistry.

GEORGE MCPHAIL SMITH, PH. D. (Freiburg), Professor of Inorganic Chemistry.

CHARLES EDWIN WAVER, PH. D. (California), Associate Professor of Geology.

ALLEN FULLER CARPENTER, PH. D. (Chicago), Associate Professor of Mathematics.

HUYNE LOUIS EAKER, PH. D. (Cornell), Associate Professor of Engineering Physics.

GEORGE BURTON RIGG, PH. D. (Chicago), Associate Professor of Botany.

JOHN L. WORCESTER, M. D. (Med. School, University of Alabama), Associate Professor of Anatomy.

GEORGE CHARLES EMBODY, PH. D. (Cornell), Acting Associate Professor of Fish Culture.

EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.

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

ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of Zoology.

GRACE GOLDEN DUNN, M. A. (Columbia), Assistant Professor of Home Economics.

JOHN WILLIAM HOBSON, PH. D. (Harvard), Assistant Professor of Botany.

LAWRENCE IRVING NIKIRI, PH. D. (Pennsylvania), Assistant Professor of Mathematics.

SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Assistant Professor of Physics.

HARLEY W. WINN, PH. D. (Johns Hopkins), Assistant Professor of Mathematics.

BARBARA HARRIET BARTLETT, B. S. (Columbia), Assistant Professor of Nursing and Public Health.

HELMAN VANCE TAYLOR, B. S. (Oregon Agricultural College), Acting Assistant Professor of Chemistry.
(f) 5 units selected from subjects accepted by an approved high school for its diploma. Not less than one full unit will be counted in physics, chemistry, general biology, or a modern foreign language and not less than 2 full units in Latin. A maximum of 4 units will be counted in vocational subjects, except for admission to the College of Business Administration. For admission to this college only a maximum of 8 units in vocational subjects will be accepted, of which at least 4 units must be in commercial branches; and a student presenting 8 such vocational units and 2 units in history, and fulfilling requirements (a), (b), and (c), will be given freshman standing in that college without being held for requirements (d) and (e). If the student is transferred later to another college, only 4 vocational units will be counted, and the student will be required to meet the requirements (d) and (e).

A candidate who fulfills these requirements will be admitted to freshman standing in any of the colleges of the University. However, if he has not taken in high school certain of the subjects recommended for admission to the college that he may decide to enter, he will take them in the University. These subjects may apply toward a degree, as far as elective courses make this practicable. In certain curricula, however, these subjects must be taken in addition to the prescribed subjects.

Entrance with condition, to freshman standing, is not permitted. Excess admission credit does not establish any presumptive claim for advanced standing, unless the student has taken a graduate course in the high school of at least one semester.

CURRICULA

I. ELECTIVE CURRICULA WITH A MAJOR IN ONE DEPARTMENT

In this division of the college, in order to secure the degree of bachelor of science, a student must complete a total of at least 192 credits, and must observe the restrictions in regard to a major subject, necessary scholarship, elections in other colleges and the requirements of the lower division and the upper division.

A. REQUIREMENTS IN A MAJOR SUBJECT

A student must earn from 36 to 60 credits in a single department, known as his major department. Not more than 96 credits may be counted in the major and one other department.

B. SCHOLARSHIP REQUIREMENTS

Not less than three-fourths of the credits required for graduation must be earned with grades A, B, or C.

C. ELECTIONS IN OTHER COLLEGES

In engineering, fine arts, forestry, law, mines, and pharmacy, electives will be allowed to the extent of 18 credits from any one college, and not to exceed 24 from all.

D. REQUIREMENTS OF THE LOWER DIVISION

The work of the lower division comprises in general the studies of the freshman and sophomore years of the undergraduate curri-
THE COLLEGE OF SCIENCE

The student entering the College of Science may take up one of several curricula, general or specialized, with the emphasis upon pure or applied science. These curricula, set forth in detail in succeeding pages, are:

I. Elective curricula with a major in some one department.
II. Pre-medical curricula.
   A. Two-year curriculum preparatory to medicine.
   B. Four-year curriculum preparatory to medicine.
   C. Three-year curriculum for nurses.
III. Curriculum for prospective science teachers.
IV. Prescribed curricula in Home Economics.
V. Six-year curriculum in Science and Law.
VI. Five-year curriculum in Science and Library Science.

LABORATORIES

The University of Washington has the following laboratories equipped for work in the various science departments: Anatomy, astronomy, botany, chemistry, geology, physics, psychology, zoology. (For description see pages 25-33.)

*REQUIREMENTS FOR ADMISSION

Correspondence.—Credentials and all correspondence relating to admission to any college or school of the University should be addressed to the Registrar, University of Washington, Seattle.

Freshman Standing.—Freshman standing in the University is granted to any recommended graduate of a four-year accredited secondary school who presents fifteen units\(^4\) of credit, distributed as follows:

(a) 3 units of English.
(b) 1 unit of algebra.
(c) 1 unit of plane geometry.
(d) 3 units selected from one of the following groups (or \(x\) units, if 3 units of mathematics are presented).
   (1) Latin and Greek (not less than 2 units of Latin, or 1 of Greek will be counted).
   (2) Modern foreign language (at least 2 units in one language; not less than one unit will be counted in any language).
   (3) History, civics, economics (at least one unit to form a year of consecutive work in history).
   (4) Physics, chemistry, botany, zoology, general biology, physical geography, geology, physiology. (Not less than one unit will be counted in physics, chemistry, or general biology. No science will be counted as applying on this requirement unless it includes a satisfactory amount of laboratory work).
(e) 2 units in subjects presented in the above groups (1) - (4).

\(^{\dagger}\)To count as a "unit" a subject must be taught five times a week, in periods of not less than forty-five minutes, for a school year of not less than thirty-six weeks.

*More detailed information concerning admission, (see pages 41-45).
A candidate who fulfills these requirements will be admitted to freshman standing in any of the colleges of the University. However, if he has not taken in high school certain of the subjects recommended for admission to the college that he may decide to enter, he will take them in the University. These subjects may apply toward a degree, as far as elective courses make this practicable. In certain curricula, however, these subjects must be taken in addition to the prescribed subjects.

Entrance with condition, to freshman standing, is not permitted. Excess admission credit does not establish any presumptive claim for advanced standing, unless the student has taken a graduate course in the high school of at least one semester.

CURRICULA

I. ELECTIVE CURRICULA WITH A MAJOR IN ONE DEPARTMENT

In this division of the college, in order to secure the degree of bachelor of science, a student must complete a total of at least 192 credits, and must observe the restrictions in regard to a major subject, necessary scholarship, elections in other colleges and the requirements of the lower division and the upper division.

A. REQUIREMENTS IN A MAJOR SUBJECT

A student must earn from 36 to 60 credits in a single department, known as his major department. Not more than 96 credits may be counted in the major and one other department.

B. SCHOLARSHIP REQUIREMENTS

Not less than three-fourths of the credits required for graduation must be earned with grades A, B, or C.

C. ELECTIONS IN OTHER COLLEGES

In engineering, fine arts, forestry, law, mines, and pharmacy, electives will be allowed to the extent of 18 credits from any one college, and not to exceed 24 from all.

D. REQUIREMENTS OF THE LOWER DIVISION

The work of the lower division comprises in general the studies of the freshman and sophomore years of the undergraduate curri-
curriculum and leads to the junior certificate. It consists primarily of the elementary and introductory courses of the various departments.* Its aim is to give a broad general training in preparation for the advanced work in the upper division.

To receive the junior certificate the student must have earned not less than 90 university credits, together with required credits in physical education or military science, and must have completed in secondary school and university together the amount of work specified in the subjects mentioned below except that subject (m) may be taken in the upper division by students who begin a modern language after entering the University.

As a rule students in the lower division must confine their elections to the courses numbered 1 to 99, in the catalogue. A student who has had the proper prerequisite, or who has attained sufficient intellectual maturity, may register for an upper division course; with the consent of the instructor concerned and of the dean.

No student in the lower division shall be registered for more than 16 credit hours per quarter (exclusive of military science and physical education), or for less than 12 hours per quarter, except with the consent of the dean.

1. **Subjects Required in a Secondary School.**
   (a) English, 3 years (3 units).
   In addition to the completion of this amount of work in English, the student must show by test examination, *proficiency in English composition*, or he must take English composition in the University, as provided under requirement (a) below.
   (b) Elementary algebra, 1 year (1 unit).
   (c) Plane geometry, 1 year (1 unit).

2. **Subjects Required Either in a Secondary School or in the University.**
   (d) A modern foreign language, which must be either French or German, 2 years (2 units or 20 credits). See note 5.
   (e) United States History and civics, 1 year (1 unit or 10 credits). See Note 1.
   (f) History—ancient, medieval and modern, or English, 1 year (1 unit or 10 credits).
   (g) Mathematics, 1 year (1 unit or 10 credits). See note 2.
   (h) Physics, 1 year (1 unit or 10 credits).
   (i) Chemistry, 1 year (1 unit or 10 credits).
   (j) Botany or zoology, 1 year (1 unit or 10 credits).
   (k) Geology, physiography, or astronomy, 1 year; or astronomy and geology, ½ year each (1 unit or 10 credits).

*Note.—The following (or their equivalents) constitute the courses of the Lower Division:
1. Modern Foreign Language: The first two years.
2. Ancient Languages: Intermediate Latin; the first two years of college work; courses in civilization and literature.
3. English: Freshman composition; freshman and sophomore literature.
4. Mathematics and the Natural Sciences: The elementary courses (1 and 2) or equivalents.
5. History: The introductory courses in each line, e. g., medieval and modern (1-2-3), American (57-58-59), English (5 and 6), ancient (71-72-73).
6. Philosophy and Psychology: Elementary or introductory course in each line, e. g., general psychology, introduction to philosophy, ethics, logic.
7. Political and Social Science: Introductory courses in economics, government, sociology.
3. **Subjects Required in the University.**

   (1) Physical education or military science, 2 years (12 credits).

4. **Subjects Conditionally Required in the University**

   (m) Either French or German, 1 or more years (10 or more credits). See note 5.
   (n) English composition, 6 to 10 credits. See note 6.

**E. REQUIREMENTS IN EITHER LOWER OR UPPER DIVISIONS**

   (o) Philosophy, psychology, 1 year (10 credits). See Note 3.
   (p) Economics, political science, sociology, 1 year (10 credits). See Note 4.

**NOTES**

1. The students who do not take United States history or civics in a secondary school must take History 57-58-59 in the University.

2. One quarter of advanced algebra is required.

3. Not more than 5 credits in psychology may be counted toward the requirement in philosophy or psychology.

4. Not more than 5 hours each of economics, political science, or sociology may be counted toward satisfying the requirements in these subjects.

5. Beginning with 1921, two years of one foreign language will be required for admission to the College of Liberal Arts or the College of Science. If the requirement has not been met in high school, it must be made up in college without credit. (For the College of Science, this language must be French or German.)

6. English composition is required of all freshmen who cannot show by examination a proficiency in the subject. (See University calendar for dates of examination.)

**F. REQUIREMENTS OF THE UPPER DIVISION**

The upper division comprises the studies of the junior and senior years. It consists principally of the advanced work of the undergraduate curriculum, and is therefore differentiated, both in content and method, from that of the lower division.

To be enrolled in the upper division, a student must have completed all the requirements for the junior certificate. The minimum amount of work to be done in the upper division will vary from 96 to 84 hours of credit, according to the number of credits offered for the junior certificate. *The student must earn not less than 84 hours of credit while enrolled in the upper division; provided, however, that if in the judgment of the student's major professor endorsed by the dean of the College of Science, the substitution of a lower division for an upper division subject will strengthen a student's course, such substitution shall be accepted as satisfying this requirement.* At least 60 of the credit hours taken in the upper division must be in upper division courses (100-199). Of these 60 hours a minimum of 18 must be in the major subject.

No student of the upper division shall be registered for more than 16 or less than 12 hours per quarter, except with the consent of the dean. A minimum of 19 hours per quarter may be granted to students who have made an exceptional record in scholarship in the lower division and who maintain that record in the upper division.
II. PRE-MEDICAL CURRICULA

A. AND B. TWO AND FOUR-YEAR CURRICULA PREPARATORY TO MEDICINE

The University offers two curricula preparatory to the study of medicine. One of these is for two years, and will meet the requirements of those medical schools which require no more than two years of college work for admission to their professional study. The second is for four years, and prepares students for those medical schools that require for admission the completion of a full four years college course. The curricula will not reduce the amount of work to be done by the student in the medical school but they are designed to increase its efficiency.

These courses are also well adapted for pre-dental students, as the best dental schools require the same foundation work as the medical schools.

Students entering the pre-medical courses should present the following among the 15 units required for entrance to the University (see Requirements for Admission):

- 3 units of English
- 1 unit of Algebra
- 1 unit of Plane Geometry
- 1 unit of United States History and Civics
- 1 unit of Medieval and Modern History
- 1 unit of Physics
- 2 units of either French or German

Below is the outline of the four-year curriculum. The first and second years constitute the two-year curriculum:

<table>
<thead>
<tr>
<th>FIRST YEAR</th>
<th>AUTUMN QUARTER</th>
<th>CREDITS</th>
<th>WINTER QUARTER</th>
<th>CREDITS</th>
<th>SPRING QUARTER</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 1 or 21</td>
<td>5</td>
<td>Chem 2 or 22</td>
<td>5</td>
<td>Chem 3 or 23</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Zool. 3 (Pre-medical)</td>
<td>5</td>
<td>Zool. 4 (Pre-medical)</td>
<td>5</td>
<td>Zool. 5 (Pre-medical)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Mil. Sci. or Phys. Ed.</td>
<td>2</td>
<td>Mil. Sci. or Phys. Ed</td>
<td>2</td>
<td>Mil. Sci. or Phys. Ed</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Physics 1</td>
<td>5</td>
<td>Physics 2</td>
<td>5</td>
<td>Physics 3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Chem. 131 (Organic)</td>
<td>5</td>
<td>Chem. 132 (Organic)</td>
<td>5</td>
<td>Sci. French or Germ.</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>English 73</td>
<td>5</td>
<td>Psych. 128 (Abnormal)</td>
<td>5</td>
<td>Ec. 1 or Pol. Sci. 1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Mil. Sci. or Phys. Ed.</td>
<td>2</td>
<td>Mil. Sci. or Phys. Ed</td>
<td>2</td>
<td>Mil. Sci. or Phys. Ed</td>
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<td></td>
</tr>
</tbody>
</table>

| SECOND YEAR |
|--------------|-----------------|---------|-----------------|---------|-----------------|---------|
| Anatomy 101 | 6 | Anat. 102 | 6 | Anat. 103 | 6 |
| Anat. 106 (Histology and Anatomy) | 5 | Anat. 106 Histology and Anatomy | 5 | Anat. 107 (Neurology) | 5 |
| Embryology | 5 | Embryology | 5 | Sociology 1 | 5 |
| Bact. 104 | 4 | Bact. 105 | 4 | Bact. 106 (Hygiene) | 2 |

| THIRD YEAR |
|-------------|-----------------|---------|-----------------|---------|-----------------|---------|
| Zool. 151 (Physiology) | 5 | Zool. 152 (Physiology) | 5 | Zool. 153 (Physiology) | 5 |
| Chem. 141 (Physiology) | 5 | Chem. 142 (Physiology) | 5 | Pharm. (Tox & M. Med.) | 5 |
| Bact. 110 (Pathology) | 4 | Bact. 111 (Pathology) | 4 | Bact. 112 (Pathology) | 4 |
| Anat. 104 (Topog.) | 4 | Pharm. (Tox. & M. Med.) | 5 | Elective | 4 |

| FOURTH YEAR |
|-------------|-----------------|---------|-----------------|---------|-----------------|---------|
| Zool. 155 (Physiology) | 5 | Zool. 156 (Physiology) | 5 | Zool. 157 (Physiology) | 5 |
| Chem. 143 (Physiology) | 5 | Chem. 144 (Physiology) | 5 | Pharm. (Tox & M. Med.) | 5 |
| Bact. 113 (Pathology) | 4 | Bact. 114 (Pathology) | 4 | Bact. 115 (Pathology) | 4 |
| Anat. 105 (Topog.) | 4 | Pharm. (Tox. & M. Med.) | 5 | Elective | 4 |

C. THREE-YEAR CURRICULUM FOR NURSES

Believing that a broader scientific education is desired by young women entering the nursing profession, the University offers a three-year pre-hospital course which when followed by the two-year
hospital course in such hospitals as may be selected by the University, leads to a degree of bachelor of science in nursing and a certificate of nursing.

For admission to this curriculum a student must present 15 units by examination or certificate from an accredited school from which she has graduated. (See Requirements for Admission). These 15 units should include the following:

- 8 units of English.
- 1 unit of Algebra.
- 1 unit of Plane Geometry.
- 1 unit of United States History and Civics.
- 1 unit of Medieval and Modern History.
- 1 unit of Physics.
- 2 units of either French or German.

The curriculum:

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics 89</td>
<td>5</td>
<td>Physics 90</td>
<td>5</td>
<td>Chem. 6</td>
<td>5</td>
</tr>
<tr>
<td>Econ. 4</td>
<td>5</td>
<td>Chem. 5</td>
<td>5</td>
<td>Psych. 1</td>
<td>5</td>
</tr>
<tr>
<td>English 1</td>
<td>5</td>
<td>Zoology 8</td>
<td>5</td>
<td>English 2</td>
<td>5</td>
</tr>
<tr>
<td>Nursing 1</td>
<td>2</td>
<td>Physical Ed. 2</td>
<td>2</td>
<td>Physical Ed. 2</td>
<td>2</td>
</tr>
<tr>
<td>Phys. Ed. 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15 units should include the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1</td>
</tr>
<tr>
<td>Econ. 4</td>
</tr>
<tr>
<td>English 1</td>
</tr>
<tr>
<td>Nursing 1</td>
</tr>
<tr>
<td>Phys. Ed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND YEAR</th>
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</thead>
<tbody>
<tr>
<td>Physiology 54</td>
</tr>
<tr>
<td>Philosophy 1</td>
</tr>
<tr>
<td>Home Ec. 4</td>
</tr>
<tr>
<td>Electives 3</td>
</tr>
<tr>
<td>Phys. Ed. 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THIRD YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Lit. 78</td>
</tr>
<tr>
<td>Pharmacy 13</td>
</tr>
<tr>
<td>Electives 2</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**CURRICULUM TO BE FOLLOWED IN A SELECTED HOSPITAL**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstration of Nursing</td>
</tr>
<tr>
<td>Anesthesia</td>
</tr>
<tr>
<td>Clinical Analysis</td>
</tr>
<tr>
<td>Medical Nursing</td>
</tr>
<tr>
<td>Surgical Nursing</td>
</tr>
<tr>
<td>Obstetrical and Gynecological Nursing</td>
</tr>
<tr>
<td>Rye, Ear, Nose and Throat Nursing</td>
</tr>
<tr>
<td>Neurological Nursing</td>
</tr>
<tr>
<td>Infectious and Contagious Disease Nursing</td>
</tr>
<tr>
<td>Administration</td>
</tr>
</tbody>
</table>

**III. CURRICULUM FOR PROSPECTIVE SCIENCE TEACHERS**

Most of those science students who expect to teach must begin in a small high school. In such schools one teacher usually teaches several or all the sciences. It is therefore desirable that such students get a wide range of scientific knowledge, rather than the intensive training secured by three years' work for a major in some one department. The following course permits the student to prepare in more sciences by not requiring three years of any one science.

<table>
<thead>
<tr>
<th>FRESHMAN</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science (botany, geology, or zoology)</td>
<td>10</td>
</tr>
<tr>
<td>Science (physics or chemistry)</td>
<td>10</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>English</td>
<td>6</td>
</tr>
<tr>
<td>German or French</td>
<td>10</td>
</tr>
<tr>
<td>Mil. Sci. or Phys. Ed.</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOPHOMORE</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>10</td>
</tr>
<tr>
<td>Economics, Pol. Sci. or Sociology</td>
<td>10</td>
</tr>
<tr>
<td>Science</td>
<td>20</td>
</tr>
<tr>
<td>Elective</td>
<td>10</td>
</tr>
<tr>
<td>Mil. Sci. or Phys. Ed.</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SENIOR</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>18</td>
</tr>
<tr>
<td>Science</td>
<td>10</td>
</tr>
<tr>
<td>Elective</td>
<td>17</td>
</tr>
<tr>
<td>Elective</td>
<td>15</td>
</tr>
</tbody>
</table>
REGULATIONS GOVERNING THIS CURRICULUM

(a) A student may select any three of the following sciences and must do the amount of work in any particular science, as indicated.

- Botany (exclusive of bacteriology), 20 credits.
- Chemistry, 20 credits.
- Geology, 20 credits.
- Mathematics (exclusive of astronomy), 20 credits.
- Physics, 20 credits.
- Zoology, 20 credits.

(b) Included in or in addition to the work in (a) every student must take 5 credits in mathematics, 10 credits in physics, 10 credits in chemistry, 10 credits in botany or zoology.

(c) In (a) chemistry and zoology may not be selected in a group together.

(d) If 20 credits of chemistry are taken, only 15 of geology are required.

(e) When mathematics is selected as one of the three sciences, physics must be selected also.

(f) The modern foreign language required shall be either French or German and a continuation of the language taken in high school.

(g) The work in freshman composition shall be 0 to 10 credits.

IV. PRESCRIBED CURRICULUM IN HOME ECONOMICS

Many fields of activity other than teaching are being offered to women trained in the work given in the department of home economics. In each line of vocational work offered there is opportunity to put into practice the technical work of the laboratory. In food preparation the students work in the University Commons, in commercial establishments and in hospitals to gain practical experience. In clothing, students learn first to sew for themselves and then for customers. For those who wish to enter commercial work there is provided, through the cooperation of business houses, opportunity to work in stores.

Seniors are required to live in the practice cottage located on the campus, where they take full responsibility for the management and care of the house for a family of four during a period of one month.

Accordingly, the following grouping is arranged as a guide in selecting the work that will best satisfy the requirements of each individual.

Group I is planned for students who want a liberal college training with emphasis upon the subjects that pertain to the home and home life. Those who are interested in social betterment and who wish to enter definite welfare work may combine home economics, and sociology in this curriculum.

Group II, Food and Nutrition, is offered for those students who wish to specialize for the purpose of teaching this phase of the work in institutions of higher education, for laboratory or research workers, and to dietitians in hospitals, sanitoria or private work. Those who intend to become sanitary and food inspectors are also advised to take the course.

Group III, Teachers' Curriculum. There is always a demand for the well-trained home economics teacher. This group combines some liberal arts subjects in other departments, chemistry, physics, bacteriology, fine arts, physiology and economics. The courses are
especially arranged to meet in the most efficient manner the particular needs of home economics students. Practice teaching extending through one quarter in the Seattle schools is required. Graduates of this course will upon application to the State Board of Vocational Education receive a Smith-Hughes certificate.

Group IV, Institutional Management. In this course there are combined the fundamental sciences, technical and business courses, with practice work. Young women with initiative and ability find positions that offer increasingly attractive returns when trained in this line of work. Institutions operating for groups of people are seeking trained women to manage the commissary and housekeeping departments.

Group V, Textiles, Clothing and Fine Arts. This curriculum requires a minimum of science but gives ample opportunity for combining work in design with clothing and textiles for the purpose of general culture or for use in a commercial field.

A teaching major in home economics consists of: H. E. 4, 5, 6, 8, 25, 61, 62, 107, 143, 144, 145, 146, 147.

Any one of the five lines may lead to the degree of bachelor of science. Students who fulfill all entrance requirements of the College of Liberal Arts may use home economics as a major for the degree of bachelor of arts.

Students eligible to freshman standing in any college of the university are eligible to enter any one of the above five curricula in home economics; 180 + 12 credits are required for graduation from any of these curricula.

GROUP I—GENERAL CURRICULUM

To provide a liberal college training, also for those students who wish to fit themselves for the following vocations:

1. Homemaking.
2. Social Service. (Elect economics and sociology.)

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1</td>
<td>5</td>
<td>English 2</td>
<td>5</td>
<td>Phys. 8</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Zool 1 or Bot. 1</td>
<td>5</td>
<td>Chem. 5</td>
<td>5</td>
<td>Chem. 0</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>5</td>
<td>Zool. 2 or Bot. 2</td>
<td>5</td>
<td>Lang. 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preferred electives—H. E. 4, 8, 25, 48; Nursing 5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td>Language 5</td>
<td>Language 5</td>
<td>5</td>
<td>History 5</td>
<td>History 5</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Phys. Ed. 2</td>
<td>Phys. Ed. 2</td>
<td>2</td>
<td>Economics 1</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Preferred electives—H. E. 5, 6; Fine Arts III. 3.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Junior</td>
<td>Philosophy 2</td>
<td>Sociology 1</td>
<td>5</td>
<td>Preferred electives—H. E. 105-100, 112-113; Fine Arts II, 1-2; Physics 80-90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>Preferred electives—H. E. 144-145, 147; Bacteriology 101-102; Nursing, 5.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### GROUP II—FOOD AND NUTRITION

#### FRESHMAN

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1</td>
<td>5</td>
<td>English 2</td>
<td>5</td>
<td>Chemistry 6</td>
<td>5</td>
</tr>
<tr>
<td>Phys. Ed.</td>
<td>2</td>
<td>Chemistry 5</td>
<td>5</td>
<td>Physiology 8</td>
<td>5</td>
</tr>
<tr>
<td>Phys. Ed.</td>
<td>2</td>
<td>Lang. Lit. or Hist.</td>
<td>5</td>
<td>Phys. Ed.</td>
<td>5</td>
</tr>
</tbody>
</table>

Preferred electives—H. E. 4, 8; Fine Arts III. 3.

#### SOPHOMORE

<table>
<thead>
<tr>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 35</td>
<td>5</td>
<td>Chemistry 38</td>
<td>5</td>
<td>Chemistry 44</td>
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</tr>
<tr>
<td>Phys. Ed.</td>
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<td>Phys. Ed.</td>
<td>2</td>
<td>Psychology 1</td>
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</tr>
</tbody>
</table>

Preferred electives—H. E. 5-6.

#### JUNIOR

<table>
<thead>
<tr>
<th>Chemistry 104</th>
<th>4</th>
<th>Economics</th>
<th>5</th>
<th>Sociology</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology 101</td>
<td>4</td>
<td>Bacteriology 102</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Preferred electives—H. E. 107-108; Nursing 5; Physics 89-90.

#### SENIOR

Preferred electives—H. E. 103, 110 and related sciences.

### GROUP III—SMITH-HUGHES TEACHER TRAINING

#### FRESHMAN

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>English 1</td>
<td>5</td>
<td>English 2</td>
<td>5</td>
<td>Lang., Lit. or Hist.</td>
<td>5</td>
</tr>
</tbody>
</table>

Preferred electives—H. E. 4, 8; Fine Arts III. 3.

If H. E. 4 and 8 are carried in High School substitute H. E. 48 and Nursing 5.

#### SOPHOMORE

<table>
<thead>
<tr>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
<th>Lang., Lit. or Hist.</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 35</td>
<td>5</td>
<td>Chem. 38</td>
<td>5</td>
<td>Chem. 144</td>
<td>5</td>
</tr>
<tr>
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<td>2</td>
<td>Phys. Ed.</td>
<td>2</td>
<td>Psych. 1</td>
<td>5</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phys. Ed.</td>
<td>5</td>
</tr>
</tbody>
</table>

Preferred electives—H. E. 5; H. E. 6.

#### JUNIOR

<table>
<thead>
<tr>
<th>Educ. 75</th>
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<th>Educ. 95</th>
<th>3</th>
<th>Educ. 1</th>
<th>5</th>
</tr>
</thead>
</table>

Preferred electives—Educ. 119; Soc. 1; Fine Arts II (Arch. 1-2)

#### SENIOR

<table>
<thead>
<tr>
<th>Ed. 140</th>
<th>3</th>
<th>H. E. 147</th>
<th>8</th>
<th>Ed. 145</th>
<th>5</th>
</tr>
</thead>
</table>

Preferred electives—H. E. 107; H. E. 108; H. E. 145; H. E. 149; Bact. 101; Bact. 102.

### GROUP IV—INSTITUTIONAL MANAGEMENT

To be taken by those students who wish to fit themselves for the following vocations:

1. Dietitians.
3. Managers of tearooms, lunchrooms, cafeterias.
4. Food service in state, municipal, or charitable institutions.
V. SIX-YEAR COURSE IN SCIENCE AND LAW

This is a combination course whereby a student may obtain the degrees of bachelor of science and bachelor of laws in six years. At the end of his third year, after he has earned 135 credits, together with the required 12 credits in military science or physical education, including all of the required work, together with a major in some department, he may register in the School of Law for the first year's work in law. He will be granted the bachelor of science degree at the end of the fourth year, or whenever he completes the required work above specified, together with 9 additional credits in the College of Science and 36 credits in the School of Law; making a total of 180 plus 12 credits for graduation. The fifth and sixth years of the combined course are devoted to completing the remainder of the required work for graduation from the School of Law.
VI. FIVE-YEAR COURSE IN SCIENCE AND LIBRARY SCIENCE

This course is for students who are preparing to become professional librarians and who desire to receive degrees of bachelor of science and bachelor of library science. Under this arrangement a student should first complete, all the required work of the course for Science Teachers (outlined above), substituting courses in library science for 12 credits in education, as stipulated for the senior year. A portion of the fourth year and all of the fifth year are devoted to the required subjects in library science. If this plan is carefully followed, a student should earn the degree of bachelor of science at the end of the fourth year, and the degree of bachelor of library science at the end of the fifth year. (See Library School.)

COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)

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

THE FACULTY

HENRY SUZZALLO, Ph. D. (Columbia), LL. D. (California), PRESIDENT.

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

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

FRED CARLETON AYER, Ph. D., (Chicago), Professor of Education.

CLIFFORD WOOODY, Ph. D. (Columbia), Associate Professor of Education.

GEORGE EARL FREELAND, Ph. D. (Clark), Assistant Professor of Education.

GEORGE HENRY JENSEN, B. S. (Valparaiso), Assistant Professor of Vocational Education and Supervisor of Teacher Training in the Trades and Industries.

CAROLINE HAYDEN OBER, Professor of Spanish.

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

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

FREDERICK ARTHUR OSBORN, Ph. D. (Michigan), Professor of Physics; Director of the Physics Laboratories.

WILLIAM SAVENY, Ph. D. (Harvard), Professor of Philosophy.

DAVID THOMSON, B. A. (Toronto), Professor of Latin; Dean of the College of Liberal Arts.

PIERRE JOSEPH FRAVIN, Ph. D. (Johns Hopkins), Professor of French.

THEODORE CHRISTIAN FRY, Ph. D. (Chicago), Professor of Botany.

ROBERT ESQUARD MORITZ, Ph. D. (Nebraska), Ph. N. D. (Strassburg), Professor of Mathematics.

DAVID CONNOLLY HALL, Sc. M., M. D. (Chicago), University Health Officer.

IRVING MACKLEY GLIN, A. M. (Oregon), Professor of Music; Dean of the College of Fine Arts.

JOHN WEINZIEL, Ph. D. (Wisconsin), Professor of bacteriology.

EDWIN JOHN VOCNER, Ph. D. (Minnesota), Professor of Scandinavian Languages.

EFFIE ISABEL RAYT, A. M. (Columbia), Professor of Home Economics; Director of the Department.

STEVENSON SMITH, Ph. D. (Pennsylvania), Professor of Psychology.

STEPHEN IYAN MILLER, JR., A. B. (Stanford), LL. B. (Michigan), Professor of Economics; Dean of the College of Business Administration.

HOWARD WOOLSTON, Ph. D., (Columbia) Professor of Sociology.

EDWARD McMAHON, A. M. (Wisconsin), Associate Professor of American History.

GEORGE WALLACE UMPhREY, Ph. D. (Harvard), Associate Professor of Spanish.

EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.

ROBERT MAX GARRETT, Ph. D. (Munich), Assistant Professor of English.

HARVEY BRUCE DENSMORE, A. B. (Oxford), Assistant Professor of Greek.

ALLEN FULLER CARPENTER, Ph. D. (Chicago), Assistant Professor of Mathematics.

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

FRANCIS DICKEY, A. M. (Columbia), Assistant Professor of Music.

EDWIN R. GUTMANN, Ph. D. (Pennsylvania), Assistant Professor of Psychology.

MARY EMMA GROSS, A. M. (Columbia), Assistant Professor of Physical Education.

WILLIAM B. WILSON, A. B. (Washington), Instructor in Psychology.
Scope and Aims.—The curriculum of the College of Education assumes that teachers should have a broad and liberal education, supplemented by professional training which gives a knowledge of the pupils to be taught, the problems to be met, and new meaning to the subjects of instruction, as well as fundamental principles of teaching; and that they should be masters of some special subject which they expect to teach.

The college is especially fitted to provide teachers of the following types: (1) High school teachers; (2) high school principals; (3) superintendents of public schools; (4) grammar school principals; (5) supervisors of primary schools; (6) supervisors and teachers of music, drawing, manual and industrial arts, home economics, physical training and other special subjects; (7) normal school and college instructors in education; (8) experts in educational research; (9) specialists in the education of defectives; (10) playground directors; (11) Y. M. C. A. and Y. W. C. A. workers; (12) juvenile court workers.

General Academic Work.—Because of the variety of work which every teacher is likely to be required to do upon beginning to teach, and because of the requirements for state certificates, elementary college courses should be taken in not less than four subjects which are taught in the high schools.

Specialized Academic Work.—Each teacher should have thorough extended preparation in one subject and reasonable preparation in at least two additional subjects. Experience has shown that the following combinations are most frequently demanded: Latin, French; Latin, Greek; English, French; English, history, civics; English, Latin, history; Spanish, French; mathematics, physics, chemistry; botany, zoology, physiology, physiography; home economics alone or in connection with one or two other subjects; manual and industrial arts alone or in connection with one or two other subjects; commercial subjects alone or with other subjects; athletics, music or drawing in combination with other work. One teacher is frequently required to teach all of the sciences. Public speaking is desirable as a part of the preparation for teaching English.

Professional Work.—The requirements for the academic major and minors secure a proper distribution of the academic subjects. The professional work consists (a) of the courses given in the department of education, (b) the teachers' courses given in the various academic departments, and (c) the courses in zoology, psychology, and sociology, fundamental to those in education.
Special Teachers' Courses.—Many of the academic departments have teachers' courses for the purpose of studying the problems of teaching their subjects in the high schools. Work in special methods relating to particular subjects is given by those dealing most directly with the subject matter. Foundation principles of general methods as based upon the laws of learning and teaching are developed in the department of education.

Observation and Supervised Teaching.—By an arrangement between the University and the schools of Seattle students in the department of education may observe the regular work in certain schools (at present twelve are used) and do supervised teaching under direction of the regular teachers of the school and the university professor in charge of that work. In this way students have an opportunity to observe and gain valuable experience under exceptionally favorable conditions.

Industrial Arts.—While no separate department of industrial arts is maintained during the regular year, special attention has been devoted to this work during the summer quarter. A good curriculum may be secured during the regular academic year by selecting from the courses in engineering, fine arts, and education. Because of the excellent industrial arts work in the Seattle public schools, students have unusual facilities for observing the best organization and equipment. A large number of industrial centers and pre-vocational classes are maintained in various parts of the city.

Under the terms of the Smith-Hughes act “the training of teachers for trades and industries in resident work and extension work shall be conducted through the University of Washington, under the supervision of the State Board of Vocational Education, with the approval of the Federal Board.”

Athletics and Playground Activities.—There is at the present time, a strong demand for teachers, both men and women, who can direct the various forms of athletics and playground activities in the high school and the grammar grades.

Public School Music.—Not only is there a demand for specially trained supervisors of music in the schools, but every school needs teachers who can give some assistance in the general musical activities of the school and the community. Every teacher who has any musical ability ought to secure some training in music and participate in some of the musical organizations of the University.

Debating, Dramatics, Public Speaking.—Every teacher will be called upon to assist in the incidental work of the school. The small towns cannot afford special teachers of public speaking and debate and consequently the teacher who can assist in these lines
increases his usefulness. Every student should participate in some of these lines all through the college course and definite courses in them should be taken.

Journalism in High Schools.—Newspaper writing is being introduced in some of the best high schools as a part of the English course. It seems to afford a valuable incentive to many pupils in their English work. The teacher who undertakes this work needs to be especially well trained professionally as well as in English and journalism. For a proper combination of courses the student should consult the departments of education, English, and journalism.

Commercial Subjects.—At present the demand upon the University for teachers of commercial subjects far exceeds the supply. To prepare for this line of work the student should include courses in bookkeeping, stenography, commercial law, commercial policies, commercial geography, besides courses in economics, and the professional training in education.

Teaching of Technical Subjects in College.—Many students of engineering, forestry, law and other technical subjects ultimately plan to teach those subjects in colleges or technical schools. An increasing number of such students desire professional training in educational theory and methods as a part of their preparation.

The Study of Education and Citizenship.—Courses in education are valuable, not only for those who expect to teach, but also for those who expect to be citizens of any community. Many of the courses in education, therefore, are rightly coming to be pursued by students not expecting to become teachers.

Extension Service.—The department of education is glad to render service to the cause of education in many ways besides through the regular courses of instruction. Members frequently give addresses at teachers’ institutes, parent-teachers’ associations, educational associations, community centers, school dedications, school commencements, etc. They are also glad to conduct educational surveys as far as time will permit.

Saturday and Evening Classes.—To accommodate the teachers of Seattle and vicinity several classes in education are scheduled on Saturday and during the late afternoon and evening.

Vocational Secretary.—The University maintains a vocational secretary for the purpose of assisting students to secure desirable positions. The services of this officer are entirely free to students and graduates of the University and to employers.
Lines of Work.—Three lines of work are provided in the College of Education: (a) The course leading to the degree of bachelor of education; (b) the courses leading to the degrees of master of arts in education and master of science in education; (c) work leading to the degree of master of arts or master of science with education as a major subject; (d) work leading to the normal diploma and life diploma in connection with a degree from the College of Liberal Arts, the College of Science or the College of Education.

The College of Education is so organized that the student shall begin to think of the profession of teaching immediately upon entering the University. While the main work in education does not come until the junior and senior years, the student receives guidance and counsel from the outset in selecting his courses and is helped to get in touch with the professional atmosphere that should surround a teachers' college. The foundation work in zoology and psychology will be given as far as possible with the teaching profession in mind. It is planned to give some work of a general nature in education during the two first years that will serve as vocational guidance and will assist the student to arrange his work most advantageously and to accomplish it most economically. By the more prolonged individual acquaintance between students and the faculty of the College of Education it is hoped that the student will receive greater professional help and the faculty will be better able to judge of the teaching qualities of the students.

Under the new plan the student does not take so many required courses as formerly. The specific requirements in foreign language, physical science, mathematics, history and a half year of philosophy have been omitted. The student may elect these if he chooses. By this means the curriculum will be much more flexible and the student will be given the important educational privileges of choosing largely his own courses. This is in harmony with the idea of the greater vocationalizing of education.

The work of education and allied courses has been so extended that adequate professional preparation can now be secured. The courses in zoology, psychology, and sociology are all directly contributory to knowledge and interpretation of the courses in education.

A degree may be obtained at the end of the fourth year, but the standard which the University encourages and hopes to establish for high school teaching is the five-year course, consisting of thorough professional work combined with advanced academic work. Students expecting to teach are encouraged on entering to plan their courses for the master's degree in education. While the extended combined course is preferred it is possible for students with adequate preparation to secure the master's degree in a year of graduate work.
REQUIREMENTS FOR ADMISSION

Full information regarding requirements for admission, registration, and expenses may be found on pages 40-50.

REQUIREMENTS FOR GRADUATION WITH THE DEGREE OF BACHELOR OF EDUCATION

To secure the degree of bachelor of education the candidate must fulfill the following conditions:

1. Comply with the admission regulations as stated above.

2. Complete the requirements in college subjects as follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoology</td>
<td>10</td>
</tr>
<tr>
<td>Psychology</td>
<td>5</td>
</tr>
<tr>
<td>Sociology</td>
<td>5</td>
</tr>
<tr>
<td>Physical education</td>
<td>12</td>
</tr>
<tr>
<td>Education</td>
<td>36</td>
</tr>
<tr>
<td>English</td>
<td>10</td>
</tr>
</tbody>
</table>

Teaching subjects:
(a) Two academic majors or
(b) One academic major and two academic minors.

†Free electives, depending upon the foregoing selections.

Total for graduation ............................................. 192

1. An academic major consists of from 35 to 45 credits in some subject other than education. At the option of the major professor this may include the teachers' course.

2. An academic minor consists of from 20 to 30 credits in some subject other than education.

3. The distribution of the work in the academic majors and minors is under the advice of the dean of the College of Education and the head of the department in which the academic major is selected. The distribution of the majors and minors is considered in the light of the actual calls for teachers year by year.

4. The teachers' course in the academic major is required, if offered.

5. The teaching subjects may be selected from any subject now recognized in the Colleges of Liberal Arts, Science, Fine Arts, or Economics and Business Administration.

6. The 36 credits in education required for the degree of bachelor of education should include as foundation work the 18 credits required for the normal diploma. The work should also include a course in the history of education and one in childhood or adolescence. The remainder of the work should be selected so as to emphasize the line of special interest, as, for example, administration, secondary education, educational psychology, child study, etc.

* Students who have had one year in zoology in the high school may be excused from the laboratory work in zoology in the University, but shall be required to take the courses in ethnology and evolution. The distribution of the required work in zoology shall be determined by the head of the department of zoology.

† All freshmen are given an opportunity to take an examination in English on entrance to the College of Education. Those whose standings are especially high in the examination may be excused from a part of the required ten credits.

‡ The student's free electives will vary from 15 to 50 credits, according to the exemption in English and the number of credits secured in the major and minor subjects.
7. The required English must be completed during the first year. The required zoology or some other year of science must be taken during the first two years. If history or foreign language are elected one course in the ones selected must be completed during the first two years. If mathematics is elected, five credits in it must be completed during the first two years. If the foregoing courses are not completed as specified, only half credit will be allowed.

8. Candidates for the bachelor's degree in the College of Education must receive grades of A, B, or C in at least three-fourths of the credits required for the degree. This rule does not apply to grades given before the year 1910-1911.

9. Students are allowed to combine, in preparation for teaching, courses from the departments of political science, sociology and business administration, for the academic majors or the academic minors. Such combinations must be approved by the dean and the head of the department in which the academic major is selected.

10. Courses in manual and industrial arts, or in those combined with drawing, will be accepted as a minor toward the degree of bachelor of education.

11. Students in the College of Liberal Arts have the right to major in the department of education. Students majoring in education must take at least 36 credits. Students in the Colleges of Science, Engineering, Forestry, Mines, Law, Pharmacy, Fine Arts, and Business Administration may elect courses in education according to conditions fixed by these colleges.

FRESHMAN YEAR

During the freshman year the student should aim to take approximately the following work:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>10</td>
</tr>
<tr>
<td>Zoology</td>
<td>10</td>
</tr>
<tr>
<td>Physical Education</td>
<td>6</td>
</tr>
<tr>
<td>Psychology</td>
<td>5</td>
</tr>
<tr>
<td>Sociology</td>
<td>5</td>
</tr>
<tr>
<td>Introduction to education</td>
<td>2</td>
</tr>
<tr>
<td>Probable academic major</td>
<td>15</td>
</tr>
</tbody>
</table>

**Electives Open to Freshmen**

*Languages*: English, French, German, Greek, Italian, Scandinavian, Spanish.

*Sciences*: Astronomy, botany, chemistry, geology, home economics, mathematics, physics, zoology.

*Social and Philosophical Subjects*: Economics, education, history, journalism, philosophy, political science, psychology, sociology.

*Fine Arts*: Drawing, design, music, painting, dramatic art.

*Manual and Industrial Arts*: Drawing, woodwork, forge work.

SOPHOMORE YEAR

During the sophomore year the student should continue physical education. If psychology and sociology have not been taken in the freshman year they should be taken during the first quarter of
the sophomore year. Principles of Education should be taken during the sophomore year, the academic major should be continued, and at least one academic minor begun. The range of electives open to sophomores is very wide. For limitations see the departmental statements.

JUNIOR AND SENIOR YEARS

During the junior and senior years about five hours of work in education will be necessary each quarter. The academic major and minors should also be completed. The remainder of the work is elective.

ADMISSION OF NORMAL SCHOOL GRADUATES TO ADVANCED STANDING

Graduates of the normal schools of this state and of institutions of like standing elsewhere, who are likewise graduates of accredited four year high schools, are admitted to full junior standing in the College of Education. Their courses of study are determined by the dean of the College of Education subject to the approval of the head of the department in which the academic major is selected. The distribution of the majors and minors is considered in the light of actual calls for teachers year by year. The presumption is that they will take all the required subjects in the College of Education for which they have not had a fair equivalent elsewhere. Requests for modification of this procedure will be considered by the committee on graduation only when recommended by the dean of the college.

Graduates from the approved normal schools who major in education in the College of Liberal Arts may be exempted from such portions of the work in education as they have completed satisfactorily in the normal school, such exemption to be granted only upon the recommendation of the head of the department of education. Claims for advanced university credit based on excess normal credit will be passed on by a committee consisting of the Registrar, the Dean of the College and the heads of the departments concerned.

REQUIREMENTS FOR NORMAL DIPLOMAS AND LIFE DIPLOMAS

The University is authorized by law to issue teachers' diplomas, valid as teachers' licenses in all public schools of the state, as described below. Candidates for these diplomas should consult with the dean of the College of Education as early as possible regarding their work for the diploma and their preparation for teaching.

1. The University Five-Year Normal Diploma, valid for a period of five years from date of issue, is granted on the following conditions:

1. (a) Graduation from this University from the Colleges of Liberal Arts, Science, Education, Fine Arts, or Business Ad-
ministration. (b) Completion of at least 18 credits (quarter hours) in the department of education. (c) Completion of a teachers' course in the major academic subject, if offered: maximum, 9 credits. (d) General psychology, 5 credits. (e) Evidence of such general scholarship and personal qualities as give promise of success and credit in the profession of teaching. Legible handwriting, good spelling and correct English are indispensable. Active interest in the prospective work of a teacher will be considered.

The courses in education include the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Education</td>
<td>5</td>
</tr>
<tr>
<td>Educational Sociology</td>
<td>3</td>
</tr>
<tr>
<td>High School curriculum</td>
<td>3</td>
</tr>
<tr>
<td>Methods of teaching</td>
<td>3</td>
</tr>
<tr>
<td>Practice of teaching</td>
<td>5</td>
</tr>
</tbody>
</table>

The department reserves the right to adjust these requirements in education subject to individual cases. Variations will sometimes need to be made in the case of normal school students, persons who have taken education courses in summer sessions, and teachers with considerable experience. No deviations will be permitted except on approval of the dean of the College of Education.

2. Persons who have received the master's or doctor's degree from this University are eligible to the University five-year normal diploma, provided they have fulfilled the specific requirements exacted of those with the bachelor's degree.

3. Graduates of other accredited colleges or universities than the University of Washington who desire the University five-year normal diploma are required to be in residence in this University at least one quarter subsequent to graduation and to earn not less than 15 credits in approved subjects. Of these 15 credits 5 credits must be in courses in education approved by the dean of the College of Education, and 10 credits in teaching subjects, in courses approved by the major professor. They must have earned here or elsewhere at least 5 credits in psychology, a total of 18 credits in education, and have completed a teachers' course in an academic subject.

4. Graduates of the advanced courses of state normal schools who subsequently graduate from this University and who become candidates for the University five-year diplomas must earn at least 12 credits in education in this University.

II. The University Life Diploma is granted to candidates who fulfill the requirements for the University five-year diploma and also give satisfactory evidence of having taught successfully for at least twenty-four months.

Courses

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
THE FACULTY

HENRY SUZZALIO, Ph. D. (Columbia), LL. D. (California), PRESIDENT.

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

WILLIAM ELMER HENRY, A. M. (Indiana), Professor of Library Science, DIRECTOR.

CHARLES WESLEY SMITH, A. B., B. L. S. (Illinois), Associate Professor of Library Science.


ROBINSON SPENCER, A. B. (Wesleyan University), B. L. S. (Illinois), Instructor in Library Science.

ETHEL M. STANLEY, A. B. (Fairmont College), one year Illinois Library School, Instructor in Library Science.

The Library School is a graduate professional school established for the purpose of training young men and women in librarianship.

It is made a graduate school because it is believed that the conduct of a library requires a larger and more comprehensive educational equipment and outlook than can be had with less than the equivalent of the bachelor’s degree. The library is an educational institution, and cannot be entrusted to persons of only elementary acquirements.

The technical curriculum is but one year in length, based upon the baccalaureate degree, because the general educational equipment of the librarian is of larger significance than the technical training, but neither is sufficient without the other.

The graduates are competent to take charge of the smaller type of public library, or to take an assistant’s position in any department of the larger libraries, and after a reasonable experience in either of these two positions have shown themselves competent to conduct libraries of medium size with excellent success.

Admission.—The Library School curriculum is based upon two years of college work (known as the lower division) in either the College of Liberal Arts or the College of Science, as the student may elect.

It consists of a three-year curriculum of liberal arts or sciences and library science combined, making a five-year curriculum, four of which are academic and one professional. For admission to the Library School, therefore, the student must complete the requirements of the lower division in either the College of Liberal Arts or the College of Science.
I. Requirements for the Degree of Bachelor of Arts.—The bachelor of arts degree is granted at the end of the senior year to those who have finished the liberal arts requirements of the lower division and who have taken liberal arts electives totaling 192 credits.

The electives taken must include three groups of minors of not less than 24 credits each in the following groups: language and literature; natural sciences; history, political, economic and social sciences; philosophy; psychology, and education.

A subject major is not required.

II. Requirements for the Degree of Bachelor of Science.—The bachelor of science degree is granted at the end of the senior year to those who have finished the work of the lower division in the College of Science and who shall have earned 192 credits, 90 of which shall be in science under the following restrictions:

A. The student may select any three of the following sciences and must do the amount of work in any particular science as indicated:

- Botany, 24 credits
- Chemistry, 24 credits
- Geology, 24 credits
- Mathematics, 24 credits
- Physics, 24 credits
- Zoology, 24 credits

B. Either included or in addition to the work in (A) every student must take six credits in mathematics, 12 credits in physics, 12 credits in chemistry, 12 credits in botany or zoology.

C. If 24 credits in chemistry are taken, only 18 credits in geology are required.

The following would ordinarily be the most satisfactory combination:

- Botany, 24 credits
- Chemistry, 24 credits
- Geology, 18 credits
- Mathematics, 6 credits
- Physics, 12 credits
- Zoology, 6 credits

III. Requirements for the Degree of Bachelor of Science in Library Science.—The curriculum in library science, constituting one year of work, consists of 48 credits distributed through the senior and graduate years, 20 credits being earned in the senior year and 28 in the graduate year.

At the end of the graduate or fifth year, or upon the completion of 240 credits, 48 of which must be in library science, the degree of bachelor of science in library science is granted.
CURRICULUM IN LIBRARY SCIENCE

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order, accession, and loan systems</td>
<td>2</td>
</tr>
<tr>
<td>Classification and subject headings</td>
<td>3</td>
</tr>
<tr>
<td>Cataloguing</td>
<td>6</td>
</tr>
<tr>
<td>Reference</td>
<td>6</td>
</tr>
<tr>
<td>Books and libraries</td>
<td>1</td>
</tr>
<tr>
<td>Organization and extension</td>
<td>2</td>
</tr>
<tr>
<td>Administration</td>
<td>3</td>
</tr>
<tr>
<td>Subject bibliography</td>
<td>2</td>
</tr>
<tr>
<td>Book selection</td>
<td>7</td>
</tr>
<tr>
<td>Work with children and schools</td>
<td>2</td>
</tr>
<tr>
<td>Special lectures</td>
<td>1</td>
</tr>
<tr>
<td>Special study of specific libraries</td>
<td>1</td>
</tr>
<tr>
<td>Practice (360 clock hours)</td>
<td>12</td>
</tr>
</tbody>
</table>

Each recitation or lecture period presupposes two hours preparation and twelve such periods are counted as one credit. Two and one-half clock hours of practice count as one recitation or lecture period, and thirty clock hours of practice are counted as one credit.

No course in this curriculum is open to election by students outside the Library School.

*Practice.*—Practice work under careful supervision covers 360 practice hours, distributed as six hours per week through five quarters for those who do a part of the work as under-graduates, or 12 hours per week for 30 weeks for those who enter as graduate students and complete the work in three quarters.

The practice time is divided about equally between the University Library and the Seattle Public Library.

The Seattle Public Library offers rather unusual opportunity for students to practice in varied phases of work under careful supervision of trained librarians of large experience.

*Graduate Standing.*—Graduates of the University of Washington or of other colleges and universities of equal rank may enter the Library School and finish the work and receive the professional degree in one year, upon compliance with the following provisions:

A. No one may be admitted to the senior year or to graduate standing with less than 20 credits each in two modern foreign languages, French and German preferred.

B. Before entering upon the work of the senior year each student must be able to operate a typewriting machine with accuracy and fair speed.

C. If at any time there are more applicants for admission to the Library School than can be adequately cared for, preference will be given to residents of the state of Washington if other qualifications are essentially equal.

**Advisory Suggestions**

A. No one with serious physical defects or in ill health can readily secure a position in library work, and therefore such persons should not ask admission to the Library School.
B. Persons beyond thirty years of age should not attempt to enter library work, unless they have been continuously engaged in intellectual pursuits since graduating from college.

COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
COLLEGE OF BUSINESS ADMINISTRATION

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), LL. D. (California), President

JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.

STEPHEN IVAN MILLER, JR., A. B. (Stanford), LL. B. (Michigan), Professor of Economics, Dean.

J. ANTON DE HAAS, A. M. (Harvard), PH. D. (Stanford), Professor of Business Administration.

VANDERVYER CURTIS, PH. D. (Harvard), Associate Professor of Economics.

PAUL H. DOUGLAS, A. M. (Columbia), Associate Professor of Business Administration.

HARRY E. SMITH, PH. D. (Cornell), Associate Professor of Business Administration.

WILLIAM D. MORIARTY, PH. D. (Michigan), Associate Professor of Business Administration.

THEODOSIA S. McMAHON, PH. D. (Wisconsin), Assistant Professor of Economics.

MACK M. SKINNER, PH. D. (Harvard), Assistant Professor of Business Administration.

WILLIAM E. COX, A. M. (Texas), Assistant Professor of Business Administration.

CARL S. DAKAN, B. S. (Missouri), Assistant Professor of Business Administration.

CLEMENT AKEBMAN, A. M. (Harvard), Instructor in Economics.

HOMER E. GREGORY, A. M. (Chicago), Instructor in Business Administration.

JAMES E. GOULD, A. M. (Harvard), Lecturer on Navigation.

KARL LEIB, A. B., Instructor in Business Administration.

FRED A. MORRILL, B. S., Instructor in Business Administration.

HAROLD L. TURPIN, Teaching Assistant.

R. W. BISBEE, Research Assistant.

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

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

FREDERICK MORGAN PADERFORD, PH. D. (Yale), Professor of English and Dean of the Graduate School.

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

PHILIP JOSEPH FEIN, PH. D. (Johns Hopkins), Professor of Romantic Languages.

ROBERT EDOUARD MORITZ, PH. D. (Nebraska), PH. N. D. (Strassburg), Professor of Mathematics.

HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Chemical Engineering.

FREDERICK ELMER BOLSTON, PH. D. (Clark), Professor of Education and Dean of the College of Education.

ESTHER ISABEL RAITT, A. M. (Columbia), Professor of Home Economics.

STEVENS SMITH, PH. D. (Pennsylvania), Professor of Psychology.

LESLIE JAMES ATER, B. S., J. D. (Chicago), Professor of Law.

(95)
THE COLLEGE OF BUSINESS ADMINISTRATION

Modern business has reached that stage where internal and external economies must be realized. The industrial management of today seeks to reduce waste in materials and labor, and to promote the most effective organization of the factors of production. Such a task requires not only special knowledge, but also vision of the highest order.

A knowledge of accounting, statistics, labor efficiency, resources, credit, insurance, business law and organization, is fundamental for a proper understanding and an intelligent direction of our modern industrial system. Such studies as psychology, sociology, government, ethics, and history provide the larger equipment necessary for dealing with this industrial system in its proper perspective and its social relationships.

The establishment of a well-ordered plant is the basis of a strong position in production. Just as important is the problem of successfully moving the product to the consumer. Markets are no longer local, but national and even international. Every business man has occasion to study salesmanship, advertising, transportation routes and rates, banking, exchange, tariffs and government regulation. The more extended state control of industry especially is calling for unusual ability to cooperate.

The College of Business Administration aims to train students to meet the general as well as the specific problems of modern industry.

REQUIREMENTS FOR ADMISSION

Full information regarding requirements for admission, registration, and expenses may be found on pages 40-50.

GRADUATION

Degrees.—The College of Business Administration is a professional college, and its graduates receive the degree of bachelor of business administration. The degree of bachelor of business administration will be conferred upon any student who has fulfilled the entrance requirements and who presents 192 credits in subjects required or approved by the faculty of the College of Business Administration.

The degree of master of business administration will be conferred upon students who continue their work for an additional year, after completing the requirements for the degree of bachelor of business administration. Students will not be advised to do graduate work unless they have shown unusual ability in their previous courses. All graduate work must be selected after a consultation with the instructor in charge of the special department in which the
student is interested, and after the approval of the dean of the College of Business Administration.

Students entering from other colleges and universities must satisfy not only the general requirements of the University, but also the requirements of the College of Business Administration.

Not less than three-fourths of the credits required for graduation must be earned with grades of A, B, or C.

Curricula.—All students in the College of Business Administration must have their selection of courses approved each quarter by a member of the college faculty. The college requires the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. A. 1</td>
<td>General Economics. Autumn, winter or spring</td>
</tr>
<tr>
<td>B. A. 7</td>
<td>Resources of the World. Autumn, winter or spring</td>
</tr>
<tr>
<td>B. A. 11-12</td>
<td>Elementary Accounting. Beginning autumn or winter</td>
</tr>
<tr>
<td>Psych. 1</td>
<td>General Psychology. Autumn, winter or spring</td>
</tr>
<tr>
<td>Math. 11-12</td>
<td>Mathematical Theory of Investment. Beginning autumn or winter</td>
</tr>
<tr>
<td>English 1-2</td>
<td>Written and Oral English. Beginning autumn or winter</td>
</tr>
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SOPHOMORE

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>B. A. 51</td>
<td>Economics of Transportation. Autumn, winter or spring</td>
</tr>
<tr>
<td>B. A. 54-55-56</td>
<td>Business Law. Beginning autumn</td>
</tr>
<tr>
<td>B. A. 57</td>
<td>Money and Banking. Autumn, winter, spring or summer</td>
</tr>
<tr>
<td>B. A. 58</td>
<td>Risk and Insurance. Autumn, winter or spring</td>
</tr>
<tr>
<td>B. A. 61</td>
<td>Social and Economic Standards of Living. Autumn, winter or spring</td>
</tr>
<tr>
<td>B. A. 71</td>
<td>Economics of Markets. Autumn, winter or spring</td>
</tr>
<tr>
<td>Approved Electives</td>
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JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Sociology 1</td>
<td>Introduction to Sociology. Autumn or spring</td>
</tr>
<tr>
<td>Pol. Science I</td>
<td>Elements of Government. Autumn, winter or spring</td>
</tr>
<tr>
<td>Philosophy 1</td>
<td>Philosophy. Autumn, winter or spring</td>
</tr>
<tr>
<td>Philosophy 2</td>
<td>Introduction to Social Ethics. Winter, or</td>
</tr>
<tr>
<td>Philosophy 3</td>
<td>Introduction to Ethics. Spring</td>
</tr>
<tr>
<td>Approved Electives</td>
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SENIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B. A. 160</td>
<td>Advanced Economics. Autumn, winter or spring</td>
</tr>
<tr>
<td>Approved Research</td>
<td>Autumn, winter or spring</td>
</tr>
<tr>
<td>Approved Electives. Autumn, winter or spring</td>
<td></td>
</tr>
</tbody>
</table>

The requirements of the first two years are made sufficiently broad to establish a foundation for the profession of business, regardless of the particular field in which the student may later be interested.

No student is allowed to enter the junior-senior courses of the College of Business Administration unless he has (a) reached at least junior standing and (b) satisfied the prerequisites to these courses.

The prerequisites to the junior-senior courses have been established after the most careful consideration of (a) the standard of efficiency and performance aimed at in the course, and (b) the educational value which the course might have for the student. It
has been decided that to admit students who have not completed the carefully arranged prerequisites would imperil not only the quality of the work of the instructor, but also would make it impossible for the students to gain the full benefit of the course. But the college realizes that certain just claims to exceptions from the above rules could be presented, and has decided that exceptions can be granted to those students whose maturity and extended experience in economic affairs of a suitable nature make it just and reasonable. Proof of these experiences and qualifications will be passed upon by the dean of the College of Business Administration.

The junior and senior years are, in large part, reserved for the student's selected field of business interest. Each student or group of students will be guided and assisted by the instructor designated for that department of work, under the general direction of the dean of the College of Business Administration.

**Fields of Training.**—The following fields of business training are suggested:

1. Accounting
2. Business Finance
3. Employment Management
4. Executive Management
5. Marketing and Sales
6. Retail Store Service
7. Advertising
8. Transportation
9. Maritime Commerce
10. Foreign Trade
11. Insurance
12. Secretarial Work
13. Commercial Teaching

**SUGGESTED COURSES FOR THE PROFESSIONAL FIELDS**

In the first year the student fulfills the standardized requirements (see pages 41-45).

For the second, third and fourth years in addition to the standardized requirements the following courses are suggested:*  

**ACCOUNTING**

**Sophomore**

Second Year Accounting, 3 credits for each quarter: Total 9 credits.

<table>
<thead>
<tr>
<th>Autumn</th>
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<th>Spring</th>
</tr>
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<tbody>
<tr>
<td>Sociology</td>
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<td>Philosophy</td>
</tr>
<tr>
<td>Political Science</td>
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<td>Statistical Methods</td>
</tr>
<tr>
<td>Advanced Accounting</td>
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<td>Advanced Accounting</td>
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<td>Bank Accounting</td>
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<td>Accounting Systems</td>
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<td>Accounting</td>
</tr>
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<td></td>
<td></td>
<td>Business Correspondence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
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**Junior**

<table>
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<tr>
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<th>Spring</th>
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<tbody>
<tr>
<td>Auditing</td>
<td>3</td>
<td>Corporation Finance</td>
</tr>
<tr>
<td>Corporation Accounting</td>
<td>3</td>
<td>Cost Accounting</td>
</tr>
<tr>
<td>Trusts and Combinations</td>
<td>3</td>
<td>Income Tax Accounting</td>
</tr>
<tr>
<td>Research in Accounting</td>
<td>2</td>
<td>Office Management</td>
</tr>
<tr>
<td>Fire Insurance</td>
<td>5</td>
<td>Research in Accounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Banking Practice</td>
</tr>
<tr>
<td></td>
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**Senior**

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<td>Auditing</td>
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<td>Corporation Finance</td>
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<tr>
<td>Corporation Accounting</td>
<td>3</td>
<td>Cost Accounting</td>
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<tr>
<td>Trusts and Combinations</td>
<td>3</td>
<td>Income Tax Accounting</td>
</tr>
<tr>
<td>Research in Accounting</td>
<td>2</td>
<td>Office Management</td>
</tr>
<tr>
<td>Fire Insurance</td>
<td>5</td>
<td>Research in Accounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Banking Practice</td>
</tr>
<tr>
<td></td>
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<td>16</td>
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</tbody>
</table>

*No student will be permitted to specialize in a field of work without having had his schedule approved by the major professor in charge of that field.
### BUSINESS FINANCE

**Sophomore**

Second Year Accounting, 3 credits per quarter: Total 9 credits.

<table>
<thead>
<tr>
<th>Autumn</th>
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<th>Spring</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Trusts and Combinations</td>
<td>3</td>
<td>Corporation Finance</td>
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</tr>
<tr>
<td>Banking Accounting</td>
<td>3</td>
<td>Banking Practice</td>
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</tr>
<tr>
<td>Foreign Exchange</td>
<td>2</td>
<td>Statistical Methods</td>
<td>6</td>
</tr>
<tr>
<td>Philosophy</td>
<td>5</td>
<td>Sociology</td>
<td>5</td>
</tr>
<tr>
<td>Electives</td>
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<tbody>
<tr>
<td>Business Statistics</td>
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<td>Advanced Economics</td>
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<tr>
<td>Public Finance</td>
<td>5</td>
<td>Problems in Taxation</td>
<td>3</td>
</tr>
<tr>
<td>Corporation Accounting</td>
<td>3</td>
<td>Research in Money and Banking</td>
<td>2</td>
</tr>
<tr>
<td>Research in Trusts and Combinations</td>
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<tr>
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<tbody>
<tr>
<td>History of Labor</td>
<td>8</td>
<td>Modern Labor Problems</td>
<td>8</td>
</tr>
<tr>
<td>Women in Industry</td>
<td>3</td>
<td>Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>Research in Management</td>
<td>2</td>
<td>Research in Industrial Management</td>
<td>2</td>
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<td>Research in Industrial Management</td>
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<td>Approved Electives</td>
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### EMPLOYMENT MANAGEMENT

**Sophomore**

Second Year Accounting, 3 credits per quarter: Total 9 credits.

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<tbody>
<tr>
<td>Philosophy</td>
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<td>Sociology</td>
<td>5</td>
</tr>
<tr>
<td>Statistical Methods</td>
<td>6</td>
<td>Immigration and Labor</td>
<td>2</td>
</tr>
<tr>
<td>Labor Legislation</td>
<td>3</td>
<td>Social Insurance</td>
<td>8</td>
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<tr>
<td>Approved Electives</td>
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<td>Approved Electives</td>
<td>8</td>
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<tr>
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</thead>
<tbody>
<tr>
<td>History of Labor</td>
<td>8</td>
<td>Modern Labor Problems</td>
<td>8</td>
</tr>
<tr>
<td>Women in Industry</td>
<td>3</td>
<td>Business Administration</td>
<td>3</td>
</tr>
<tr>
<td>Research in Management</td>
<td>2</td>
<td>Research in Industrial Management</td>
<td>2</td>
</tr>
<tr>
<td>Approved Electives</td>
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<td>Research in Industrial Management</td>
<td>2</td>
</tr>
<tr>
<td>ynthia of Labor</td>
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<td>Approved Electives</td>
<td>8</td>
</tr>
<tr>
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<td></td>
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<table>
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<tr>
<th>SENIOR</th>
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</tr>
</thead>
<tbody>
<tr>
<td>History of Labor</td>
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<td>Industrial Management</td>
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<td>Advanced Economics</td>
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<tr>
<td>Research in Industrial Management</td>
<td>2</td>
<td>Management</td>
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</tr>
<tr>
<td>Approved Electives</td>
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<td>Approved Electives</td>
<td>8</td>
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</table>

### EXECUTIVE MANAGEMENT

**Sophomore**

Second Year Accounting, 3 credits per quarter: Total 9 credits.

<table>
<thead>
<tr>
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<th>Winter</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Philosophy</td>
<td>5</td>
<td>Ethics</td>
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</tr>
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<td>Business Administration</td>
<td>3</td>
<td>Political Science</td>
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</tr>
<tr>
<td>Trusts and Combinations</td>
<td>3</td>
<td>Corporation Finance</td>
<td>3</td>
</tr>
<tr>
<td>Sociology</td>
<td>5</td>
<td>Marketing of Manufactured Products</td>
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<tr>
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<tr>
<td>Advanced Economics</td>
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<td>Employment Management</td>
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<tbody>
<tr>
<td>History of Labor</td>
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<td>Modern Labor Problems</td>
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<td>Advanced Economics</td>
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</tbody>
</table>
### UNIVERSITY OF WASHINGTON

### MARKETING AND SALES

#### SOPHOMORE

**Autumn** | **Winter** | **Credits** | **Spring** | **Credits**
---|---|---|---|---
Economics of Advertising | Principles of Advertising | 3 | Advertising Campaigns | 3
Trade of the Far East | Trade of the Near East | 3 | Trade of Latin America | 3
Trusts & Combinations | Regulation of Industry | 3 | Ports and Terminals | 3
Foreign Exchange | Economics of Consumption | 2 | Commercial Credits | 2
Philosophy | Sociology | 5 | Political Science | 6

| **Total** | 16 | **Total** | 16 |

#### SENIOR

Research in Advertising | Research in Advertising | 15 | Research in Advertising | 15
and Marketing | and Marketing | 2 | and Marketing | 2
Trade of the North West | Technique of Foreign Trade | 3 | Trade of Europe | 3
Business Administration | Business Correspondence | 3 | Rail and Marine Rates | 3
Ethics | Corporation Finance | 3 | Advanced Economics | 5
Approved Electives | | 8 | Approved Electives | 2

| **Total** | 15 | **Total** | 15 |

### RETAIL STORE SELLING

#### FRESHMAN

**Autumn** | **Winter** | **Credits** | **Spring** | **Credits**
---|---|---|---|---
Textiles | Sewing | 3 | Textiles | 3
Written and Oral English | Printed Products | 3 | Ethics | 5
General Economics | Painting, Sculpture and Design | 5 | Sociology | 5
Approved Electives | | 8 | Approved Electives | 2

| **Total** | 15 | **Total** | 15 |

#### SOPHOMORE

Dressmaking | Non Textiles | 3 | Home Furnishings | 3
Textile and Costume Design | Marketing of Manufactured Products | 3 | Ethics | 5
Economics of Markets | Ed Products | 3 | Sociology | 5
Social and Economic Psychology | | 5 | Approved Electives | 2
Approved Electives | | 8 | Approved Electives | 5

| **Total** | 16 | **Total** | 16 |

#### JUNIOR

Physics of the Home | Physics of the Home | 5 | Principles of Education | 5
Department Store Training | Applied Psychology | 5 | Department Store Training | 3
| | | | |
| | 3 | 3 | |
| | | 3 | Practice Selling | 3
| | 4 | 4 | Approved Electives | 4

| **Total** | 15 | **Total** | 15 |

#### SENIOR

History of American Labor | Sociology | 3 | Sales Management | 3
Household Management | Statistical Methods | 5 | Employment Management | 3
High School Curriculum | Modern Labor Problems | 3 | Practice Teaching | 6
Methods of Teaching | | 3 | Approved Electives | 4
Approved Electives | | 3 | Approved Electives | 4

| **Total** | 15 | **Total** | 15 |

### ADVERTISING

#### SOPHOMORE

**Autumn** | **Winter** | **Credits** | **Spring** | **Credits**
---|---|---|---|---
Economics of Advertising | Principles of Advertising | 3 | Advertising Campaigns | 3
Adv. English Composition | Adv. English Composition | 3 | Trade of Latin America | 3
Trade of the Far East | Trade of Near East | 3 | Trade of Latin America | 3
Foreign Exchange | Economics of Consumption | 2 | Commercial Credits | 2
Philosophy | Sociology | 5 | Political Science | 5

| **Total** | 16 | **Total** | 16 |
COLLEGE OF BUSINESS ADMINISTRATION

**Autumn Credits Winter Credits Spring Credits**

| Research in Marketing | 2 | Research in Marketing | 2 |
| Typogrophy of Advertising | 2 | Typography of Advertising | 2 |
| Modern Language | 15 | Trade of the North West | 2 |
| Ethics | 3 | Technique of Foreign Trade | 3 |
| Approved Elective | 4 | Business Correspondence | 3 |
| | | Approved Elective | 3 |
| | | | 15 | 15 | 15 |

**TRANSPORTATION**

**Sophomore**

Second Year Accounting, 3 credits per quarter: Total 9 credits.

<table>
<thead>
<tr>
<th>Autumn Credits</th>
<th>Winter Credits</th>
<th>Spring Credits</th>
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</thead>
<tbody>
<tr>
<td>Railroad Administration</td>
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<td>Rail and Marine Rates</td>
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<td>Sociology</td>
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<td>Business Correspondence</td>
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<td>Investments</td>
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</table>

**Maritime Commerce**

Giving preliminary training for the position of general manager and foreign representative in firms engaged in foreign trade, for port managers, auditors, and desk officers in shipping organizations.

The courses after the first year will be taken on the alternating quarter system, quarters of office practice and sea service being coordinated with the academic work.

<table>
<thead>
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<th>First Quarter Credits</th>
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<td>Elementary Accounting</td>
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<td>Business Correspondence</td>
<td>3</td>
<td>Risk and Insurance</td>
</tr>
<tr>
<td>Ship Operation I or II</td>
<td>3</td>
<td>Ship Operation or</td>
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<table>
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<tr>
<td>Econ's of Transportation</td>
<td>3</td>
<td>Water Transportation</td>
</tr>
<tr>
<td>Modern Language</td>
<td>6</td>
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<tr>
<td>Business Law</td>
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<tr>
<td>Business Admin</td>
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<td>Money and Banking</td>
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<td>Advertising</td>
<td>3</td>
<td>Marine Insurance</td>
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<tr>
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<tr>
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<td>Employment Management</td>
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</table>

**FOREIGN TRADE**

**SOPHOMORE**

- Water Transportation: 2 credits
- Marketing of Manufactured Products: 3 credits

**JUNIOR**

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<tr>
<th>Autumn</th>
<th>Credits</th>
<th>Autumn</th>
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<th>Spring</th>
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<tbody>
<tr>
<td>Organization of Foreign Trade</td>
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<td>Technique of Foreign Trade</td>
<td>3</td>
<td>Ports &amp; Terminals</td>
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<tr>
<td>Trade</td>
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<td>Trade of the Near East</td>
<td>3</td>
<td>Trade of Latin America</td>
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<td>Trade of Far East</td>
<td>3</td>
<td>Trade of Australia and the Near East</td>
<td>3</td>
<td>Trade of Europe</td>
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<td>Trade of the Northwest</td>
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<td>Africa</td>
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<td>Commercial Credits</td>
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<td>Commercial Policies</td>
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**SENIOR**

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<tr>
<td>Research in Foreign Trade</td>
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<td>Marine Insurance</td>
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<tr>
<td>Economics of Advertising</td>
<td>3</td>
<td>Principles of Advertising</td>
<td>3</td>
<td>Rail and Marine Routes</td>
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<tr>
<td>International Law</td>
<td>8</td>
<td>Ethics</td>
<td>5</td>
<td>Sales Management</td>
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<tr>
<td>Admixture Law</td>
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<td>Business Correspondence</td>
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**INSURANCE**

**SOPHOMORE**

Second Year Accounting, 3 credits per quarter: Total 9 credits.

**JUNIOR**

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<tr>
<th>Autumn</th>
<th>Credits</th>
<th>Winter</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Philosophy</td>
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<td>Sociology</td>
<td>5</td>
<td>Political Science</td>
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</tr>
<tr>
<td>Fire Insurance</td>
<td>5</td>
<td>Social Insurance</td>
<td>8</td>
<td>Life Insurance</td>
<td>5</td>
</tr>
<tr>
<td>Statistical Methods</td>
<td>5</td>
<td>Marine Insurance</td>
<td>2</td>
<td>Business Statistics</td>
<td>2</td>
</tr>
<tr>
<td>Ethics</td>
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**SENIOR**

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<th>Winter</th>
<th>Credits</th>
<th>Spring</th>
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<tbody>
<tr>
<td>Advanced Economics</td>
<td>6</td>
<td>Principles of Advertising</td>
<td>3</td>
<td>Advertising Campaigns</td>
<td>3</td>
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<tr>
<td>Economics of Advertising</td>
<td>6</td>
<td>Banking Practice</td>
<td>6</td>
<td>Commercial Credits</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration</td>
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<td>Cost Accounting</td>
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<td>Sales Management</td>
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**SECRETARIAL WORK**

**SOPHOMORE**

- Typewriting: 3 credits
- Advanced English Composition: 6 credits
- Current Events: 2 credits

**JUNIOR**

<table>
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<tr>
<th>Autumn</th>
<th>Credits</th>
<th>Winter</th>
<th>Credits</th>
<th>Spring</th>
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<tbody>
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<td>Sociology</td>
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<td>Contemporary Literature</td>
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<td>Business Correspondence</td>
<td>5</td>
<td>Office Management</td>
<td>5</td>
<td>Public Speaking</td>
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<tr>
<td>Shorthand</td>
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*It is assumed that the student will have had at least two years of a modern foreign language before entering upon the course. If he has not fulfilled this requirement, he will be expected to take some modern foreign language for at least three quarters before the end of his junior year. High School students looking forward to majoring in Foreign Trade are advised to take French or Spanish for four years at their High School.
# COLLEGE OF BUSINESS ADMINISTRATION

## SENIOR

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Credits</th>
<th>Winter</th>
<th>Credits</th>
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<td>Elements of Reporting</td>
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<td>Elements of Reporting</td>
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<tr>
<td>Statistical Method</td>
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<td>Advanced Economics</td>
<td>5</td>
<td>Ethics</td>
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<td>Secretarial Research</td>
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**Note:** Students in the College of Liberal Arts may elect the Secretarial Work in their junior and senior years. They should offer Typewriting as part of their junior certificate work.

## COMMERCIAL TEACHING

### SOPHOMORE

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<tr>
<th>Autumn</th>
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<td>Typewriting</td>
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<tr>
<td>Advanced English Composition</td>
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<tr>
<td>Current Events</td>
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### JUNIOR

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<tbody>
<tr>
<td>Philosophy</td>
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<tr>
<td>Principles of Education</td>
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<td>Shorthand</td>
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<td>Business Correspondence</td>
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<td>Office Management</td>
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<td>Approved Electives</td>
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### SENIOR

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Statistical Methods</td>
<td>5</td>
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<tr>
<td>Banking Practice</td>
<td>3</td>
</tr>
<tr>
<td>Secretarial Training</td>
<td>2</td>
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<tr>
<td>Commercial Teachers’ Course</td>
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## COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
SCHOOL OF JOURNALISM

THE FACULTY

HENRY SZEZALLO, Ph. D. (Columbia), LL. D. (California), President.

JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculty.

MATTHEW LYLE SPENCER, Ph. D. (Chicago), Professor of Journalism, Director.

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

RALPH D. CASEY, A. B. (Washington), Assistant Professor of Journalism.

ROBERT W. JONES, A. M. (So. Dakota), Assistant Professor of Journalism.

GRACE HARTLEY EDGINGTON, A. B. (Oregon), Associate in Journalism.

LESLIE JAMES AYER, B. S., J. D. (Chicago), Professor of Law.

WILLIAM DANIEL MORDRIT, Ph. D. (Michigan), Associate Professor of Business Administration.

HORACE HARDY LESTER, Ph. D. (Princeton), Instructor in Newspaper Photography.

AMBROSE PATTERSON, Associate in Fine Arts.

HAROLD L. TURPIN, Assistant in Business Administration.

THE SCHOOL AND ITS EQUIPMENT

The first courses in journalism in the University of Washington were given in 1907. A department of journalism was established in 1909. In March, 1918, the department was formally made a school.

The professional courses in the School of Journalism and those prescribed in other departments of the Colleges of Liberal Arts and Science are planned with two distinct aims in view: first, to offer instruction and practice in all the important details of newspaper work; second, to provide such studies as are best adapted to give the broad training necessary for the successful pursuit of journalism as a profession. In the first the courses include reporting, copy reading, editorial writing, advertising, cartooning, trade journalism, the mechanics of printing and publishing, and the practical work of the business and administrative offices. In the second are history, economics, political science, sociology, philosophy, psychology, language, literature, and similar subjects necessary in developing the broader scholarship indispensable in modern journalism.

This double ideal of the School of Journalism curriculum has justified itself in the increasing demands of Pacific coast editors for University graduates. The requests to date have exceeded the supply to such an extent that the School has been compelled to recommend students who have not completed their training. Ultimately the School hopes to meet the demand with graduates only.
Equipment.—Journalism and printing take up the entire lower floor of Commerce Hall, 208 x 70 feet, occupied first in September, 1917. On this floor are the class rooms, the exchange room, the journalism library and reading room, the faculty offices, the University of Washington Daily offices, the Tyee and Sun Dodger quarters, the printing and stock rooms, and all the mechanical equipment for teaching practical journalism. The printing laboratory of the School does practically all the printing and publishing work required on the University campus.

Frederick A. Churchill Junior Memorial Library.—In March, 1918, a separate journalism library and reading room was opened, known as the Frederick A. Churchill Junior Memorial Library, in memory of a brilliant student of the School who died in 1916 while doing newspaper work in New York. The Memorial Library contains carefully selected books and periodicals relating to printing, advertising, current events, short story, and all phases of the editorial side of the newspaper.

Journalism “Morgue”.—In the Memorial Library has been installed a journalism “morgue”, for newspaper and periodical clippings on current topics classified for instant reference. This contains biography, book reviews, and dramatic criticism, besides the continuous history of events.

Student Publications.—The editorial and business offices of the University of Washington Daily, Sun Dodger, and Tyee are on the first floor of Commerce Hall. Ownership of The Daily and Tyee is vested in the student body. Ownership and control of Sun Dodger is held by a corporation of students. None of these is supervised by the School of Journalism, though the staff members of each are recruited mainly from the School. All these publications offer opportunities for practical experience in journalistic work. Places on the editorial and business staffs of each are awarded for the most part on a basis of literary and executive ability and are open to all students in the School of Journalism. Opportunity for wide experience in reporting, copy reading, editorial writing, and advertising is offered on The University of Washington Daily, published as a four to six-page evening paper by the students.

Journalism Clubs.—Three national organizations are maintained by the students in the School of Journalism. Junior and senior men have a chapter of Sigma Delta Chi, one of the two national journalistic fraternities. Junior and senior women maintain a chapter of Theta Sigma Phi, the national journalistic sorority founded at the University of Washington in 1910. Members of the Sun Dodger staff have also a chapter of Hammer and Coffin, the national comic-magazine fraternity.
Opportunity for Self-Help.—The director of the School of Journalism has frequent calls from business managers and publishers for students with some experience to do part time work in advertising, publicity, and reporting. All the local newspapers and many of the more important dailies in neighboring cities maintain special reporters and correspondents at the University. Remuneration for this work ranges up to $50 a month, according to the services given. Promise of employment, however, cannot be made in advance. Positions are usually given those on the ground who are able to show by actual experience that they can do the work required.

ADMISSION AND GRADUATION

Correspondence and Credentials.—All correspondence regarding admission to any college or school of the University, credentials, and requests for bulletins should be addressed to the Registrar, University of Washington. Full information regarding requirements for admission is given on pages 40-45.

Courses for Freshmen and Sophomores.—Courses in news writing, elements of publishing, and the country newspaper are open to students of sophomore rank, and a special course for freshman is given in Literary Backgrounds for News Writers. From the beginning of the freshman year a specific curriculum of studies (see page 108) is required of students expecting to major in journalism. During the freshman and sophomore years the Director of the School of Journalism serves as the adviser of prospective majors in journalism. The election blank mailed each student by the registrar should be taken to the Director for guidance in the choice of courses and for final approval. Formal admission to the School of Journalism is not permitted until the junior year.

Admission.—On the successful completion of 90 plus 12 credits of prescribed and elective work at the University of Washington, or an equivalent amount from another institution of accredited standing, students are granted the junior certificate, which admits automatically to the School of Journalism. Persons over twenty-one years of age, not candidates for a degree, but wishing to take special studies, are permitted to elect journalism courses as special students on giving satisfactory evidence that they have sufficient preparation to profit by the courses chosen. (See page 43.)

Graduation.—The curriculum of the School of Journalism leads to the degree of bachelor of arts, for which 180 credits must be obtained, plus 12 hours in physical training or military science. Sixty of these credits must be in journalism, and a minimum of 90 plus 12 hours must have been earned before the student is formally registered in the School of Journalism. An oral examination before the journalism faculty is required of seniors not less than two
weeks before the end of the quarter in which they expect to graduate.

Graduate Study.—Advanced courses in journalism, history, economics, political science, sociology, and English are offered students wishing to take graduate study in preparation for newspaper work or the teaching of journalism. A wide demand exists in high schools, colleges, and universities for instructors adequately trained to teach journalism. The University library contains a large collection of bound newspapers and magazines and furnishes unusual opportunity for a historical study of American journalism. Special provision is made for directing the work of graduate students interested in historical, political, psychological, or language studies in journalism. The courses required will be determined by the nature and amount of undergraduate work the candidate has done in journalism and the phase of it in which he wishes to specialize, such as advertising, the business office, trade journalism, or the purely editorial field. A thesis constitutes one of the requirements. On completion of the requisite number of hours, the degree of master of arts is granted by the University.

Specialization.—Students looking forward to specialized branches of journalistic work, such as trade or class journalism, advertising, or the business office, will find the School of Journalism equipped to aid them. While emphasis is laid on the editorial side of the newspaper field, provision is made in the curriculum for practical training in other departments as well.

Shorthand and Typewriting.—All written work in all courses in journalism except Journalism 1-2 must be done on the typewriter. Both shorthand and typewriting are required for graduation. Prospective students may save themselves much time, however, by learning shorthand and typewriting before entering the University. Tests in each are given quarterly, and those who pass them successfully are excused from taking the University courses.

Courses

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
The requirements for the degree of bachelor of arts in journalism are scheduled below. The courses are arranged in the order in which they normally follow each other. Those starred are required.

**FRESHMEN**

*Economics*  
1. General Economics. 5 Credits  
*English*  
1-2. Freshman English. 5 Credits  
*Journalism*  
1-2. Literary Backgrounds for News Writers. 10 Credits  
*Military Science*  
1-2-3. Theoretical Military Science. 6 Credits  

### Political Science

1. Elements of Government. 5 Credits  
10. American Government. 3 Credits  
11. State Government. 3 Credits  

### Foreign Language

15 Credits

### History

5-6-7. Europe and the Near East. 9 Credits  

### Painting

5-6-7. Freehand Drawing. 9 Credits

### Science

15 Credits

### Sociology

1. Introductory Sociology. 5 Credits

**SOPHOMORES**

*Economics*  
8. Shorthand. 1 Credit  
*History*  
57-58-59. History of the United States. 9 Credits  
*Journalism*  
51-52-53. News Writing. 9 Credits  
61-62-63. The Country Newspaper. 3 Credits  
75-76-77. Elements of Publishing. 3 Credits  
90. Current Events. 1 Credit  
*Military Science*  
4-5-6. Practical Military Science. 6 Credits  

### Psychology

1. General Psychology. 5 Credits

### Economics

11-12-13. Elementary Accounting. 9 Credits  
76-77-78. Advertising. 9 Credits

### English

70-71. Shakespeare. 6 Credits

### Foreign Language

9 Credits

### History

71-72-73. Ancient History. 9 Credits

### Music

1-2-3. Music Appreciation. 6 Credits  
4-5-6. History of Music. 6 Credits

### Painting

56-57-58. Illustration and Life Study. 9 Credits

### Philosophy

5. Elements of Logic. 5 Credits

### Political Science

52. Political Parties. 5 Credits

### Science

15 Credits

### Sociology

51. Evolution of Material Culture. 3 Credits  
55. Programs of Social Reform. 3 Credits  
56. Criminology. 3 Credits  
57. Race Problems in America. 2 Credits

*Students who have not had science in high school are required to take ten hours of chemistry or physics and ten of botany or zoology in the University. Students entering without foreign language are required to take two years of a modern foreign language in the University.*
SCHOOL OF JOURNALISM

JUNIORS

*English
161. Early Nineteenth Century in American Literature. 3 Credits
162. Middle Nineteenth Century in American. 3 Credits
163. American Literature after 1870. 3 Credits

*Greek
11. Greek Civilization. 5 Credits

*Journalism
101-102-103. Advanced News Writing. 6 Credits
120-121-122. Copy Reading. 9 Credits
140-141-142. Business Office (I). 6 Credits

*Latin
11. Roman Civilization. 5 Credits

*Law
54-55-56. Business Law. 9 Credits

*Physical Education.

Architecture
101-102-103. History of Architecture. 6 Credits

Astronomy
1. Introduction to Astronomy. 1 Credit

Economics
42. Elements of Statistics. 3 Credits
90. Business Correspondence. 3 Credits

English
111-112-113. History of English Prose. 6 Credits
144-145-146. Romantic Movement. 9 Credits
183-184-185. General Literature. 9 Credits

*English
174-175-176. Romantic and Victorian Poets. 9 Credits

*Journalism
139. History of Journalism. 4 Credits
150. Editorial Writing. 4 Credits
153. Editorial Policy. 2 Credits
200. Senior Conference. 1 Credit

*Physical Education.

Architecture
151-152-153. History of Architecture. 6 Credits
157-158-159. Freehand Drawing. 6 Credits

Economics
105. Trusts and Combinations. 3 Credits
120. Business Administration. 3 Credits
121. Corporation Finance. 3 Credits
153. Railroad Administration. 2 Credits
130. History of the American Labor Movement. 3 Credits
102. Modern Labor Problems. 3 Credits

English
103-104-105. Contemporary Literature. 9 Credits

Foreign Language. 9 Credits

History
111. Medieval Civilization. 3 Credits
130. Europe, 1814-1870. 3 Credits
131. Europe since 1870. 5 Credits
147. History of the Civil War Period. 3 Credits
148. History of the Reconstruction Period. 3 Credits
149. History of National Development. 3 Credits

Journalism
105. The Sporting Page. 2 Credits
109. Critical Writing. 3 Credits
180. Function of Newspaper Advertising. 3 Credits
131. Display Advertising. 3 Credits
132. General Publicity. 3 Credits
133-134-135. Advertising Typography. 6 Credits
136-137. Comparative Journalism. 4 Credits

Philosophy
101-102-103. History of Philosophy. 3 Credits
114-115-116. History of Religion. 3 Credits

Political Science
100. Municipal Government. 3 Credits
102. Municipal Problems. 5 Credits

Psychology
111. History of Psychology. 2 Credits
128. Abnormal Psychology. 5 Credits

Science. 15 Credits

Sociology
129. Social Statistics. 3 Credits

SENIORS

Foreign Language. 9 Credits

History
117-178-179. The Nineteenth Century. 9 Credits
168-184-185. General Literature. 9 Credits

Journalism
143-144-145. The Business Office (II). 6 Credits
160-161-162. Trade Journalism. 9 Credits
170-171-172. Magazine and Feature Writing. 6 Credits
173-174-175. Short Story. 9 Credits
186. Teachers' Course. 2 Credits

Political Science
110-111. International Law and Politics. 6 Credits

Science. 15 Credits

*Students who have taken, or who plan to take, three or more years of ancient language may omit this requirement.
COLLEGE OF ENGINEERING

THE FACULTY

HENRY SUEZALLO, Ph. D. (Columbia), LL. D. (California), PRESIDENT

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

CARL EDWARD MAGNUSSON, Ph. D. (Wisconsin), E. E. (Minnesota), Professor of Electrical Engineering; ACTING DEAN.

EVERETT OWEN EASTWOOD, C. E., M. A. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.

CHARLES CHURCH MORE, M. S., C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.

WILLIAM FRANKLIN ALLISON, B. S., C. E. (Purdue), C. E. (Cornell), Professor of Municipal and Highway Engineering.

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

CHARLES WILLIAM HARRIS, C. E., (Cornell), Associate Professor of Civil Engineering.

EDGAR ALLEN LOEW, B. S. (E. E.) (Wisconsin), Associate Professor of Electrical Engineering.

ARTHUR MELVIN WISENFELD, Ph. B. (Brown), B. S. (Massachusetts Institute of Technology), Associate Professor of Mechanical Engineering.

HARRY RUBET, B. S. (C. E.), (Illinois) Associate Professor of Civil Engineering.

FREDERICK KURT KIRSTEN, B. S., E. E. (Washington), Assistant Professor of Electrical Engineering.

LESLIE FOREST CURTIS, B. S. (Tufts), M. S. (E. E.) (Washington), Assistant Professor of Electrical Engineering.

JOHN CHARLES RATHBUN, JR., A. M., B. S., C. E. (Washington) Assistant Professor of Civil Engineer.

IRA LEONARD COLLIER, B. S. (C. E.) (Washington), Assistant Professor of Civil Engineering.

CHARLES CALBERTSON MAY, B. S. (C. E.), (Washington), Assistant Professor of Civil Engineering.

JOHN CHARLES RATHBUN, JR., A. M., B. S., C. E. (Washington) assistant Professor of Civil Engineering.

FRED FALCONER WYLD, C. E. (Pennsylvania State College), Associate in Civil Engineering.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

SANDY MORROW KANE, Instructor in Metal Work.

CLARENCE LEISTER WHITE, C. E. (Iowa), Instructor in Civil Engineering.

GORDON RUSSELL SHUCK, E. E. (Minnesota), Instructor in Electrical Engineering.

JAMES BAKER HAMILTON, Instructor in Civil Engineering.

RUSSEL H. WHITE, B. S. (Massachusetts Institute of Technology), Instructor in Civil Engineering.

WILLIAM SPARAGUS, B. S. (E. E.) (Union College), Instructor in Electrical Engineering.

HARRY McINTYRE, B. S. (M. E.) (Washington), Instructor in Mechanical Engineering.

EDMOND CLARENCE MILLER, B. S. (E. E.) (Washington), Acting Instructor in Civil Engineering.

JOHN HOWARD THOMPSON, B. S. in Metallurgical Engineering (Washington) Acting Instructor in Civil Engineering.

\(^1\)Absent on leave, 1919-1920.

(110)
Curricula and Degrees.—The College of Engineering offers two four-year curricula in each of the departments of chemical, civil, electrical and mechanical engineering. One of these leads to the degree of bachelor of science in the respective branches of engineering, as B. S. in civil engineering. The other is offered to meet the need for a broader foundation of general training than is possible in the regular four-year curricula. This curriculum leads to the degree of bachelor of science (B. S.), and should be followed by a year of graduate work which, under the university regulations for advanced degrees, lead to the degree of master of science (M. S.) in the respective lines.

In arranging the curricula the aim has been: To keep the work fundamental in character; to introduce the student into an engineering atmosphere as soon as possible; to direct the methods of
work and study and to provide for a certain amount of flexibility in the selection of subjects.

A distinctive feature is the engineering problems (C. E. 11-12-13) given by engineering instructors in two three-hour periods a week and consisting chiefly of problems taken from engineering work, and analyzed from an engineering standpoint.

The freshman work in the departments of chemical, civil, electrical and mechanical engineering, is identical, thus making it possible for a student to delay the definite choice until the beginning of the sophomore year.

All freshman and much sophomore work is repeated each quarter. Additional courses will be repeated whenever practicable, provided the demand is sufficient to warrant full sections, but not for less than six students. Thus freshmen may enter at the opening of any quarter with the assurance of continuity of work for at least two years. The plan provides a possibility for taking desirable elective courses, or for engaging in practical work for one or more quarters before completing the curriculum.

Degree with Honors.—A degree with honors in engineering may be conferred upon any student of the College of Engineering who, upon recommendation of the engineering faculty of the honors committee and upon vote of the university faculty, may be declared worthy of unusual distinction.

Advanced Degrees.—The degrees of master of science in civil engineering (M. S. in C. E.), master of science in electrical engineering (M. S. in E. E.), master of science in mechanical engineering (M. S. in M. E.), and master of science in chemical engineering (M. S. in Ch. E.), respectively, will be conferred upon graduates of this college, or other engineering colleges of recognized standing, who complete a year (45 credit hours) of graduate work, including a satisfactory thesis, with the grade of A, B or C. The candidate must also pass a formal examination open to all members of the faculty. The selection of work for this degree must, in each case, be approved by the head of the department in which the student majors.

The professional degrees, chemical engineer (Ch. E.), civil engineer (C. E.), electrical engineer (E. E.), and mechanical engineer (M. E.), will be conferred in two years on graduates of this college holding the degree (M. S.) and in three years on those with (B. S.) in their respective lines, who give evidence of having been engaged continuously in acceptable engineering work and who present satisfactory theses.

Thesis.—The graduating thesis will consist of research or design in some branch of engineering, or the review of some existing construction. The subject must be approved by the professor in charge of the department under which it is classified.
Requirements for Admission

Full information regarding requirements for admission, registration, and expense may be found on pages 40-50.

Students entering the College of Engineering must have a working knowledge of the fundamentals of arithmetic, algebra and geometry. It is therefore desirable for the student to review his preparatory mathematics just before entering college. By such a step much time will be saved and the work of the college will be rendered more valuable to him.

Curricula of the College of Engineering

For the Freshman Year in All Departments

Freshmen

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
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<td>Gen. Chem. 2 or 22</td>
<td>3</td>
<td>Gen. Chem. 3 or 23</td>
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</tr>
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<td>Drawing, C. E. 1</td>
<td>3</td>
<td>Drawing, C. E. 2</td>
<td>3</td>
<td>Surveying, C. E. 21</td>
<td>3</td>
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<tr>
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<td>Woodwork, M. E. 2</td>
<td>1</td>
<td>Woodwork, M. E. 3</td>
<td>1</td>
</tr>
<tr>
<td>Mil. Sci. 1</td>
<td>2</td>
<td>Mil. Sci. 2</td>
<td>2</td>
<td>Mil. Sci. 3</td>
<td>2</td>
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</table>

In Chemical Engineering

Leading to the degree of Bachelor of Science in Chemical Engineering

Freshman

The same for all curricula. See above.

Sophomors

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Physics 97</td>
<td>5</td>
<td>Physics 98</td>
<td>5</td>
<td>D. C. Lab. E. E. 100</td>
<td>2</td>
</tr>
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<td>Qual. Chem. 43</td>
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<td>Quant. Chem. 101</td>
<td>4</td>
<td>Physics 99</td>
<td>5</td>
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<td>St. Engr. M. E. 82</td>
<td>3</td>
<td>Quant. Chem. 102</td>
<td>4</td>
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<tr>
<td>Mil. Sci. 4</td>
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<td></td>
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<td>Mil. Sci. 5</td>
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<td>Mil. Sci. 6</td>
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<td>16</td>
<td></td>
<td>18</td>
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</table>

Junior

| Organic Chem. 131 | 5       | Organic Chem. 132 | 5       | Organic Chem. 133 | 5       |
| Indust. Chem. 121 | 5       | Indust. Chem. 122 | 5       | Indust. Chem. 123 | 5       |
| A. C. Lab. E. E. 122 | 2       | Mechanism, M. E. 81 | 3       | English 8       | 3       |
|                  | 16      |               | 18      |               | 18      |

Senior

| Metallurgy, Min. 101 | 5       | Mach. Des. M. E. 115 | 3       | Elective       | 9       |
| Steam Lab. M. E. 88 | 3       | Thermo or Ch. E. 215 | 8       | Elective       | 3       |
| Elective         | 3       |               | 10      |               | 14      |

Electives must in all cases be approved by the head of the department.
# UNIVERSITY OF WASHINGTON
## IN CIVIL ENGINEERING

Leading to the degree of Bachelor of Science in Civil Engineering

**FRESHMAN**
The same for all curricula. See page 113.

**SOPHOMORE**

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
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<td>Cal. Math. 62</td>
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<td>Steam Lab. M. E. 63</td>
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<tr>
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<td>5</td>
<td>Physics 99</td>
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<tr>
<td>Mechanics, C. E. 131</td>
<td>3</td>
<td>Mechanics, C. E. 132</td>
<td>3</td>
<td>Field Eng. C. E. 24</td>
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**JUNIOR**

<table>
<thead>
<tr>
<th>Frame Struc., C. E. 134</th>
<th>3</th>
<th>Higher Surv. C. E. 23</th>
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<th>Reinforced Conc. C. E. 133</th>
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<tr>
<td>English 5</td>
<td>3</td>
<td>Highways, C. E. 122</td>
<td>3</td>
<td>D. C. Lab., E. E. 100</td>
<td>2</td>
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<tr>
<td>Geology 5</td>
<td>5</td>
<td>Elective</td>
<td>3</td>
<td>Engr. Con., C. E. 41</td>
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<td>15</td>
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</table>

**SENIOR**

| Transients, E. E. 196, 197 | 5       | Elective              | 15      |
| or Thesis 105              | 5       |                       |         |
| Elective                   | 5       |                       |         |

Electives must in all cases be approved by the head of the department.

## IN ELECTRICAL ENGINEERING

Leading to the degree of Bachelor of Science in Electrical Engineering

**FRESHMAN**
The same for all curricula. See page 113.

**SOPHOMORE**

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Mechanism, M. E. 81</td>
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<td>St. Engr., M. E. 82</td>
<td>3</td>
<td>D. C. Lab., E. E. 100</td>
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<tr>
<td>Physics 97</td>
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<td>Physics 99</td>
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<td>Mil. Sci. 6</td>
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</tbody>
</table>

**JUNIOR**

| Steam Lab., M. E. 88 | 3       | English 6          | 3       | Physics 114     | 3       |
| Mechanics, C. E. 131 | 3       | Mechanics, C. E. 132 | 3       | Elective        | 8       |
|                   | 15      |                    |         |                | 15      |

**SENIOR**

| Transients, E. E. 196, 197, El. Des., E. E. 161 | 5       | Elective              | 15      |
| or Thesis 105 | 5       |                       |         |
| Elective       | 5       |                       |         |
|                | 15      |                       |         |

Electives must in all cases be approved by the head of the department.
## College of Engineering

### IN MECHANICAL ENGINEERING

Leading to the degree of Bachelor of Science in Mechanical Engineering

**Freshman**
The same for all curricula.  See page 113.

<table>
<thead>
<tr>
<th><strong>Sophomore</strong></th>
<th><strong>Autumn Quarter</strong></th>
<th><strong>Credits</strong></th>
<th><strong>Winter Quarter</strong></th>
<th><strong>Credits</strong></th>
<th><strong>Spring Quarter</strong></th>
<th><strong>Credits</strong></th>
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<tr>
<td>Mechanism, M.E. 81</td>
<td>3</td>
<td>English 5</td>
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<td>Mill. Sci. 6</td>
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<tr>
<td><strong>Junior</strong></td>
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</tbody>
</table>

Electives must in all cases be approved by the head of the department.

## IN NAVAL ARCHITECTURE AND MARINE ENGINEERING

**Freshman**
The same for all curricula.  See page 113.

<table>
<thead>
<tr>
<th><strong>Sophomore</strong></th>
<th><strong>Autumn Quarter</strong></th>
<th><strong>Credits</strong></th>
<th><strong>Winter Quarter</strong></th>
<th><strong>Credits</strong></th>
<th><strong>Spring Quarter</strong></th>
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<tr>
<td>D.C. Lab., E.E. 100</td>
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<td>A. C. Lab., E.E. 122</td>
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</tbody>
</table>

Electives must in all cases be approved by the head of the department.
IN COMMERCIAL ENGINEERING

Leading to the degree of Bachelor of Science.

The student must register in the chemical, civil, electrical or mechanical engineering department of the College of Engineering.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Mathematics 51, 52, 53, 61, 62, 63</td>
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<tr>
<td>Physics 67, 98, 99</td>
<td>15</td>
</tr>
<tr>
<td>Chemistry 1, 2, 3, or 21, 22, 23</td>
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</tr>
<tr>
<td>English 5</td>
<td>3</td>
</tr>
<tr>
<td>Civil Engineering 1, 2, 11, 12, 13, 21, 231</td>
<td>21</td>
</tr>
<tr>
<td>Electrical Engineering 00, 100, 121, 122, or 161, 162</td>
<td>12</td>
</tr>
<tr>
<td>Mechanical Engineering 1, 2, 3, 81, 82, 90, 140</td>
<td>15</td>
</tr>
<tr>
<td>Business Administration 1, 11, 12, 13, 117, 195, 42, 145, 107</td>
<td>20</td>
</tr>
<tr>
<td>Military Science or Physical Education</td>
<td>12</td>
</tr>
<tr>
<td>General electives</td>
<td>31</td>
</tr>
<tr>
<td>Technical electives in the department in which the student is registered, at least</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
</tr>
</tbody>
</table>

Electives must in all cases be approved by the dean of the College of Engineering.

IN AERONAUTICAL ENGINEERING

Students who desire to major in aeronautical engineering should include the following courses in the technical and general electives of the curriculum for the bachelor of science degree in the College of Engineering. These courses may also be taken as electives in the curricula for the bachelor of science degree in chemical, civil, electrical and mechanical engineering.

101. Aerodynamics.
111. Aerial Propellers.
121. Airplane Design.
141. Airships.
161. Aerial Transportation.

Electives must in all cases be approved by the dean.

COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)

ENGINEERING EXPERIMENT STATION

THE STAFF

HENRY SUEZALLO, PH. D. (Columbia), LL. D. (California), President.
JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.
CARL EDWARD MAGNUSSON, PH. D. (Wisconsin), E. E. (Minnesota), Electrical Engineering, Director.
HUGO WINKENWERDER, M. F. (Yale), Forest Products.
MILNOR ROBERTS, A. B. (Stanford), Mining and Metallurgy.
HENRY KREITZER BENSON, PH. D. (Columbia), Chemical Engineering and Industrial Chemistry.
CHARLES WILLIAM HARRIS, B. S. (C. E.) (Washington), C. E. (Cornell), Civil Engineering.
EVERTON OWEN EASTWOOD, C. E., A. M. (Virginia), S. B. (Massachusetts Institute of Technology), Mechanical Engineering.
FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Physics Standards and Tests.

For description of the work of the Experiment Station see page 34.
COLLEGE OF FINE ARTS

THE FACULTY

HENRY SUZZALLO, PH. D. (Columbia), LL. D. (California), PRESIDENT
JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES
IRVING MACKY GLEN, A. M. (Oregon), Professor of Music, DEAN.
WILLIAM FERGUS GOSS, A. B. (Knox), Professor of Dramatic Art.
CARL FEMLINGHUYSEN GOULD, A. B. (Harvard), Associate Professor of Architecture.
CARL PAIGE WOOD, A. M. (Harvard), Assistant Professor of Music.
MOHIT ROSEN, Graduate (Warsaw Conservatory), Assistant Professor of Music.
ALFRED FRANZ VENINO (New York College, Stuttgart Conservatory, Leschetizky), Assistant Professor of Music.
FRANCES DICKER, A. M. (Columbia), Assistant Professor of Music.
ROBERT FULTON McCLELLAND, (Massachusetts Institute of Technology), Instructor in Architecture.

MRS. LOUISA VAN OGLE, Instructor in Music.
HAROLD OGDON SKEITH, (Armour Institute), Instructor in Architecture
ALBERT PORTER ADAMS, Instructor in Music.
HELEN FERREY, Bsc. Mus. (Washington), Assistant in Music.
GEORGE C. KIRCHNER, (Leipzig), Instructor in Music.
ANNETTE EDNES, (New York School of Fine and Applied Arts, Columbia), Instructor in Design.

GLENN HUGHES, A. B. (Stanford), Instructor in Dramatic Art.
AMBROSE PATTERSON, Associate in Fine Arts
MRS. EUGENIA WORMAN, Associate in Fine Arts
PAUL GUSTIN, Associate in Fine Arts.
JAMES E. WEHN, Associate in Modeling and Sculpture.
DAVID J. MYERS, Associate in Architecture.
ELEANOR CAMPBELL, Instructor in Fine Arts.

EVERETT OWEN EASTWOOD, C. E., A. M. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.
THOMAS TALBOT WATERMAN, Ph. D. (Columbia), Associate Professor of Anthropology.
DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer and Professor of Hygiene.
CHARLES CHURCH MORE, C. E., M. S. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.
THOMAS K. SIBLEY, Ph. D. (Chicago), Associate Professor of Latin and Greek.
GEORGE EARL FREDERICK, Ph. D. (Clark), Assistant Professor of Education.
HARVEY BRUCE DENSMORE, A. B. (Oxford), Assistant Professor of Greek.
GINO ARTURO RATTI, Ph. D. (Grenoble), Assistant Professor of French.
ERNEST OTTO ECKELMAN, Ph. D. (Heidelberg), Assistant Professor of German.
SAMUEL HERBERT ANDERSON, Ph. D. (Illinois), Assistant Professor of Physics.
MARY EMMA GEOS, A. M. (Teachers' College, Columbia), Assistant Professor of Physical Education.
ERIC TEMPLE BELL, Ph. D. (Columbia), Assistant Professor of Mathematics.
CURT JOHN DUCASSE, Ph. D. (Harvard), Assistant Professor of Philosophy.
COLLEGE OF FINE ARTS

This college comprises the departments of architecture, dramatic art, music, and sculpture, painting and design. In the department of architecture a curriculum of four years is offered leading to the degree of bachelor of architecture; in music there are curricula of four years leading to the degree of bachelor of music, with major in applied music, composition, or public school music, and to the degree of bachelor of arts in music. Curricula of four years are offered leading to the degree of bachelor of fine arts, with a major in painting and design, public school drawing, or music and drawing. Two-year curricula lead to certificates of proficiency for supervisors of art and music. The department of dramatic art offers major courses in the study of the drama and dramatic interpretations.

Normal Diploma.—Graduates in music may receive in addition to their bachelor of music degree a normal diploma, entitling them to teach music in the public schools, by meeting the requirements of the department of education and such departmental requirements as the department of music may see fit to institute. This will necessitate a total of at least 192 credits.

Certificates of Proficiency for Music Supervisors.—These may be issued by the head of this college to students who may not have completed the requirements for the degree, but who have satisfactorily completed certain stipulated courses at the discretion of the department. These courses include history of music, elementary harmony, public school music, ear training and melody writing, school music and music education, vocal music, education and drawing or some other approved elective. Only students of advanced standing can complete this course in less than two years.

Requirements for Admission

Full information regarding requirements for admission, registration, and expenses may be found on pages 40-50.

Courses

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
Students intending to enter any of the music courses leading to a degree must satisfy the head of the department that they have completed in addition to the usual high school preparation the equivalent of four years' work in piano, showing that they are familiar with the rudiments and can play well scales and chords in all positions, the smaller sonatas of Haydn, Mozart and Beethoven, and easier compositions representative of the best literature for the piano.

**CURRICULA**

**FOR THE BACHELOR OF MUSIC DEGREE WITH A MAJOR IN APPLIED MUSIC**

(Piano, Violin, Voice, Violoncello, Organ)

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Autumn Quarter Credits</th>
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<td>7 (Sight S.)</td>
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*As a substitute for the senior program, the student may have the option of offering an approved original composition or work in an elective course approved by the advisor and the dean.*
### FOR THE BACHELOR OF MUSIC DEGREE WITH A MAJOR IN COMPOSITION

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### FOR THE DEGREE OF BACHELOR OF ARTS IN MUSIC

#### FRESHMAN

<table>
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<th>Winter Quarter</th>
<th>Credits</th>
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#### SOPHOMORE

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#### SENIOR

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A total of forty hours of modern foreign language pursued either in the high school or in the University is required for a degree in the College of Fine Arts. If a student has finished this work in the high school, he shall substitute approved electives in the University. If he presents no foreign language for admission to the University, he must supply the deficiency in addition to the hours demanded by the respective curricula, without credit. If he presents on entrance two years of Latin, he may be excused from ten hours of the modern language requirement at the discretion of the dean.

Students of the public school music course are required to take Education 165 in the senior year. This practice teaching substitutes for the senior thesis.

---

*(1) Among the music courses indicated above the following are required: 1-2-3, 4-5-6, 7-8-9, 51-52-53, 101-102-103.

*(2) Liberal Arts electives for junior and senior years must be chosen from courses in the senior college, except with the consent of the dean.
### CURRICULUM IN ARCHITECTURE LEADING TO THE DEGREE OF BACHELOR OF ARCHITECTURE

**FRESHMAN**

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<tr>
<th>Autumn Quarter</th>
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<tbody>
<tr>
<td>Hist. &amp; Elem. Archt. 1</td>
<td>Hist. &amp; Elem. Archt. 2</td>
<td>Hist. &amp; Elem. Archt. 3</td>
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<tr>
<td>Archt. Drawing 4</td>
<td>Archt. Drawing 5</td>
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<td>Deser. Geom. 7</td>
<td>Shades &amp; Shadows 8</td>
<td>Perspective 9</td>
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<td>Mechanics 47</td>
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<td>Modern Language 5</td>
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<td>Freehand Draw. 10</td>
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<td>English 3</td>
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**Sophomore**

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<tr>
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<td>Mathematics 57</td>
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**Junior**

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<td>Heat. Concr. (C. E.) 113</td>
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<td>Sanita. &amp; Plumb. 115</td>
<td>Sanita. &amp; Plumb. 116</td>
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**Senior**

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<tbody>
<tr>
<td>Steam Eng. (M. E.) 82</td>
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<td>Pl. Survey (C. E.) 21</td>
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**Senior (Design Option)**

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<td>Bridges (C. E.) 161</td>
<td>Pl. Survey (C. E.) 21</td>
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<tr>
<td>Steam Eng. (M. E.) 82</td>
<td>Heat. &amp; Vent. (M. E.) 182</td>
<td>Struct. Mat. (C. E.) 116</td>
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**Senior (Architectural Engineering Option)**

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<tbody>
<tr>
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<td>P. H. (Freehand cast) 7</td>
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<td>*P. D. (Art Struc.) 11</td>
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**FOR THE DEGREE OF BACHELOR OF FINE ARTS WITH A MAJOR IN PAINTING AND DESIGN**

**FRESHMAN**

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<tr>
<th>Autumn Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
</tr>
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<tbody>
<tr>
<td>P. D. (Freehand) 5</td>
<td>P. D. (Freehand) 6</td>
<td>P. H. (Freehand cast) 7</td>
</tr>
<tr>
<td>*P. D. (Art Struc.) 9</td>
<td>*P. D. (Art Struc.) 10</td>
<td>*P. D. (Art Struc.) 11</td>
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<tr>
<td>Art. Approc. 16</td>
<td>Art. Approc. 17</td>
<td>Art. Approc. 18</td>
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<tr>
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<tr>
<td>Modern Language</td>
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*The course in art structure comprise the following: Freshman, principles of design; sophomore, needle designing, woodblock printing, design; junior, pottery, interior decorating, posters; senior, jewelry, landscape composition, design.
### Sophomores

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<td>Arch. 3 (Arch. Dr.) 3</td>
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<td>Roman Art (Lat. 15) 1</td>
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### Senior

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<td><em>P. D. (Art Struc.)</em> 159</td>
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**FOR THE DEGREE OF BACHELOR OF FINE ARTS WITH A MAJOR IN PUBLIC SCHOOL DRAWING**

### Freshman

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### Sophomore

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### Junior

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### Senior

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*Among the courses in Education, Practice Teaching must be included in the senior year.*
### FOR THE DEGREE OF BACHELOR OF FINE ARTS WITH A MAJOR IN INTERIOR DECORATION

#### FRESHMAN

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<td>Arch (History) 3</td>
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<td>Arch (Shades &amp; Shadows) 3</td>
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#### SOPHOMORE

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#### JUNIOR

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### FOR THE DEGREE OF BACHELOR OF FINE ARTS WITH A MAJOR IN MUSIC AND DRAWING

#### FRESHMAN

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#### SOPHOMORE

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#### JUNIOR

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## CURRICULUM IN ART LEADING TO CERTIFICATES OF PROFICIENCY
### FOR SUPERVISORS OF ART

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## CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF ARTS IN DRAMATIC ART

#### FRESHMAN

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#### SOPHOMORE

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#### JUNIOR

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#### SENIOR

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</tbody>
</table>

*Among the courses in Education, Practice Teaching must be included in the senior year.*
THE COLLEGE OF FISHERIES

The Faculty

HARRY SUZIALLO, Ph. D. (Columbia), LL. D. (California), President

JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.

JOHN N. CORB, Professor of Fisheries, Director.

GEORGE C. EMBODY, Ph. D. (Cornell), Professor of Fish Culture.

CLARENCE L. ANDERSON, B. S. (Washington), Instructor in Fisheries.

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STEVEN KINCAID, A. M. (Washington), Professor of Zoology.

FREDERICK MORGAN PERSFORD, Ph. D. (Yale), Professor of English and Dean of the Graduate School.

FREDERICK ARTHUR OSBORN, Ph. D. (Michigan), Professor of Physics and Director of the Physics Laboratories.

CHARLES WILLIS JOHNSON, Ph. C., Ph. D. (Michigan), Professor of Pharmaceutical Chemistry, and State Chemist.

THEODORE CHRISTIAN PAYE, Ph. D. (Chicago), Professor of Botany.

ROBERT EUGENE MORTZ, Ph. D. (Nebraska), Ph.n.D. (Strassburg), Professor of Mathematics.

HARVEY LANTS, A. M. (De Pauw, LL. B. (Kent), Professor of Law.

EUGENE OWEN EASTWOOD, C. E., M. A. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.

HENRY KENNETT BENSON, Ph. D. (Columbia), Professor of Chemical Engineering.

JOHN WEINZIE, Ph. D. (Wisconsin), Dr. P. H. (Harvard), Professor of Bacteriology.

STEPHENV SMITH, Ph. D. (Peninsulav), Professor of Psychology.

STEPHEN IVAN MILLER, A. B. (Stanford), LL. B. (Michigan), Professor of Economics and Dean of the College of Business Administration.

SAMUEL LATTER BOOHER, M. S. (Colorado Agricultural College), Associate Professor of Astronomy.

WILLIAM MATTHEW DEWIN, Ph. D. (Illinois), Professor of Organic Chemistry.

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

JOHN LOCKE WINDSOR, M. D. (Medical School, University of Alabama), Associate Professor of Zoology.

PAUL HOWARD DOUGLAS, A. M. (Columbia), Associate Professor of Business Administration.

EDWIN FRANK SAUNDERS, A. M. (Harvard), Assistant Professor of Geography.

ELI VICTOR SMITH, Ph. D. (Northwestern), Assistant Professor of Zoology.

THERESA SCHMID McMAHON, Ph. D. (Wisconsin), Assistant Professor of Economics.

FRED HARLEY HEATH, Ph. D. (Yale), Assistant Professor of Chemistry.

HERMAN VANCE TAYLOR, B. S. (Oregon Agricultural College), Assistant Professor of Chemistry.

FRANCES EDITH HINDMEN, Ph. C., M. S. (Washington), Assistant State Chemist and Bacteriologist.

NATHAN FASTEN, Ph. D. (Wisconsin), Assistant Professor of Zoology.

THOMAS G. THOMPSON, Ph. D. (Washington), Assistant Professor of Chemistry.

Advisory Board

L. H. DARWIN, Washington Fish and Game Commissioner, Seattle.

HARRY O'BRIEN, Pacific Coast Agent United States Bureau of Fisheries, Seattle.

MILLER FREEMAN, Publisher Pacific Fisherman, Seattle.

P. E. HARRIS, P. E. Harris & Company, Seattle.

W. J. CULVER, JR., San Juan Fishing & Packing Company, Seattle.

EDWARD CUNNINGHAM, Pacific Net & Twine Company, Seattle.

E. B. DEMING, Pacific American Fisheries, South Bellingham.


HENA S. MCGOWAN, P. J. McGowan & Sons, McGowan.

W. A. LOWMAN, Coast Fish Company, Anacortes.

N. A. SIMS, Port Townsend

(126)
The College of Fisheries was established in 1919. It has a two-fold purpose: First, to afford instruction in the principles and practices of fishery; second, to promote the interest of fisheries in the state of Washington and in the United States by encouraging the right use of fishery resources.

The college has exceptional advantages in its location. The university campus is located on the shores of Lakes Washington and Union, which bodies of water are connected by canals with each other and with Puget Sound. In the latter are carried on extensive commercial fisheries for fishes, oysters, clams, crabs, etc., while fleets of vessels with headquarters at Seattle and other cities on the Sound, carry on extensive fisheries in the ocean adjacent to the Washington coast, and on the fishing banks along the Alaska coast. Numerous canneries, smokehouses, cold storage plants, fertilizer plants, etc., are to be found in Seattle and other places on the Sound. A number of fish hatcheries are owned and operated in the state of Washington by the federal, state and county governments. A model hatchery with feeding tanks and aquaria is located in the office building of the State Fish Commissioner in Seattle. This is open at all times for inspection. At Friday Harbor the University owns and operates an excellent marine biological laboratory. These many advantages present unrivaled opportunities for the studying of the fisheries, aquatic life and fish culture.

Requirements for Admission

Full information regarding requirements for admission, registration, and expenses may be found on pages 40-50.

Degrees.—The four-year curricula in the College of Fisheries lead to the degree of bachelor of science (B. S.) in fisheries.

The degree of master of science (M. S.) in fisheries will be conferred upon any graduate of the four-year curricula who has completed at least one year of graduate work and has presented a satisfactory thesis with the grade of A, B, or C. A graduate of any other institution of equal rank will be given full graduate standing. The selection of work for this degree must, in each case, be approved by the Director of the College.

Facilities for Study

Shellfish Culture.—On Puget Sound and in Hood Canal are located numerous private oyster beds where cultivation has been practiced for some years. The state also owns certain oyster reserves which will be utilized for experimental purposes. These are all within reasonable distance of Seattle and are available for study purposes by the students of the college.

Fishery Operations.—Trap netting, purse and haul seining, gill netting, trolling, hand and long-line fishing, oyster gathering, clam
digging, kelp harvesting, and other forms of commercial fishing, are carried on either in the harbor of Seattle, or waters adjacent, during the proper seasons, and can be observed and studied on the ground.

**Commercial Plants.**—In or near Seattle and available for study are plants for the canning of salmon, pilchards, clams, etc.; the mild curing of salmon; the pickling of salmon, herring, sablefish, etc.; the freezing and cold storage of salmon, halibut, sablefish, herring, steelhead trout, and smelt; the smoking of salmon, sablefish, herring, sturgeon, etc.; the extraction of oils from fishery products and the preparation of fish meal and fertilizer from the residue; and the extraction of chemical products from kelp and other aquatic plants. Two large can-making establishments, several plants manufacturing canning machinery, and a number of others supplying various machines and supplies for the fisheries, are also located in Seattle. Such of these industries as are not in Seattle are conveniently situated on Puget Sound, and the transportation costs to them would be very low.

**Aquarium.**—In the Fisheries building of the State Fish and Game Commission, at Fourth avenue and University street, Seattle, a working aquarium is available for study purposes.

**Field Excursions.**—Much of the instruction in fish culture and fisheries technology is given in the field, necessitating frequent excursions to nearby hatcheries, fishing camps, oyster beds, and industrial plants. The expenses of these excursions will be comparatively small.

**Summer Work.**—Students of fisheries are urged to spend their summer vacation in some line of practical work connected with the fishery industry. As the college is convenient to the more important fisheries and hatcheries of the Northwest coast, ample opportunity is afforded for summer employment. Students not only acquire valuable experience in this way, but earn a considerable portion of their university expenses.

**Fishery Club.**—The Fishery Club is an organization open to all students of the College of Fisheries. It aims: (1) To secure full acquaintance and good fellowship among students and instructors; (2) to keep in touch with everyday problems in fisheries, and the men who are doing things worth while in this industry, and (3) to interest the public in the College of Fisheries and in the fishery problems of the state and nation.

**Short Courses for Fishermen and Fish Culturists.**—These courses will be given during each winter quarter, providing there are a sufficient number of applicants. Applicants must be at least twenty years old and show ability to carry the work with profit to themselves. Admission to courses is without examination. Examinations will be given in the various subjects at the close of the course and a certificate showing the work satisfactorily covered issued to each student.


## CURRICULA

### I. FISH CULTURE

#### FRESHMEN

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
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<td>Chemistry 3</td>
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#### SOPHOMORES

| Military Science | 2       | Military Science | 2       | Military Science | 2 |
| Ichthyology 3 | 5       | Ichthyology 4 | 5       | Aquatic Botany 53 | 5 |
| *Physics 47 or elective | 5 | *Physics 48 or elective | 5 | Ichthyology 5 | 5 |
| Elective | 5       | Elective | 5       | Elective | 5 |
| Military Science | 2       | Military Science | 2       | Elective | 5 |

#### JUNIOR

| Bacteriology 101 | 4       | Bacteriology 102 | 4       | Fish Culture 103 | 5 |
| Fish Culture 101 | 5       | Fish Culture 102 | 5       | Fishery Methods 105 | 5 |
| Plankton (Zool. 100) | 5 | Fishery Methods 104 | 5 | Elective | 5 |
| Elective | 2       | Elective | 2       |                |     |

#### SENIOR

| Culture Problems 107 | 5       | Culture Problems 108 | 5       | Culture Problems 109 | 5 |
| Fish Diseases 117 | 5       | Electives | 10 | Elective | 10 |
| Elective | 5       |                |     |                |     |

### II. FISHERIES TECHNOLOGY

#### FRESHMEN

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#### SOPHOMORES

| Military Science | 2       | Military Science | 2       | Military Science | 2 |
| Organic Chem. 37 | 5       | Org. Chemistry 38 | 5       | Quantitative Chemistry 101 | 4 |
| Ichthyology 3 | 5       | Ichthyology 4 | 5       | Pacific Fisheries 6 | 2 |
| *Physics 47 or elective | 5 | Food Laws (Phar. 16) | 1 | Ichthyology 5 | 5 |
| Military Science | 2       | *Physics 48 or elective | 5 | Elective | 5 |

#### JUNIOR

| Bacteriology 101 | 4       | Bacteriology 102 | 4       | Employment Management |          |
| Bus. Administration 120 | 3 | Plant Management 105 | 3 |           |          |
| Prep. Fishery Prod. 106 | 5 | Fishery Methods 104 | 5 | Fishery Methods 105 | 5 |
| Admiralty Law 105 | 5       | Elective | 3       | Biology of the Seas (Zool. 108) | 3 |
| Elective | 5       |                |     | Ec. Fish. Resources 115 | 3 |

#### SENIOR

| Fishery Problems 110 | 5       | Fishery Problems 111 | 5       | Fishery Problems 112 | 5 |
| M. Engineering 82 | 3       | Electives | 10 | Electives | 10 |
| Elective | 7       |                |     |                |     |

While no regular fishing curriculum has been tabulated, students desiring it can, by means of electives given, easily arrange one. Courses in navigation, meteorology, oceanography and gas engineering are available, and these, in conjunction with either fish culture or fisheries technology curriculum, will amply answer the purpose.

### COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)

*If the student has taken one year of physics in high school he will substitute electives for Physics 47 and 48.*

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COLLEGE OF FORESTRY

THE FACULTY

HENRY SEZZALLO, Ph. D. (Columbia), LL. D. (California), President

JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.

HUGO WINKENWERER, M. F. (Yale), Professor of Forestry, Dean

BURT PERSONS KIRKLAND, A. B. (Cornell), Associate Professor of Forestry.

ELIAS TREAT CLARK, M. F. (Yale), Assistant Professor of Forestry.

BROR LEONARD GRONDAL, M. S. F. (Washington), Assistant Professor of Forestry.

CONRAD W. ZIMMERMAN, A. B. (Washington), Lecturer in Timber Physics.

TRENTOR KINCAID, A. M. (Washington), Professor of Zoology.

HENRY KREITZER BENSON, Ph. D. (Columbia), Professor of Chemical Engineering.

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

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

JOHN WILLIAM HOTSON, Ph. D. (Harvard), Assistant Professor of Botany.

DAVID CONNOLLY HALL, M. D. (Chicago), University Health Officer; Professor of Physical Education and Hygiene.

HORACE HARDY LESTER, PH. D. (Princeton), Instructor in Physics.

FRANK DEMETRUS HAYDEN, B. S. (Massachusetts Institute of Technology), Assistant Professor of Civil Engineering.

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R. W. VINNESTE, North Bend Lumber Co., Edgewick, Chairman.

ROBERT B. ALLEN, Secretary-Manager West Coast Lumbermen's Association, Seattle.

THEOPE BARCOCK, North West Lumber Co., Hoquiam.

W. E. CROSSBY, Editor West Coast Lumberman, Seattle.

H. A. HEPNER, Cascade Lumber Co., Yakima.

HOWARD JAYNE, Willapa Lumber Co., Portland, Ore.

J. E. PINKHAM, J. E. Pinkham Lumber Co., Seattle.

HON. MARK REED, Simpson Logging Co., Shelton.

W. G. WHEELER, Supervisor Snoqualmie National Forest, Seattle.

PURPOSE AND LOCATION

The College of Forestry was established in 1907. It has exceptional advantages in its location. The university campus comprises 530 acres, 40 of which are in timber, and offer splendid opportunities for field work in silviculture and forest measurements. Other excellent forests are within walking distance of the campus.
The University also owns large forest tracts in various parts of the state, where students may conduct extensive research work. The immense national forests within a few hours' ride of Seattle afford practical object lessons in the art of forest management. The city of Seattle is in the center of the timber industry of Washington and the Northwest. In its many sawmills and wood-working industries, the student has unrivaled opportunities for studying wood utilization.

Short Courses for Forest Rangers and Lumbermen—These courses will be given during 1921, providing there are sufficient applicants. Applicants must be at least twenty years old and show ability to carry the work with profit to themselves. Admission to classes is without examination.

Field Excursions.—Much of the instruction in technical forestry is given in the field, necessitating frequent excursions in nearby forests, logging camps and sawmills. The expenses of these excursions never exceed $10 for the freshman year, $15 for the sophomore year, $20 for the junior year, $50 for the senior year, and usually are much less. (Other expenses see page 45.)

Summer Work.—Students of forestry are urged to spend their summer vacation in some line of practical work connected with the forest industry. Situated as the school is in the heart of a great lumbering section and near extensive national forests, ample opportunity is offered for summer employment. Students not only acquire valuable experience in this way, but earn a considerable portion of their university expenses.

Forest Club.—The Forest Club is an organization open to all students of the College of Forestry. It aims: To secure acquaintance and good fellowship among students and instructors; to keep in touch with everyday problems in forestry and lumbering, and the men who are doing things worth while in these industries; to interest the public in the college and in the forestry and lumbering problems of the state.

Officers of the club for the year 1919-1920 are: President, Willis Corbitt; vice-president, Seldon Andrews; secretary-treasurer, Kenneth Pearce.

The club issues every May "The Forest Club Annual," a publication which contains articles and illustrations descriptive of the school, of scientific interest, and a complete roster of students, ex-students, and alumni. A special College of Forestry page is also published each month in the West Coast Lumberman.
REQUIREMENTS FOR ADMISSION AND GRADUATION

Admission.—Full information regarding requirements for admission may be found on pages 40-45.

Courses and Degrees.—Beginning with September, 1914, the College of Forestry abandoned its fixed four-year groups of study, and has since then offered only one five-year course with a liberal allowance for electives. As technical forestry has reached a stage where some specialization is almost necessary, this arrangement gives the student ample opportunity for specialization along four distinct lines: (1) Forest service and state work, (2) logging engineering, (3) forest products and (4) the lumber business. The course may, however, be pursued for only four years, and on the completion of four years of work the student will be awarded the degree of bachelor of science. It should be emphasized that this arrangement will allow the student to receive practically as broad a training in four years as heretofore, but that if he desires to specialize he should pursue the work for five years.

Undergraduate Work.—For the degree of bachelor of science (B. S.) the student shall have completed, in addition to the required subjects outlined in the curriculum, at least 46 credits in subjects selected from forestry, lumbering, engineering, or the botanical, chemical, zoological, geological or economic sciences, the subjects to be approved by the students' class adviser, but in no case shall more than 23 in any department other than forestry be allowed toward graduation. The total number of credits required for graduation shall be 180 exclusive of shop and military science. Candidates for the degree must furthermore receive grades of A, B, or C in at least three-fourths of the credits required for the degree.

Graduate Work.—For the degree of master of science in forestry (M. S. F.), the student in addition to being a graduate of this University or other institution of equal rank, and having a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, shall have been credited at this University with 225 credits, of which at least 78 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration, management, lumbering, wood preservation, forest economics, and thesis. Only grades of A, B, and C can be counted toward a graduate degree.

Attention is called to the equipment and to the special advanced courses for graduate students. The physical equipment of the College of Forestry and the exceptional advantages of its location should prove particularly attractive to graduate students. The advanced courses include dendrology, silviculture, management, wood
technology, timber physics, wood preservation, advanced forest products, the business of lumbering, and research. Special facilities and apparatus are provided for this advanced work. Emphasis is placed upon the fact that a graduate from a college of forestry of equal rank with the College of Forestry of this University may complete the requirements for the advanced degree in one year. Graduates from other institutions of equal rank, but giving no courses in technical forestry, may complete the required work in two years.

OUTLINE FOR CURRICULUM

Choice of Electives.—In the election of studies, students should follow the sequence of subjects as outlined in the curriculum. Deviations from the prescribed order will not be allowed by class advisers unless such deviation is imperative.

For specialization in Forest Management the following electives are recommended: Law 54, 55, 56 (Contracts); Botany 111; and Forestry and Lumbering 119, 120 (Administration).

For specialization in Logging Engineering: Civil Engineering 22 (Logging Railroads); Law 54, 55, 56 (Contracts); Electrical Engineering, 101, 102; and Forestry and Lumbering 185, 186, 187 (Logging Engineering) and 159 (Scientific Management).

For specialization in Forest Products: Chemistry 31, 32, 33; Botany 111 (Tree Diseases); and Forestry 183 (Milling), 184 (Marketing) and 159 (Scientific Management).

For specialization in the Business of Lumbering: Business Administration (Advertising); and Forestry 183, 184, and 159.

LOWER DIVISION

It will be the aim to prepare students who cannot go farther than the end of the Lower Division for forest ranger service, and as assistants to logging engineers. Upon approval of the dean they will be allowed to substitute certain of the subjects of the junior year for some of the required freshman and sophomore work.

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<tr>
<th>FRESHMAN</th>
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<tr>
<td><strong>Autumn</strong></td>
<td><strong>Winter</strong></td>
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<tr>
<td>For. 1 (Dend.)</td>
<td>5</td>
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<tr>
<td>For. 2 (Tech. For.)</td>
<td>3</td>
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<tr>
<td>Math. 54 (Foresters)</td>
<td>3</td>
</tr>
<tr>
<td>English</td>
<td>3</td>
</tr>
<tr>
<td>For. 5 (Woodcraft)</td>
<td>2</td>
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<tr>
<td>Mil. Science</td>
<td>+2</td>
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<tr>
<td>Required</td>
<td>16+2</td>
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<td>Shop</td>
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<tr>
<th>SOPHOMORE</th>
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<tr>
<td>For. 55 (Const.)</td>
<td>3</td>
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<tr>
<td>For. 57 (Silvics)</td>
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<tr>
<td>Chem 1</td>
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<td>Econ. 1 (Gen.)</td>
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<td>Mil. Science</td>
<td>+2</td>
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<td>Required</td>
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</table>
Beginning with the Upper Division, the student should carefully consider the electives with reference to the specialty he intends to make his life work.

### JUNIOR

<table>
<thead>
<tr>
<th>Autumn</th>
<th>Credits</th>
<th>Winter</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>For. 101 (Technol.)</td>
<td>5</td>
<td>For. 158 (Utili.)</td>
<td>5</td>
<td>For. 105 (Preserva.)</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 92 (For.)</td>
<td>5</td>
<td>Phys. 83</td>
<td>5</td>
<td>Elective</td>
<td>5</td>
</tr>
<tr>
<td>M. E. (Steam Engines)</td>
<td>3</td>
<td>B. A. 12 (Accounting)</td>
<td>5</td>
<td>For. 104 (Tim. Tests)</td>
<td>5</td>
</tr>
<tr>
<td>B. A. 11 (Accounting)</td>
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<td>Recreation</td>
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<td>Recreation</td>
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<td><strong>15</strong></td>
<td><strong>Required</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Suggested Electives**

- Chem. 31 (Organic) ... 5
- Jour. 78 (Adver) ... 8
- C. E. 32 (Log. R. R.) 5
- B. A. 71 (Markets) .. 3
- B. A. 54 (Bus. Law) .. 3

**Senior**

- For. 151 (Management) . 5
- For. 153 (Gen. Lumber) 5
- Recreation ..........

**Suggested Electives**

- For. 185 (Log. Eng.) .. 4
- For. 183 (Milling) ... 5
- For. 119 (Admin.) ... 3

**GRADUATE**

The following subjects are primarily for graduate students. Seniors will be allowed to elect them only upon recommendation of the dean and the instructor concerned. With the exception of the thesis none of the subjects is, strictly speaking, required, but the student will elect all those belonging to one specialty as determined upon consultation with his class adviser. A sufficient number will have to be taken to fulfill the requirements for the master's degree.

- For. 202 (Thesis) ... 3
- For. 201 (Adv. Dend.) 3
- For. 208 (Seminar) ... 2
- Elective .......... 8

**Courses**

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
GENERAL STATEMENT

The Law School of the University of Washington was established in 1899. The case system is generally used and is designed to give an effective knowledge of legal principles and to develop the power of independent legal reasoning. A thorough legal training is offered to students of maturity and with previous preliminary education, and the courses offered are adapted to train and fit the student for practice in any state or jurisdiction. Special attention and emphasis is given to the law of the state of Washington, and in the illustrations and development of legal principles, cases and statutes are largely cited from the state of Washington and other Northwestern and Pacific states. The Law School is a member of the Association of American Law Schools.

THE LAW BUILDING

The Law School occupies the entire upper floor of Commerce Hall. This building, which is one of the largest of the University buildings and is in the center of the campus, in the Liberal Arts Quadrangle, represents the best in modern construction and equipment. The law library occupies the entire end, and an idea of its roominess may be gained from its dimensions, which are, exclusive of stacks, forty by seventy feet. In addition to this general reading room, there is a large consultation room, twenty-five feet square, adjoining. There are three large lecture or recitation rooms, and a large room fitted and used exclusively for the trial court. These are all readily accessible to each other, and every convenience and improvement tending to add to the efficiency of the student, from an equipment standpoint, is present.

THE LIBRARIES

The University Law Library consists of about 25,000 volumes. It contains the reports of all the courts of last resort, the reported lower courts of several states and the English courts. The latest revisions of all the state statutes and a large
collection of the session laws of the various states, including a complete set of each of the Pacific Coast states, are important features.

The library is catalogued and indexed by the Library of Congress cards.

The University General Library contains 96,644 volumes and is especially strong in reference works.

The Public Library of the city of Seattle is open to the free use of our students and is within easy distance of the campus by street car.

**General Information**

The four quarter system is adopted in the Law School. Each quarter is approximately for twelve weeks, and credit for work is usually on the basis of one credit representing a recitation or lecture course one hour per week for one quarter. In adopting this system the total hour values of courses prevailing in the schools of the Association of American Law Schools have been generally retained—e.g., courses formerly given two hours per week per semester are under the quarter system given three hours per week per quarter. This makes possible a better sequence of courses in the first year and permits students to enter at the opening of any quarter. However, students beginning the study of law cannot be registered for the full fifteen-hour course except when entering at the first, or autumn quarter.

**Fees.**—A fee of ten dollars ($10) per quarter is charged in the Law School, payable at the beginning of each quarter.

A diploma fee of five dollars ($5) is charged all students to whom diplomas are issued. (Other expenses see page 45.)

**Self-Help for Students.**—The needs of a large city afford ample opportunity to the student for employment. The law courses are offered almost entirely in the forenoons, leaving the afternoons or evenings for employment. The University also offers employment for a smaller number of students. Many students earn a portion of their expenses while in the University, and a number earn their entire way. An employment bureau makes systematic efforts to obtain positions for students desiring work.

**Admission to the Bar.**—The Law School of the University of Washington is by law made the standard of approved law schools for the purpose of admission to the bar of this state. Students intending to practice in the state of Washington should consult the dean of the Law School upon entering the Law School, and register in accordance with the rules of the State Board of Law Examiners.
SCHOOL OF LAW

ADMISSION AND GRADUATION

To be admitted to regular standing in the Law School students must present acceptable credits or pass examination entitling them to admission to this University and in addition thereto present a junior certificate from the College of Liberal Arts or the College of Science of this University, or present acceptable credits or pass examinations equivalent to the junior certificates. The entrance requirements are stated fully in the section of the catalogue relating to Entrance Information.

Advanced Standing.—If, in addition to satisfying the entrance requirements for regular standing in the Law School, the student has earned credits in another law school of satisfactory standing, by regular attendance for at least one academic year of not less than eight months, he will ordinarily receive credit for such work, subject to the following restrictions: The work must equal in amount and character that required by this Law School. Not more than two years' credit will be allowed for such work. The right is reserved to refuse advance credit in law in whole or in part, save upon examination. Candidates for a degree, with advanced standing, must spend at least one full college year in the Law School.

Special Students.—No person will be admitted as a special student in law, unless he is twenty-one years of age and his general education is such as to entitle him to take the state bar examination. Special students who comply with these requirements and with the regulations for admission of special students (see Entrance Information, page 43) will be admitted to take such work in law as their previous preparation enables them to carry successfully, and upon satisfactory completion of sufficient law work to entitle them to take the state bar examination, will be given a certificate or affidavit entitling them to apply for examination. Students who intend to take this method must file notice of their intention to study law with the clerk of the Supreme Court as required by law.

Special Students Becoming Candidates for Degree.—Special students may become candidates for a degree upon complying with all the entrance requirements as above set forth in reference to regular students. If a special student intends to become a candidate for a degree by clearing up his entrance requirements during his law studies, he must notify the dean of the Law School upon registration. Such students will be permitted to carry a limited amount of work in the College of Liberal Arts or the College of Science to enable them to clear up their entrance requirements in law.

Combined Curriculum in Arts and Law.—This combined course allows the student with a good record to complete the requirements for the degrees of bachelor of arts and bachelor of laws in six years.
It is open only to those students who have maintained a uniformly good record for scholarship during the first three years of Liberal Arts.

The student is enrolled in the College of Liberal Arts during the first three years. If at the end of three years he has uniformly good record for scholarship and has earned 135 or more credits, including all the required work, he may for the fourth year register in the Law School for the first year's work in law and must earn in the College of Liberal Arts additional credits sufficient to make his total of arts and science credits amount to 144, and earn in the Law School at least 36 credits in the first year law work, to apply on his bachelor of arts degree, thus making his 180 credits required for the degree of bachelor of arts. The degree of bachelor of arts will be granted upon the completion of both courses.

The last two years of this combined course are devoted to completing the rest of the work in the Law School.

Students are advised to complete their full 144 credits in Liberal Arts by the end of the third year, so they can enter the law work clear in the fourth year.

Students from other schools entering this University with advanced standing may take advantage of this combined course, provided they are registered in the College of Liberal Arts for at least one full year's work and earn at least 45 credits in this University before entering the law work.

This privilege will not be extended to normal graduates attempting to graduate in two years nor to undergraduates of other colleges who enter this University with the rank of senior.

Thesis.—It is the desire of the faculty to encourage original investigation and research by the students. Each candidate for a degree is required to prepare and deposit with the dean of the Law School, before the beginning of the spring vacation of his senior year, a thesis of not less than thirty folios in length, upon some legal topic selected by the student and approved by the faculty. The student will be examined by the faculty upon this thesis. It must be printed or typewritten, and is to be kept permanently in the library of the Law School.

The Jaggard Prize.—Miss Anne Wright Jaggard, daughter of the late Edwin Ames Jaggard, LL. D., Justice of the Supreme Court of Minnesota, offers an annual prize of $50 for the best thesis submitted by members of the senior class, candidates for the degree of bachelor of laws, upon a subject in the courses of history of the law or jurisprudence.

Summer Session of the Law School.—Courses are offered each summer by the Law School for both beginning and advanced students. Different courses are offered successive summers. This
work counts toward a degree as a part of the regular instruction of the Law School. By increasing the number of periods per week, the equivalent of a quarter's work in the regular session is completed in each of the offered courses.

Instruction in Other Departments.—Students in the Law School may pursue studies, for which they are prepared, in other departments of the University without charge, except that in the laboratory courses the usual laboratory deposits will be required.

Degrees.—The degree of bachelor of laws (LL. B.) will be conferred on all students who comply with the entrance requirements for regular students stated hereinbefore, remain in residence in the Law School for three school years, successfully complete all the law work in the Law School, aggregating 135 credits, and comply with all the rules and regulations of the faculty and board of regents of this University.

Students admitted to advanced standing based upon credits earned at another law school may count that work toward graduation, subject to the restrictions heretofore stated.

Examination.—The members of each class are examined daily throughout the year in their studies, and may be subjected to written examinations at any time in the discretion of the faculty without notice. At the end of each quarter the members of each class are subject to written examination on the courses during the year, and their promotion is dependent on successfully passing such examination.

To receive the degree of bachelor of laws it is necessary to pass satisfactory examinations in the entire course of three years. Students who pass these examinations with distinguished excellence will receive the degree of bachelor of laws cum laude.

Courses

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
COLLEGE OF MINES

THE FACULTY

HENRY SUZALLO, PH. D. (Columbia), LL. D. (California), PRESIDENT.

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

MILNOR ROBERTS, A. B. (Stanford), Professor of Mining Engineering and Metallurgy; DEAN.

JOSEPH DANIELS, S. B. (Massachusetts Institute of Technology), M. S. (Lehigh), Associate Professor of Mining Engineering and Metallurgy.

CLARENCE RAYMOND COREY, E. M. (Montana State School of Mines), A. M. (Columbia), Assistant Professor of Mining Engineering and Metallurgy.

HEWITT WILSON, C. E. (Ohio State University) Assistant Professor of Ceramics.

HARVEY L. GLENN, B. S. (Iowa State College), Lecturer on Assaying of Bullion.

FREDERICK POWELL, E. M. (Columbia), Lecturer on Gold Dredging.


RICHARD M. BIRD, B. S. (Washington), Assistant in charge of Ore Dressing Laboratory.

LEVY J. MERRILL, Assistant in Metallurgy.

OSCAR A. GLASSER, Assistant in Mining.

JOHN THOMAS CONDON, LL. M. (Northwestern), Professor of Law.

HENRY KRUTZER BENSON, PH. D. (Columbia), Professor of Chemical Engineering.

TREVOR KING, A. M. (Washington), Professor of Zoology.

FREDERICK ANTHUS GEBEN, PH. D. (Michigan), Professor of Physics.

ROBERT EDWARD MORRIS, PH. D. (Nebraska), PH. N. D. (Strassburg), Professor of Mathematics.

CARL EDWARD MAGNUSSON, E. E. (Minnesota), PH. D. (Wisconsin), Professor of Electrical Engineering.

EVERETT OWEN EASTWOOD, C. E., A. M. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.

DAVID CONNOLLY HALL, Sc. M., M. D. (Chicago), Professor of Physical Education and Hygiene.

CHARLES CHURCH MORE, M. S. C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.

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

CHARLES LEONARD PHILLIPS, Colonel C. A. C., U. S. A. (U. S. Military Academy), A. B. (Colby), C. E. (Maine), Professor of Military Science and Tactics.

LOREN DOUGLAS MILLMAN, A. B. (Michigan), Associate Professor of English.

CHARLES WILLIAM HARRIS, C. E. (Cornell), Associate Professor of Civil Engineering.

VANDERHIER CURTIS, PH. D., (Harvard), Associate Professor of Economics.

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

EDGAR ALLEN LOB, B. S., E. E. (Wisconsin), Associate Professor of Electrical Engineering.

HENRY LOUIS BAKEL, PH. D. (Cornell), Associate Professor of Engineering Physics.

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

CHARLES EDWIN WEAVER, PH. D. (California), Associate Professor of Geology.

ALLEN FULLER CARPENTER, B. S., C. E. (Chicago), Associate Professor of Mathematics.

GEORGE E. GODFREED, S. B. (Massachusetts Institute of Technology), Assistant Professor of Geology.

FRED HARVEY HEATH, PH. D. (Yale), Assistant Professor of Chemistry.

SAMUEL THOMAS BEATTIE, Instructor in Woodwork.

SANDY MORROW KANG, Instructor in Metal Work.

CHRIS. G. DODSON, E. M. (Montana State School of Mines), Acting Instructor in Civil Engineering.

ADvisory Board College of Mines

University of Washington

ROY H. CLARKE, mining engineer, Peyton Building, Spokane.

JOHN ERIKSON, mine operator, Eriksen Building, Seattle.


CHARLES HUBBET, general manager of estate of John A. Finch, mine operator, Empire State Building, Spokane.

W. R. JUBET, founder of the Tacoma Smelter, president of Tacoma Exploration Company, Box 1454, Tacoma.

NATHANIEL D. MOORE, General Manager of Pacific Coast Coal Company, Seattle.

2 Absent on leave, 1920-1921.

(140)
SCOPE AND FACILITIES.

Degrees.—The College of Mines offers specialized training in mining engineering, metallurgy, and ceramics. The four-year curricula lead to degrees as follows:

I. Bachelor of science in mining engineering, B. S. (Min. E.)

II. Bachelor of science in geology and mining, B. S. (Geol. and Min.)

III. Bachelor of science in metallurgical engineering, B. S. (Met. E.)

IV. Bachelor of science in coal mining engineering, B. S. (Coal Mine E.)

V. Bachelor of science in ceramics, B. S. (Ceramics)

The degree of engineer of mines (E. M.) is given to graduates in mining engineering who have practiced their profession for at least three years and who present a satisfactory thesis. Graduates in metallurgy may receive the degree of metallurgical engineer (Met. E.) under similar conditions, and the appropriate advanced degrees are open to graduates of the other curricula.

Mining and Metallurgical Industries Available for Study.—Excellent opportunities for becoming familiar with mining and metallurgical operations are open to students in the College of Mines. Mining machinery of the best type is in operation within easy reach of the University. Much of the heavy mining machinery used in the neighboring states and Alaska is built in the city of Seattle, while patented machines, such as drills and concentrating tables of all makes, are kept in stock and as working exhibits by the firms that supply the North Pacific coast regions. More than 40 eastern firms dealing in mining equipment make their Seattle branches the distributing center for the Pacific Northwest, British Columbia and Alaska. Methods important to the mining engineer are the operations of the steam shovels, which are now used largely in iron, copper and gold mining. The engineers in charge of these plants have given the mining students every opportunity to become familiar with the methods of planning and carrying on the work, and the same statement applies to the mine operators throughout the state.

A partial list of the other available works of interest includes coal mines and coke ovens, with the largest production west of the Rocky mountains; metal mines of gold, silver, copper, arsenic, antimony, iron, etc.; cement plants, several stone quarries and dressing works; clay mines, clay and pottery works; gravel and sand pits with large production and approved methods; a region of varied
geology with many economic minerals; the Tacoma smelters and refineries; the U. S. assay office; the West Seattle steel plant of the Pacific Coast Steel Co., and several plants engaged in electro-metallurgical work.

Mining Society.—The Mining Society, affiliated with the American Institute of Mining and Metallurgical Engineers, has a membership composed of all students in the College. At the monthly meetings of the society addresses are made by prominent mining engineers, and papers descriptive of their summer work are presented by the student members.

MINING AND METALLURGICAL RESEARCH

The purpose of this department is to stimulate and encourage development in the mining, metallurgical and ceramic industries of Washington, the Pacific Northwest and Alaska by research in the special problems presented, and to solve the problems through the efforts of fellowship holders and others studying in the department.

Graduates from suitable technical courses at institutions of recognized standing, or men who present evidence of technical training which has fitted them to undertake investigations, are eligible to enroll in mining and metallurgical research. The degree of master of science may be granted to those students who, holding a suitable bachelor of science degree, complete investigative work in compliance with the University requirements for the master's degree. Although as much latitude as possible will be allowed in the choice of subjects for research, the general topics will be those which are of special importance to this region.

Research Fellowships.—In connection with the department, five research fellowships of $900 annual value have been established. These fellowships are open to qualified graduates of scientific or technical courses in institutions of recognized standing. Applicants should send a copy of their record from the registrar's office of the college where they have been, or will be, graduated, and the names and addresses of at least three references who know their character, training and ability. Applications for these fellowships are due not later than June 1, and should be addressed to the Dean, College of Mines, Seattle, Washington.

Appointees to the fellowships report for duty on July 1, and are required to be on duty during the entire year, except that in case of reappointment for a second year, the fellowship holder is given a vacation from June 15 to July 1.

Fellowship holders are required to register as graduate students in the University of Washington and to become candidates for the degree of master of science in mining engineering, metallurgy or ceramics, unless an equivalent degree has previously been earned.
Investigations of Problems.—The University will, under certain conditions, permit mining and metallurgical companies who have special problems for solution, to detail a representative to work on such problems, or to meet the expense of engaging a man to do so. Experiments which can be carried on as readily in commercial laboratories and which do not require direction from the Bureau's experts are not undertaken. The research work shall be under the direction of the department, and complete records of all the data obtained in the investigation of the problems shall be filed with the department, which shall have the right to publish this information for the benefit of the mining and metallurgical industry.

United States Bureau of Mines Seattle Mining Experiment Station

The United States Bureau of Mines maintains a mining and metallurgical experiment station for the Pacific Northwest and the coast regions of Alaska at the College of Mines. The headquarters of the station, from which all operations in this territory are directed, are in the Bureau of Mines building, between Mines and Bagley halls. An analytical laboratory is in the same building, while the electric furnaces and other equipment used by the bureau in cooperation with the college are housed in the Mines building. At present the principal investigations being conducted by the station are in electro-metallurgy, the treatment and uses of coal and in ceramics. Members of the experiment station staff give occasional lectures to the students of the University on subjects dealing with their special lines of work.

Mine Safety Station.—The Mine Safety Station, occupies a separate building. Several sets of various types of oxygen rescue and resuscitation apparatus are kept on hand for practice as well as for use in mine rescue work. The purpose of the station is to train miners in the use of oxygen helmets, which are used in cases of mine fires and explosions in both coal and metal mines. From ten days to two weeks' time is required for the course of training. The applicant is taught the construction of the apparatus and is required to wear it for four hours each day, in two periods of two hours each. The practice is carried on in a room filled with gas which cannot be breathed without immediate danger, and the work to be performed is the same as that which would be required in actual mining operations or rescue work. The smokeroom represents a portion of a mine, and is equipped with mine car, track, overcast, timbers and brick. First-aid instruction is also given. Applicants who have completed the course of training receive a certificate from the United States Bureau of Mines.

A one-ton 45-horsepower automobile truck, equipped with rescue apparatus ready for emergency calls, forms part of the equipment of the rescue station.
Instruction for Coal Mining Men.—Miners taking the rescue training also receive instruction in the College of Mines on the subjects of mine gases, explosions and the origin and distribution of Pacific Coast and Alaska coals. Laboratory experiments are carried on to show the methods of analyzing coals and determining the uses to which they may be put. The methods of testing for permissible explosives at the Pittsburg station and the safe methods of charging, tamping, and firing are explained. Coal men interested in the washing of coals are given full practice with the several types of apparatus used for this purpose.

Requirements for Admission

Full information regarding requirements for admission, registration, and expenses may be found on pages 40-50.

Curricula of the College of Mines

First and Second Year for All Curricula

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Autumn Quarter</th>
<th>Credits</th>
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<td>Math. 52 (trig.)</td>
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<td>Math. 63 (analytic)</td>
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<td>C. E. 2 (drawing)</td>
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<td>C. E. 13 (engr. problems)</td>
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<td>C. E. 11 (engr. problems)</td>
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<td>Chem. 3 or 23 (general)</td>
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<td>Math 62 (calculus)</td>
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<td>*Eng. 4 (comp. for engr.)</td>
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<td>Geol. 5 (engr.)</td>
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<td>Geol. 21 (mineralogy)</td>
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<td>Geol. 120 (petrology)</td>
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†Mining practice in summer vacations.

Mining Engineering (Option I)

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<tr>
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<td>C. E. 132 (mechanics)</td>
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<td>Geol. 1C2 (field methods)</td>
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<tr>
<td>Geol. 123 (opt. miner.)</td>
<td>3</td>
<td>E. E. 09-100 (D. C.)</td>
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<td>E. L. 121-122 (A. C.)</td>
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<tr>
<td>Min. 101 (milling)</td>
<td>3</td>
<td>Geol. 124 (petrography)</td>
<td>4</td>
<td>Met. 102 (general)</td>
<td>5</td>
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<tr>
<td>Met. 101 (fire assay)</td>
<td>5</td>
<td>Min. 103 (rescue)</td>
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<td>M. E. 55 (shop)</td>
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<tr>
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<td>Met. 153 (wet assay)</td>
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<tbody>
<tr>
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<td>Min. 158 (law)</td>
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<td>Min. 155 (thesis)</td>
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<tr>
<td>Met. 104 (copper-load)</td>
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<td>Min. 162 (methods)</td>
<td>3</td>
<td>Min. 182 (management)</td>
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<td>Met. 155 (iron-steel)</td>
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<td>Geol. 127 (econologue)</td>
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<td>C. E. 142 (hydraulics)</td>
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<td>Met. 162 (metallog.)</td>
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* Ceramic students substitute Cer. 90 (materials), 3 credits in sophomore year for Eng. 4.
†Mining, metallurgical, or ceramic practice is required of all students during a summer vacation following the sophomore or junior year.
### GEOLOGY AND MINING (OPTION II)

#### JUNIOR

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<th>Spring Quarter</th>
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<td>C. E. 132 (mechanics)</td>
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<td>Geol. 123 (field methods)</td>
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<td>Geol. 124 (petrography)</td>
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<td>Geol. 125 (adv. petrog.)</td>
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<td>Min. 103 (rescue)</td>
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<td>Min. 120 (coal resources)</td>
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<tr>
<td>Met. 101 (fire assay)</td>
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<td>Met. 153 (fuels)</td>
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<td>Met. 105 (general)</td>
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#### SENIOR

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<th>Spring Quarter</th>
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<td>Min. 158 (law)</td>
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<td>Met. 104 (copper-lead)</td>
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<td>Min. 162 (methods)</td>
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<td>Geol. 132 (palco.)</td>
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### METALLURGY (OPTION III)

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<td>Min. 101 (mining)</td>
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<td>E. E. 99-100 (D. C.)</td>
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<td>Met. 102 (general)</td>
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<td>Met. 101 (fire assay)</td>
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<td>Min. 103 (rescue)</td>
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<td>Met. 151 (gold-silver)</td>
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<td>M. E. 52 (shop)</td>
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<td>Met. 103 (fuels)</td>
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<td>Met. 100 (analysis)</td>
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<td>Geol. 127 (economic)</td>
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#### SENIOR

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<tr>
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<td>Min. 152 (ore dressing)</td>
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<td>Min. 158 (law)</td>
<td>2</td>
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### COAL MINING (OPTION IV)

#### JUNIOR

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<td>Min. 120 (coal resources)</td>
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<td>M. E. 81 (mechanism)</td>
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<td>Min. 155 (thesis)</td>
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### Senior Courses

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<tr>
<td>Min. 103</td>
<td>(rescue)</td>
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For more detailed information apply to the Dean of the College of Mines, Seattle, Washington.

### Winter Session for Mining Men

The twenty-fifth annual short session for mining men will open January 5, 1921, and continue until March 25. Admission to the class is without examination. No previous preparation, training, or mining experience is necessary to enter the course, other than ability to read and write English.

Three general groups of studies are offered: (1) quartz mining; (2) placer mining; (3) coal mining.

For more detailed information apply to the Dean of the College of Mines, Seattle, Washington.
COLLEGE OF PHARMACY

THE FACULTY

HENRY SUZZALLO, Ph. D. (Columbia), LL. D. (California), PRESIDENT.

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

CHARLES WILLIS JOHNSON, Ph. C., Ph. D. (Michigan), Professor of Pharmaceutical Chemistry; DEAN AND STATE CHEMIST.

ARTHUR WILSON LINTON, B. S. (Michigan), M. S. (Washington), Associate Professor of Pharmacy.

---------------. Instructor in Pharmacy and Assistant State Chemist and Bacteriologist.

JOHN THOMAS CONDON, LL. M. (Northwestern), DEAN OF FACULTIES.

CORNELIUS OSSNWARD, Ph. G. (Columbia), Ph. C. (Northwestern), Lecturer on Commercial Pharmacy.

MARIA Y. ORBIA, Ph. C. (Washington), Assistant State Chemist.

JAMES THOMPSON, B. S. (Minnesota), Specialist U. S. Bureau of Plant Industry.

ROBIN JEAN WILKES, PH. C. (Washington), Graduate Assistant in Pharmacy.

---------------

HENRY K. BENSON, Ph. D. (Columbia), Professor of Chemistry.

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

FREDERICK AETHER OSBORN, Ph. D. (Michigan), Professor of Physics.

PETRUS JOSEPH FISCH, Ph. D. (John Hopkins), Professor of French.

THEODORES CHRISTIAN FRYE, Ph. D. (Chicago), Professor of Botany.

ROBERT EDWARD MORITZ, Ph. D. (Strassburg), Professor of Mathematics.

LESLIE J. AYER, J. D. (Chicago), Professor of Law.

ERNST OTTO ECKELMAN, Ph. D. (Heidelberg), Assistant Professor of German.

JOHN WEINHEIL, Ph. D. (Wisconsin), Professor of Bacteriology.

WILLIAM MORRIS DEHN, Ph. D. (Illinois), Professor of Chemistry.

ELI VICTOR SMITH, Ph. D. (Northwestern), Assistant Professor of Zoology.

GEORGE BURTON RIGG, Ph. D. (Chicago), Assistant Professor of Botany.

COLLEGE OF PHARMACY

The College of Pharmacy was organized in 1894 for the purpose of offering an opportunity to young men and women to become well trained practical pharmacists. The work of the two year course as first organized has been extended to three, four and five year courses. In the two and three year courses a complete training is offered in technical and commercial pharmacy; in the four year course an opportunity for training in more advanced scientific pharmacy together with a liberal training in other sciences and in languages. The five year or graduate course offers an opportunity to do research work in one of the most fertile fields of modern science.
The students in pharmacy share the advantage and enjoy the spirit of one of the foremost educational institutions of the Pacific Coast.

Requirements to Practice Pharmacy in Washington.—To become a registered pharmacist, one must be twenty-one years of age and must be a graduate of at least a two year course in a college of pharmacy recognized by the Washington State Board of Pharmacy. This board recognizes such colleges as hold membership in the American Conference of Pharmaceutical Faculties and such foreign colleges as meet the requirements of the conference.

Graduates of the two-year course of the College of Pharmacy are admitted as registered pharmacists without examination, providing they have had two years of practical experience, and of the three year course providing they have had one and one-half years of practical experience.

Graduates of the four-year course of the College of Pharmacy are admitted as registered pharmacists without examination, providing they have had one year of practical experience.

Graduates of any course of the College of Pharmacy who have not had practical experience are admitted without examination as assistant registered pharmacists and serve as such until they have received the required practical experience for full registration.

Assistant registered pharmacists may work under the direction of a registered pharmacist and may take charge of a store only during his temporary absence.

Higher Standard in Pharmacy.—Never have opportunities in pharmaceutical vocations been so great as at the present time. Rapid advances are being made in educational requirements to practice pharmacy. Many states now require graduation from a college of pharmacy as a prerequisite to become a registered pharmacist. In the Northwest, the states of Montana, Oregon and Washington now have the educational requirement. The National Association of Boards of Pharmacy at its 1915 meeting recommended that in 1920 all state boards holding membership in the organization should require graduation as a prerequisite for registering pharmacists. This advance in the requirements for the practice of pharmacy is certain to make the profession more attractive.

The American Conference of Pharmaceutical Faculties.—The College of Pharmacy is a member of the American Conference of Pharmaceutical Faculties. The objects of the conference are: to promote closer relations between the several colleges of pharmacy of the United States, to standardize pharmaceutical education and to encourage a higher standard of proficiency for members of the profession.
COLLEGE OF PHARMACY

GENERAL INFORMATION

Garden of Medicinal Plants.—For several years the College of Pharmacy has maintained on the campus a garden in which plants of pharmaceutical importance have been cultivated. The area and scope of this garden have been gradually extended, until the college now has a very complete collection of medicinal plants which furnishes valuable material for classes in botany, materia medica and drug assay.

The Bureau of Plant Industry of the United States Department of Agriculture has, for some time, taken an active interest in the garden and has rendered valuable assistance in its maintenance. A specialist, in medicinal plant cultivation from the Bureau of Plant Industry, is permanently stationed at the University and in cooperation with one of the pharmacy staff is in charge of the drug garden work.

Service to Pharmacists of the State.—It is the desire of the college to render every possible service to the pharmacists of the state. We therefore invite the pharmacists to write us in regard to their prescription difficulties. Many pharmacists are now availing themselves of this privilege, and it is our wish to extend this service to the entire profession.

Food and Drug Analysis.—The enactment of the Food and Drug Act by Congress, and of similar legislation by most of the states (Washington included), has given great importance to pharmaceutical education. It is at once apparent that a knowledge of drugs is equally important with chemistry in the administration and enforcement of this legislation. The graduate in chemistry is not wholly qualified to act as a food and drug inspection chemist for the government, states, private individuals, and corporations, if he is not trained in those subjects included in the collective name of pharmacy. These allied subjects are: Theory and practice of pharmacy, manufacturing pharmacy, drug assaying, pharmaceutical botany, study of the United States Pharmacopoeia and National Formulary, pharmacognosy, materia medica and therapeutics, etc. A great many pharmaceutical chemists are needed to carry out the analytical processes involved in the enforcement of this legislation, but the number of men adequately trained is very limited. Students with high school training are urged to consider these opportunities and to prepare themselves for such positions. The Dean of the College of Pharmacy is chemist for the Washington State Department of Agriculture and is also in close touch with the government food and drug work. Courses are offered that will fit students for this line of work.
Library Facilities.—A branch of the university library containing books and current publications on pharmacy and chemistry is maintained in the pharmacy building. Practically all the domestic and some foreign journals on pharmacy are received by the college. The student is expected to make use of the library and to report from time to time on current topics of interest.

Observation Trips.—The observation visits made each year by the classes in pharmacy to the various large manufacturing and wholesale establishments of Seattle and to the large retail stores are an important feature of the work of the college. Among the places visited during the year 1919-1920 were Stewart & Holmes Drug Company, branch houses of Parke, Davis & Co., H. K. Mulford Company and some of the leading prescription and commercial pharmacies of the city. Also to the hydrastis and ginseng farm of Mr. C. E. Thorpe, situated near the University campus.

Requirements for Admission

1. Admission to the Two-Year Course leading to the Degree of Graduate in Pharmacy, and the Three-Year Course leading to the Degree of Pharmaceutical Chemist.

   For admission to either of these courses, no subjects are prescribed beyond the general requirements for freshman standing in the University. (See page 41.)

2. Admission to the Four-Year Course, Leading to the Degree of Bachelor of Science in Pharmacy.

   For admission to this course a candidate must present the following credits, in the fifteen units required for freshman standing in the University:

   2 units in one foreign language.

   1 unit in one of the following sciences: physics, chemistry, botany, zoology, physiology, general biology.

3. Admission to the Five-Year Course leading to the Degree of Master of Science in Pharmacy.

   Candidates for the degree of master of science must have received the bachelor's degree from this college or from some other college of equal rank maintaining a four-year course which is the equivalent of the course at this institution.

4. Students Not Candidates for Degrees.

   Persons over twenty-one years of age, who present evidence of adequate preparation, may be admitted as special students. In general a student from an accredited high school will not be admitted as a special if he has been in attendance at high school during the previous year.
Applicants for admission as specialials should file their applications and credentials with the Registrar at least four weeks before the beginning of the quarter in which they wish to attend. Blanks for this purpose may be obtained from the Registrar at any time.

**Degrees**

1. The degree of graduate in pharmacy (Ph. G.) will be conferred upon any student who has fulfilled the requirements for entrance to the two-year course and has completed the two-year course as outlined.

2. The degree of pharmaceutical chemist (Ph. C.) will be conferred upon any student who has complied with the entrance conditions and has completed the three-year course.

3. The degree of bachelor of science (B. S.) will be conferred upon any student who has fulfilled the entrance requirements and has completed either the four-year scientific course or the combined scientific and business course. This degree with honors may be conferred upon a student of the College of Pharmacy if recommended for this distinction by the pharmacy faculty.

4. The degree of master of science in pharmacy (M. S.) will be conferred upon any graduate of the four-year course who has completed at least one year of graduate work and has presented a satisfactory thesis.

**Curricula Required for Graduation**

1. A two-year course which prepares its graduates for responsible positions as practical pharmacists.

2. A three-year course which includes the work of the two-year course and in addition offers opportunity for training in commercial pharmacy, business law, advertising, accounting, advanced work in scientific pharmacy, bacteriology and chemistry.

3. A four-year scientific course which offers a well-rounded scientific and liberal training. Graduates of this course are prepared for positions as, (a) practical and manufacturing pharmacists; (b) manufacturing and technical chemists; (c) bacteriologists; (d) teachers in colleges of pharmacy; (e) food and drug inspection chemists and bacteriologists in the United States Civil Service; (f) pharmaceutical journalism.

   Graduates of the four-year course have clear entrance to the best medical colleges and are well equipped to carry on their medical studies.

4. A four-year combined scientific and business course which includes the regular pharmacy work of the two-year course together with advanced training in pharmacy, and courses in the College of
Business Administration and Schools of Journalism and Law which will insure the student a thorough business training. Special attention will be given to courses in business law, advertising, accounting, salesmanship, insurance, money and banking and business organization. This course is designed to produce well trained men for either retail or wholesale pharmacy.

5. A five-year course offers opportunity to the four-year graduate to do graduate and research work in some line of scientific pharmacy and graduate work in some branch of allied science. Graduates of this course are prepared for responsible positions in many different lines of work.

1. WITH DEGREE OF GRADUATE IN PHARMACY. (Two-Year Course).

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phar. 1 (Manufacturing)</td>
<td>5</td>
<td>Phar. 2 (Manufacturing)</td>
<td>5</td>
<td>Phar. 3 (Commercial)</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 1 (General)</td>
<td>5</td>
<td>Chem. 9 (General)</td>
<td>5</td>
<td>Bot. 13 (General)</td>
<td>6</td>
</tr>
<tr>
<td>Zool. 7 (Physiology)</td>
<td>5</td>
<td>Bot. 13 (General)</td>
<td>6</td>
<td>Bot. 14 (Microscopy)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Phar. 5 (Drug Assay)</th>
<th>5</th>
<th>Phar. 6 (Drug Assay)</th>
<th>5</th>
<th>Phar. 7 (Urineanalysis)</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 37 (Organic)</td>
<td>5</td>
<td>Chem. 58 (Organic)</td>
<td>5</td>
<td>Bacteriology 5</td>
<td>4</td>
</tr>
<tr>
<td>Phar. 9 (Prescriptions)</td>
<td>5</td>
<td>Phar. 10 (Prescriptions)</td>
<td>2</td>
<td>Phar. 14 (Toxicology)</td>
<td>2</td>
</tr>
<tr>
<td>Phar. 12 (Therapeutics)</td>
<td>3</td>
<td>Phar. 8 (U. S. Pharm.)</td>
<td>2</td>
<td>Phar. 11 (Prescriptions)</td>
<td>2</td>
</tr>
</tbody>
</table>

Two years of Military Training (12 credits) are required of men.
One year of Physical Education (6 credits) is required of women.

2. WITH DEGREE OF PHARMACEUTICAL CHEMIST. (Three-Year Course).

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>Autumn Quarter</th>
<th>Credits</th>
<th>Winter Quarter</th>
<th>Credits</th>
<th>Spring Quarter</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phar. 1 (Manufacturing)</td>
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<td>Phar. 2 (Manufacturing)</td>
<td>5</td>
<td>Phar. 3 (Commercial)</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 1 (General)</td>
<td>5</td>
<td>Chem. 2 (General)</td>
<td>5</td>
<td>Bot. 12 (General)</td>
<td>6</td>
</tr>
<tr>
<td>Zool. 7 (Physiology)</td>
<td>5</td>
<td>Bot. 13 (General)</td>
<td>6</td>
<td>Bot. 14 (Microscopy)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Phar. 5 (Drug Assay)</th>
<th>5</th>
<th>Phar. 6 (Drug Assay)</th>
<th>5</th>
<th>Phar. 7 (Urineanalysis)</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 37 (Organic)</td>
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<td>Chem. 36 (Organic)</td>
<td>5</td>
<td>Bacteriology 5</td>
<td>4</td>
</tr>
<tr>
<td>Phar. 9 (Prescriptions)</td>
<td>2</td>
<td>Phar. 8 (U. S. Pharm.)</td>
<td>2</td>
<td>Phar. 14 (Toxicology)</td>
<td>2</td>
</tr>
<tr>
<td>Phar. 12 (Therapeutics)</td>
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<td>Phar. 13 (Therapeutics)</td>
<td>2</td>
<td>Chem. 39 (Organic)</td>
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**Junior Year**

<table>
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<tr>
<th>Pharmacy</th>
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<th>Pharmacy</th>
<th>5</th>
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<tbody>
<tr>
<td>Elective</td>
<td>5</td>
<td>Elective</td>
<td>5</td>
</tr>
</tbody>
</table>

In addition to the work required in the two-year course, the student must complete 15 hours credit in pharmacy and electives sufficient to make 135 hours credit. Students expecting to go into commercial work are urged to elect courses in psychology, economics, business law, advertising and accounting. This work will apply on the four-year combined business and scientific course. Students expecting to enter a scientific field of work are expected to elect courses that will apply on the four-year scientific course. Two years of Military Training or Physical Education (12 credits) must be taken by the student.
### 3. With Degree of Bachelor of Science. (Four-Year Scientific Course)

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharo 1 (Manufacturing)</td>
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<td>Pharo 2 (Manufacturing)</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 1 (General)</td>
<td>5</td>
<td>Chem. 2 (General)</td>
<td>5</td>
</tr>
<tr>
<td>Zoo. 7 (Physiology)</td>
<td>5</td>
<td>Bot. 13 (General)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharo 5 (Drug Assay)</td>
<td>5</td>
<td>Pharo 6 (Drug Assay)</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 37 (Organic)</td>
<td>5</td>
<td>Chem. 38 (Organic)</td>
<td>5</td>
</tr>
<tr>
<td>Language</td>
<td>5</td>
<td>Language</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharo 9 (Prescriptions)</td>
<td>2</td>
<td>Pharo 13 (Therapeutics)</td>
<td>2</td>
</tr>
<tr>
<td>Pharo 8 (U. S. Pharm.)</td>
<td>2</td>
<td>Pharo 14 (Toxicology)</td>
<td>2</td>
</tr>
<tr>
<td>Language</td>
<td>5</td>
<td>Pharo 10 (Prescriptions)</td>
<td>2</td>
</tr>
<tr>
<td>Science</td>
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<td>English 1</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Senior Year</th>
<th>Autumn Quarter Credits</th>
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<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 4 (Trigonometry)</td>
<td>5</td>
<td>Physics</td>
<td>5</td>
</tr>
<tr>
<td>Science</td>
<td>5</td>
<td>Science</td>
<td>5</td>
</tr>
<tr>
<td>English 2</td>
<td>3</td>
<td>Elective</td>
<td>5</td>
</tr>
</tbody>
</table>

The student is required to take 25 hours of one modern foreign language or 30 hours (15 each) if two languages are taken.

The elective work in science may be varied so as to prepare students for: (a) Entrance to colleges of medicine; (b) manufacturing pharmacists and chemists; (c) food and drug chemists; (d) bacteriologists; or (e) physiological chemists.

A total of 180 hours plus two years of military training or physical education (12 credits) are required for graduation.

### 4. With Degree of Bachelor of Science. (Four-Year Combined Scientific and Business Course)

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharo 1 (Manufacturing)</td>
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<td>Pharo 2 (Manufacturing)</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 8 (General)</td>
<td>5</td>
<td>Chem. 9 (General)</td>
<td>5</td>
</tr>
<tr>
<td>Zoo. 7 (Physiology)</td>
<td>5</td>
<td>Bot. 13 (General)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
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</thead>
<tbody>
<tr>
<td>Pharo 5 (Drug Assay)</td>
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<td>Pharo 6 (Drug Assay)</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 37 (Organic)</td>
<td>5</td>
<td>Chem. 38 (Organic)</td>
<td>5</td>
</tr>
<tr>
<td>Psychology 1</td>
<td>5</td>
<td>English 1</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharo 9 (Prescriptions)</td>
<td>2</td>
<td>Pharo 8 (U. S. Pharm.)</td>
<td>2</td>
</tr>
<tr>
<td>Law 54 (Business)</td>
<td>3</td>
<td>Pharo 13 (Therapeutics)</td>
<td>2</td>
</tr>
<tr>
<td>Bus. 11 (Accounting)</td>
<td>3</td>
<td>Law 55 (Business)</td>
<td>3</td>
</tr>
<tr>
<td>Bus. 71 (Evol. of Market)</td>
<td>3</td>
<td>Bus. 12 (Accounting)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Year</th>
<th>Autumn Quarter Credits</th>
<th>Winter Quarter Credits</th>
<th>Spring Quarter Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy</td>
<td>5</td>
<td>Pharmacy</td>
<td>5</td>
</tr>
<tr>
<td>Bus. 76 (Advertising)</td>
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<td>Bus. 77 (Advertising)</td>
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</tr>
<tr>
<td>Bus. 105 (Indus. Mngmt.)</td>
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<td>Bus. 89 (Office Mngmt.)</td>
<td>3</td>
</tr>
</tbody>
</table>

A total of 180 hours plus two years of military training or physical education (12 credits) are required for graduation.
5. WITH DEGREE OF MASTER OF SCIENCE IN PHARMACY. (Five-Year Course).

Graduates of the four-year course may continue work for the master's degree as follows:

Not more than 22 credits allowed outside of the department of pharmacy. Election may be made in one or more of the following studies: Bacteriology, 8 to 22 credits; botany, 4 to 22 credits; physics, 10 to 22 credits; chemistry, 5 to 22 credits; zoology, 4 to 12 credits.

Not less than 23 credits shall be elected in the department of pharmacy. At least 12 credits of the major work must be a research problem and the preparation of a thesis. Examination and thesis must conform to the regulations of the Graduate School.

COURSES

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
GRADUATE SCHOOL

THE FACULTY

HENRY Suzzallo, Ph. D. (Columbia), LL. D. (California), President.

JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.

FREDERICK MORGAN Patisford, Ph. D. (Yale), Professor of English; Dean.

HENRY LANDES, A. M. (Harvard), Professor of Geology and Mineralogy; Dean of the College of Science.

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

J. ALLEN SMITH, Ph. D. (Michigan), Professor of Political Science.

CAROLINE HAYEN OBER, Professor of Spanish.

TREVOR KINGAID, A. M. (Washington), Professor of Zoology.

MILTON ROBERTS, A. B. (Stanford), Professor of Mining Engineering and Metallurgy; Dean of the College of Mines.

FREDERICK ARTHUR OSBORN, PH. D. (Michigan), Professor of Physics; Director of Physical Laboratories.

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

DAVID THOMSON, B. A. (Toronto), Professor of Latin; Dean of the College of Liberal Arts.

CHARLES WILLIS JOHNSON, PH. D. (Michigan), Professor of Pharmaceutical Chemistry; Dean of the College of Pharmacy.

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

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

ROBERT EDWARD MORITZ, PH. D. (Nebraska), PH. N. D. (Strassburg), Professor of Mathematics.

C. EDWARD MÄRTENSON, E. E. (Minnesota), PH. D. (Wisconsin), Professor of Electrical Engineering; Acting Dean of the College of Engineering.

EVERETT OWEN EASTWOOD, C. E., M. A. (Virginia), S. B. (Massachusetts Institute of Technology), Professor of Mechanical Engineering.


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

CHARLES CHURCH MORE, M. S., C. E. (Lafayette), M. C. E. (Cornell), Professor of Civil Engineering.

HENRY KREITZER BENSON, PH. D. (Columbia), Professor of Chemical Engineering.

JOHN WHINZIEI, PH. D. (Wisconsin), Professor of Bacteriology.

HUGO WINKENWEDDER, M. F. (Yale), Professor of Forestry; Dean of the College of Forestry.

VERNON LOUIS FARRINGTON, A. B. (Harvard), A. M. (Emporia), Professor of English.

FREDERICK EMER BOLTON, PH. D. (Clark), Professor of Education; Dean of the College of Education.

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

EPPIE ISABEL RAITT, B. S. (Columbia), Professor of Home Economics.

WILLIAM FRANKLIN ALLISON, B. S., C. E. (Cornell), Professor of Municipal and Highway Engineering.

STEVENSON SMITH, PH. D. (Pennsylvania), Professor of Psychology.

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

STEPHEN IVAN MILLER, JR. A. B. (Stanford), LL. B. (Michigan), Professor of Economics; Dean of the College of Business Administration.

RICHARD FREDERICK SCHOLZ, PH. D. (Wisconsin), Professor of Ancient History.
UNIVERSITY OF WASHINGTON

FRED CARLETON ATKIN, PH. D. (Chicago), Professor of Education.
WILLIAM MAURICE DEHN, PH. D. (Illinois), Professor of Chemistry.
HOWARD WOOLSTON, PH. D. (Columbia), Professor of Sociology.
MATTHEW Lytle SPENCER, PH. D. (Chicago), Professor of Journalism; Director of the School of Journalism.
GEORGE McPHAIL SMITH, PH. D. (Freiburg), Professor of Inorganic Chemistry.
SAMUEL LATIMER BOOTHBOYD, M. S. (Colorado Agricultural College), Associate Professor of Astronomy.

WILLIAM MAURICE DEHN, PH. D. (Illinois), Professor of Chemistry.
HOWARD WOOLSTON, PH. D. (Columbia), Professor of Sociology.
MATTHEW LYTLLE SPENCER, PH. D. (Chicago), Professor of Journalism; Director of the School of Journalism.
GEORGE McPHAIL SMITH, PH. D. (Freiburg), Professor of Inorganic Chemistry.
SAMUEL LATIMER BOOTHBOYD, M. S. (Colorado Agricultural College), Associate Professor of Astronomy.
GEORGE McPHAIL SMITH, PH. D. (Freiburg), Professor of Inorganic Chemistry.

BURT PERSONS KIRKLAND, A. B. (Cornell), Associate Professor of Forestry.
THOMAS KAY SINEY, PH. D. (Chicago), Associate Professor of Latin and Greek.
EDWARD McMHAHON, A. M. (Wisconsin), Associate Professor of American History.
GEORGE SAMUEL WILSON, B. S. (Nebraska), Associate Professor of Mechanical Engineering.

CHARLES WILLIAM HARRIS, C. R. (Cornell), Associate Professor of Civil Engineering.
VANDERBILT CUSTIS, PH. D. (Harvard), Associate Professor of Economics.
EDGAR ALLEN LOW, B. S. (B. E.) (Wisconsin), Associate Professor of Electrical Engineering.
JOSEPH DANIELS, M. S. (Lehigh), Associate Professor of Mining Engineering and Metallurgy.

THOMAS TALBOT WATSON, PH. D. (Columbia), Associate Professor of Anthropology.
HENRY LOUIS BARKEL, PH. D. (Cornell), Associate Professor of Engineering Physics.

EDWIN JAMES SAUNDERS, A. M. (Harvard), Assistant Professor of Geology.
ELIAS THEAT CLARK, M. F. (Yale), Assistant Professor of Forestry.
ELI VICTOR SMITH, PH. D. (Northwestern), Assistant Professor of Zoology.
CLARENCE RALPH COREY, E. M. (Montana State School of Mines), A. M. (Columbia), Assistant Professor of Mining Engineering and Metallurgy.

ERNST OTTO ECKELMANN, PH. D. (Heidelberg), Assistant Professor of German.
JOHN IVERSON HOTSON, PH. D. (Harvard), Assistant Professor of Botany.
LEWIS IRVING NEMIKEN, PH. D. (Pennsylvania), Assistant Professor of Mathematics.
SAMUEL HERBERT ANDERSON, PH. D. (Illinois), Assistant Professor of Physics.
FRIEDRICH KURT KIRKMAN, B. S. (B. E.) (Washington), Assistant Professor of Electrical Engineering.

MACY M. SKINNER, PH. D. (Harvard), Assistant Professor of Business Administration.
CURT JOHN DECASSE, PH. D. (Harvard), Assistant Professor of Philosophy.

Ralph Mason Blake, Ph. D. (Harvard) Instructor in Philosophy.

GRADUATE COUNCIL: DRAW PODELFOY, CHAIRMAN; DRANS CONDON, THOMSON AND ROBERTS; PROFESSORS OSBORN, FAY, MORITZ, MAGNUSSON, DEHN, SCHOLZ, WOOLSTON, CUSTIS, WOODY, FASTEN.
The Aims of Graduate Study.—The principal aims of graduate study are the development of intellectual independence through the cultivation of the scientific attitude of mind, and the promotion of the spirit of research. The graduate student is therefore thrown more largely upon his own resources than the undergraduate, and must measure up to a more severe standard. The University is consistently increasing the emphasis upon graduate work in order that it may be a strong center for advanced study.

Organization.—The Graduate School was formally organized in May, 1911. The graduate faculty includes:

1. All heads of departments which offer graduate work to major students and all full professors in such departments.
2. All associate professors, assistant professors and instructors offering graduate work for major students; provided no department shall have more than four representatives. If more than that number are eligible, the departmental representatives below the rank of full professor shall be elected by the members of the department.

Fees.—Graduate students, including fellows, associates, and assistants, are required to pay a tuition of $10 per quarter.

Graduate Fellowships and Scholarships

Full description regarding fellowships and scholarships may be found on page 51.

Admission and Degrees

Three classes of students are recognized in the Graduate School:

1. Candidates for the master's degree.
2. Candidate for the doctor's degree.
3. Students not candidates for a degree.

Admission.—A graduate of the University or of any other institution of equal rank will be given full graduate standing. If the student is from a college or university which falls below a satisfactory standard in the character of its curriculum, the efficiency of its instruction, its equipment, and its requirement for graduation, he must take such undergraduate courses as may be specified before making application for an advanced degree.
Any graduate student who expects to become a candidate for a degree must file an outline of his proposed work with the Dean of the Graduate School, on a blank provided for the purpose, at the time of his registration. Registration will not be regarded as complete until this outline has been filed. When it has received the approval of the committee on graduate courses or of the graduate faculty, and the student has been notified thereof, he will be enrolled as a candidate for a degree.

Students on the Staff.—Assistants, associates, or others in the employ of the University are permitted to carry three hours of graduate work if full-time employees, and ten or eleven hours if half-time employees.

Graduate Study in the Summer.—As the summer offers leisure for advanced study to a large number of teachers, the University lays special emphasis upon graduate work during the summer quarter. Graduates of colleges or universities in attendance during the summer are urged to enroll for the strictly graduate courses, as these courses give them an opportunity to work with a select group of mature students toward the acquisition of an advanced degree.

Graduate students will enroll with the Dean of the Graduate School and will be given an opportunity to discuss their courses of study in detail.

Attendance during two and one-half summer quarters will satisfy the residence requirement for the master’s degree. A fair amount of credit toward the doctor’s degree may also be earned in the summer quarter.

DEGREES

Every graduate student who expects to take a degree in any quarter of a given year shall send to the registrar a written statement to that effect before the 15th of the first month of that quarter.

The Master’s Degree.—Graduate students may receive the degree of master of arts or master of science by complying with the following requirements:

1. At least one year’s work must be done in residence in undivided pursuit of the studies elected; or not less than two years in residence, if the candidate is employed as a teacher or regularly engaged in any other occupation or profession. Attendance during two and one-half summer quarters or their equivalent will satisfy the residence requirement.

2. The candidate must elect a major subject and either one or two minors. He must earn not less than thirty-six credits in residence, with a grade of A, B or C, at least one-half being in the
major subject, and present a thesis which shall embody indepen­dent though not necessarily original research. The requirement of a minor or minors may be waived, but only upon the recommenda­tion of the head of the major department and with the consent of the committee on graduate courses. The total must represent the equivalent of at least forty-five hours.

3. No work done in the major subject may be counted toward the master's degree until the candidate for such degree has complied with the departmental requirement as to previous work in that subject, which in no case shall be less than eighteen hours.

4. Elementary or lower division courses may not count toward the minor requirement, and the teachers' courses may not count toward either the major or minor requirement.

5. Upon completion of the work as outlined in the applica­tion, the candidate shall be given an oral or an oral and written examination by a committee consisting of the major professor and all instructors with whom he has had work. The candidate in order to be recommended for a degree, must receive a two-thirds affirmative vote of each department represented in the examina­tion.

6. The candidate's thesis shall be in charge of the instructor in whose field the subject of it falls, and it must be approved by the instructor in charge and receive a two-thirds favorable vote of the instructors of professorial rank in the department concerned. One copy of the thesis in typewritten or printed form (or library hand, in case the thesis is of such character that it cannot be type­written), shall be deposited in the University library. The thesis must meet the approval of the librarian, and the cost and form of binding must be deposited with the thesis.

The Doctor's Degree.—Graduate students will be received as candidates for the degree of doctor of philosophy in such depart­ments as are adequately equipped to furnish the requisite training.

Graduate students may receive the degree of doctor of philos­ophy by complying with the following requirements:

1. At least three years of graduate work, the last year of which must be spent in residence at the University of Washington. If a candidate is otherwise engaged in any regular employment, a correspondingly longer time will be required.

2. Evidence of a reading knowledge of both French and German and such other languages as individual departments may require. Evidence of sufficient attainment in these languages must be presented to the dean, and, upon his approval, filed with the registrar at least one academic year before the degree is granted.
3. Completion of courses of study in a major and two minor subjects, the work in the minors to constitute one-third of the total course. The major subject, in addition to the regular courses, shall include the preparation of a thesis embodying the results of a research which shall be a positive contribution to knowledge. This thesis must be approved by a committee appointed by the head of the major department, of which the instructor in charge of the thesis shall be a member, and also by the committee on graduate courses.

4. Oral examination in each of the minor subjects before a committee of three, including a representative of the major department. Certificates of the satisfaction of this requirement must be given before the candidate may be admitted to his major examination.

5. An exhaustive written examination in the major subject, not less than six hours in duration, no one session of which may exceed five hours.

6. An oral examination before a committee of three or more representatives of the major department, of not less than two hours. This examination must be approved by the entire committee. All examinations are open to members of the faculty.

7. One copy of the thesis in typewritten form (or library hand) shall be bound at the expense of the candidate and deposited with the librarian for permanent preservation in the University archives.

The thesis, or such parts thereof as may be designated by the graduate council, must be printed in a form approved by the librarian and one hundred copies must be presented to the University library.

The completion of the requirements as specified shall be certified by the head of the major department not later than the Wednesday preceding commencement day.

For the present, members of the teaching staff of the University, of the grade of instructor or above, will not be received as candidates for the doctor’s degree.

Master of Science in Engineering.—Courses leading to the degree of master of science in engineering are provided for students in civil engineering, electrical engineering, mechanical engineering, chemical engineering, and mining engineering.

For further information, see the Colleges of Engineering and Mines.
Master of Science in Pharmacy.—The degree of master of science in pharmacy will be conferred upon graduates of the four-year course in pharmacy who complete at least one year of graduate work as outlined and present a satisfactory thesis.

For further information, see College of Pharmacy.

Master of Science in Forestry.—For the degree of master of science in forestry, the student, must be a graduate of this University or other institution of equal rank, must have a satisfactory knowledge of botany, geology, physics, chemistry, mathematics, surveying and languages, and must be credited at this University with 249 credits, of which at least 78 are in technical forestry subjects, including silviculture, dendrology, wood technology, mensuration, management, lumbering, wood preservation, forest economics, and thesis.

For further information, see College of Forestry.

Master’s Degrees in Education.—Advanced work for teachers leading to the master’s degree in education is given by the University. For further information, see College of Education.

Courses

For description of courses, see Departments of Instruction, printed elsewhere in this catalogue. (See index.)
DEPARTMENTS OF INSTRUCTION

The University reserves the right to withdraw temporarily any course which has not an adequate enrollment at the end of the sixth day of any quarter. For changes in registration, due to the withdrawal of a course, no fee will be charged.

Courses bearing numbers 1 to 99 inclusive are normally offered to freshmen and sophomores; those from 100 to 199, to juniors and seniors; and those from 200 upward to graduate students.

Two or three numbers connected by hyphens indicate a course which ordinarily carries credit only when pursued for the full time; the instructor's permission must be obtained for credit for only a single quarter of such a course. No credit in a beginning foreign language is given for less than two quarters' work.

The credit indicated in connection with each course is the "quarter credit," being based on the class periods per week.

The descriptions of courses in each department include: (1) the number of the course as used in university records; (2) the title of the course; (3) a brief statement of its subject matter and method; (4) number of quarter credits given; (5) quarter in which it is given, (autumn, winter, spring, summer); (6) name of instructor.

Courses preceded by a * are not given in 1920-1921.

AERONAUTICAL ENGINEERING
Engineering Hall

101. Aerodynamics.—Use of the wind tunnel in the determination of the characteristics of aerofoils; selection of aerofoils for a given purpose. Prerequisite, junior standing. Three credits.

111. Aerial Propellers.—A study of the theory and design of airscrews including a review of the methods of calculating thrust and efficiency. Prerequisite, junior standing. Three credits.

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121. **Airplane Design.**—Selection of the type and construction of an airplane for a given purpose; computation of performance from aerodynamic data; design of flying boats and seaplanes; the distribution of weights and the proportioning of parts. Prerequisite, A. E. 101. Three credits.

141. **Airships.**—Aerostatics, including a study of lighter-than-air machines. Prerequisite, A. E. 101, 121. Three credits.

161. **Aerial Transportation.**—The design and layout of landing fields and aircraft terminals. Aerial transportation as an industrial factor and as an instrument of warfare. Prerequisite, A.E. 111, 121, 141. Three credits.

**ANATOMY**

*Science Hall and Anatomy Laboratory*

**Assistant Professor Worcester**

**GROSS ANATOMY**

101-102-103. **General Human Anatomy.**—A thorough study of the human body. The dissecting material is prepared after the most modern methods. Osteological collections are loaned to the students. Especially intended for students taking the pre-medical, nurses’ or physical education courses, but open to others. Prerequisite, Zool 3 and 4 or their equivalent. Six credits per quarter; autumn, winter, and spring. Worcester

104. **Topographic Anatomy.**—Cross and sagittal sections for correlation. Prerequisites, courses 101-102, and 103. Four credits; autumn, winter, spring. Worcester

108. **Special Dissections.**—For physicians or students who have completed the above courses in gross anatomy. Hours and credits to be arranged; autumn, winter, spring quarters. Worcester

**MICROSCOPIC ANATOMY**

105-106. **Histology and Embryology.**—The microscopic anatomy of developing and adult mammals studied both in their fresh and fixed conditions. Especially for students in pre-medical and nurses’ courses but open to others. Prerequisite, Zool 3 and 4 or their equivalent. Five credits per quarter; autumn and winter. Worcester
107. Neurology.—The dissection of the human brain and cord and special organs of sense, also the comparative developmental history of the central nervous system, followed by a microscopic study of the nuclei and fiber tracts. Prerequisites, courses 105 and 106 or their equivalents. Especially for medical students but open to others. Five credits per quarter; spring.

ARCHITECTURE

Architecture Building

ASSOCIATE PROFESSOR GOULD; INSTRUCTORS McCLELLAND, SEXSMITH; ASSOCIATE MYERS

1-2-3. History and Elements of Architecture.—Illustrated lectures and exercises in drawing and simpler elements of buildings. Excursions will be made to buildings and to builders' supply houses. In second and third quarters a general course in the history of architecture. Juniors in department of home economics and majors in painting and design take first and second quarters consecutively, receiving three credits first quarter. In the first quarter one two-hour laboratory period per week is required of juniors in home economics and juniors majoring in painting and design. One credit is added for this work. Two credits per quarter; autumn, winter, spring.

4-5-6. Architectural Drawing.—Practical methods of presenting an architectural problem by means of plan, section and elevation. Individual instruction with occasional conferences. Recommended to students in engineering. Three credits per quarter; autumn, winter, spring.

7. Descriptive Geometry.—Training in draftsmanship and the ability to read drawings. Two three-hour laboratory periods per week. Three credits; autumn.

8. Shades and Shadows.—Construction by descriptive geometry of shades and shadows found in architectural renderings. Prerequisite, course 7. Two three-hour laboratory periods per week. Three credits; winter.

9. Perspective Drawing.—The theory of architectural perspective from simple problems in single point perspective up to and including the more complicated problems. Office methods and short-cut methods will be studied and compared with the theory. Two three-hour laboratory periods. Three credits; spring.

10-11-12. Free Hand Drawing.—The fundamentals of free hand drawing and free hand perspective. Drawing in charcoal or
crayon from cast or architectural ornament and from still life. One credit per quarter; autumn, winter, spring. McClelland

47-48. Mechanics.—Statics; mechanics of building materials. No prerequisites. Five credits per quarter; autumn, winter. Sexsmith

51-52-53. History and Elements of Architecture. — First quarter, Egyptian, Greek and Roman architecture; second and third, Byzantine, Romanesque and Gothic, with concurrent study of outlines in general history. Illustrated lectures. Sophomore course, but may be taken the autumn quarter as a part course. Required of all students in the department and open to all students in the University. Two credits per quarter; autumn, winter, spring. Gould

54-55-56. Architectural Design.—Problems in design and planning. Society of Beaux Arts Architects program will be used and work sent to New York City for judgment in competition with work from leading architectural schools. Laboratory fee, $2. Five credits per quarter; autumn, winter, spring. Gould

60-61-62. Building Construction and Inspection.—Lectures on methods employed in building construction, supplemented by detail drawing of various parts of buildings of all types. Visits will be made to the manufacturing plants of building materials and to all types of buildings under construction. Two credits per quarter; autumn, winter, spring. McClelland

72. Modeling.—Studies in clay of architectural ornament. One credit; autumn. Wehn

73-74. Free Hand Drawing.—Studies of architectural ornament and cast of the human figure. One credit per quarter; winter, spring.

101-102-103 History of Architecture. The architecture of the Renaissance; problems in ornamental design and planning. Two credits per quarter; autumn, winter, spring. McClelland

104-105-106. Architectural Design.—Advanced problems in ornamental design and planning as applied to different materials. Problems of industrial layouts, city squares, playgrounds, etc. Laboratory fee, $2. Three credits per quarter autumn, winter, spring. McClelland

112. Modeling.—Design of simple architectural forms. One credit; autumn. Wehn
113-114. Water Color.—Still life studies, out-door subjects and architectural rendering. One credit per quarter; autumn, spring. McClelland

115-116. Sanitation and Plumbing.—Methods of sewage disposal and water supply in modern buildings; modern appliances and office practice; specifications. One credit per quarter; autumn, winter. Sexsmith

151-152-153. History of Architecture.—Modern architecture; city and industrial planning. Prerequisite Architecture 103. Two credits per quarter; autumn, winter, spring. Gould

154-155-156. Architectural Design.—Beaux Arts Class A projects first two quarters; third quarter, thesis. Five credits per quarter; autumn, winter, spring. McClelland

157-158-159. Free Hand Drawing.—Studies from life. Two credits per quarter; autumn, winter, spring.

166-167-168. Art Appreciation.—A survey of the history of art, principles of composition and arrangement. One credit per quarter; autumn, winter, spring.

Electives.—Electives may be chosen from among the following subjects: Analytical geometry, calculus, modern language, music, economics, naval architecture, psychology, public speaking, geology 5, public speaking and debate 1.

In addition students who elect design in their fourth year may select from the following subjects: Bridges, higher structures, structural materials (C. E. 167), frame structures (C. E. 134), electrical engineering 11.

These two courses are suggested as electives in the spring quarter of the junior year in architecture: Engineering geology (Geology 5), and practical public speaking (Dramatic Art 31).

ASTRONOMY AND NAVIGATION

The Observatory
Associate Professor Boothroyd

The work in astronomy is planned for three classes of students: (a) Those who desire some knowledge of astronomy as a part of a liberal education; (b) engineers and navigators who need some knowledge of the science as a part of their technical training; and (c) those who wish to pursue the subject more intensively than either of the other classes.
In navigation the aim is to give a thorough mastery of the science and as much of the art as can be given with the limited equipment of the laboratory and classroom. Men having the necessary experience in seamanship should have no difficulty in securing a master's license after successfully completing the course in navigation.

In the College of Science, courses 11 and 12 satisfy the science requirements.

In the College of Liberal Arts, courses 11 and 12 are recommended for those electing astronomy for the science requirement. Those who want only five hours may take courses II or I, 2 and 31.

For a major in Astronomy 36 credits, including courses 11 and 12, must be taken.

1. *Introduction to Astronomy.*—Lectures illustrated by planetarium lantern slides and by views of the more interesting of the heavenly bodies with the equatorial telescope. Use of charts in the study of the sky with the unaided eye. Open to all students of the University. Laboratory deposit, $1. One credit; autumn, winter, spring.

Boothroyd

2. *Elements of Astronomy.*—A brief descriptive course designed to give clear ideas regarding our place in the universe, the succession of the seasons, tidal phenomena, phases of the moon, etc., as well as some conception of the scope of astronomy and a clear idea of the scientific method. Two credits each quarter.

Boothroyd

3. *Elements of Navigation.*—For fishermen in the short course in the College of Fisheries. Study of the compass, compass corrections, piloting and dead reckoning. Open only to short course students. Laboratory deposit, $1. Winter.

Boothroyd

11. *The Solar System.*—Observation and study of the real and apparent motions of the various bodies which make up the Solar System. Study of the fundamental principles of mechanics which are revealed through the science of astronomy. Five recitations and laboratory periods per week and three laboratory periods to be arranged. Laboratory deposit, $1. Five credits; autumn, winter.

Boothroyd

12. *The Sun and Stars.*—Prerequisite, course 11 or I and 2 or the equivalent. Five recitation periods per week. Five credits; spring.

Boothroyd

106. *Modern Astronomy.*—Recent work on planets, sun, stars and the general problems of the structure of the universe. Prerequisites, Physics 93, Math, 4 or its equivalent, and course 12. Five lecture and discussion periods per week. Five credits; spring. Offered alternate years, not offered 1920-1921.

Boothroyd
123. Nautical Astronomy.—Actual determination of time, latitude and azimuth from observations made by the student with the sextant. Prerequisites, Math. 52 and course 1 or the equivalents. Laboratory deposit, $2. Two laboratory periods per week. Two credits; autumn. Boothroyd

124-125. Navigation.—Study and use of nautical instruments and charts, piloting, the sailings, dead reckoning, the Sumner method and the “new navigation,” air navigation. Prerequisite, course 123. Laboratory deposit, $2. Three credits; winter, spring. Boothroyd

131. History of Astronomy.—An exposition of the scientific method as illustrated by the progress of astronomy. Prerequisites course 11 or 2, Physics 47, 48, 49 or equivalent. Two lecture and recitation periods per week. Two credits; spring. Boothroyd

171. Engineering Astronomy.—Actual determination of time, latitude and azimuth from observations made on the sun and stars by the student with the surveyor’s transit. Prerequisite. Math. 52, C. E. 21, and must be preceded or accompanied by course 1 or its equivalent. Two laboratory hours per week. Two credits; autumn. Laboratory fee, $2. Boothroyd

172. Geodetic Astronomy.—The precise determination of time, latitude and azimuth. Prerequisites, course 171, Math. 62. Ten hours laboratory work per week. Five credits; winter. Laboratory deposit, $5. Boothroyd

173. Geodesy.—Figure of the earth, geodetic positions, adjustment of triangulation systems, gravity determination and isostacy, mapping and map projection. Prerequisites, course 122 and Math. 62. Five lecture and recitation periods per week with outside assignments of problems and reading. Five credits; spring quarter. Boothroyd

*203-204-205. Practical Astronomy.


Bacteriology and Pathology

Science Hall
Professor Weinzierl; Assistant Professor Nickson; Assistant Miss Stahr

With the exception of general bacteriology, all the courses offered are applied in one of the following fields: (a) medicine; (b) sanitation; (c) industry. Laboratory work forms an important part of all courses.

* Not offered in 1920-1921
### Autumn | Winter | Spring | Summer | Fall
---|---|---|---|---
Bact. 4 | Bact. 5 | Bact. 101, 102 | Majors, Home Ec. Fishers, Enginers and others
Short Course Fisheries | Pharm. Bact. | | |
Bact. 101 | Bact. 102 | Bact. 103 Pathology | |
Bact. 104 | Bact. 105 | | Medicine and Nursing
Bact. 110 | Bact. 111 | Bact. 112 Pathology | Medicine and Majors
Pathology | Pathology | | |
Bacteriology | Bact. Diag. | | |
Bact. 210 | Bact. 211 | Bact. 212 Seminar | Majors and others
Seminar | Seminar | | |
Bact. 213 | Bact. 214 | Bact. 215 Research | Majors and others
Research | Research | Research | |

4. **S. C. Fisheries.**—A brief study is made of the technique of handling bacteria. Most of the time is given to the bacteriology of fermentation, putrefaction, sterilization, sanitation, and canning. Laboratory deposit, $3. Winter.

5. **Pharmacy Bacteriology.**—A general course with emphasis upon pharmaceutical problems such as sterilization, disinfectants, and biological products. Prerequisite, sophomore standing and general chemistry. Laboratory deposit, $3. Four credits; spring.

101. **General Bacteriology.**—Technique in growing and examining bacteria, their structure, functions and distribution; identification of species; study of common disease bacteria. Prerequisite, junior standing except for bacteriology majors. A knowledge of biology and general chemistry is desirable. Laboratory deposit, $3. Four credits; autumn, summer.

102. **Sanitary Bacteriology.**—Consideration of water supplies and sewage disposal; milk, meat and other foods; certain industrial applications; inspection trips. Prerequisite, Bact. 101. Laboratory deposit, $3. Four credits; winter, summer.
103. Public Hygiene.—The conservation of health; prevention of diseases; school hygiene; industrial hygiene, etc. Prerequisite, junior standing except for bacteriology majors. Two or four credits, two lectures only, or two lectures and two laboratory periods. Spring quarter. Weinzirl

104. Medical Bacteriology.—The technique and principles of general bacteriology; identification of species; theories of infectious disease and of immunity. Prerequisites, general chemistry, histology, and junior standing. Laboratory deposit, $3. Four credits; autumn. Weinzirl and Assistant

105. Infectious Diseases.—A detailed study of the pathogenic bacteria, and methods for the diagnosis of infectious diseases. Prerequisite, course 104. Laboratory deposit, $3. Four credits; winter. Weinzirl and Assistant

110. Pathology.—Laboratory deposit, $3. Three credits; autumn. Nickson

111. Pathology.—Laboratory deposit, $3. Three credits; winter. Nickson

112. Pathology.—Laboratory deposit, $3. Four credits; spring. Nickson

201. Serology.—A consideration of the types of immunity; immunization of animals and man; study of immune products. Prerequisite, courses 5, 102, or 105, and senior or graduate standing. Laboratory deposit. $3. Four credits; autumn. Weinzirl

202. Bacteriological Diagnosis.—The diagnosis of infectious diseases. Intended for those specializing in bacteriology. Prerequisite course 102. Laboratory deposit $3. Four credits, winter quarter. Weinzirl

203. Clinical Diagnosis.—The examination of sputum, urine, blood, gastric and intestinal contents, parasites, etc. Prerequisite, 105 and 106, or 102 and 103. Laboratory deposit, $3. Four credits; spring. Weinzirl

210-211-212. Seminar.—A consideration of topics not included in the regular courses; also reports on recent investigations and of research work done by the members. Prerequisite, senior or graduate standing, and course 102 or 105. Two credits per quarter; autumn, winter, spring. Weinzirl

213-214-215. Research.—Investigation of assigned problems. Open to qualified students after consultation. Credits and time to be arranged; autumn, winter, spring, summer quarters. Weinzirl
SUGGESTED SELECTIONS

For the required biological science in the Colleges of Liberal Arts and Science, only courses 1, 2, 3, 11, 12, 105, 106, 107, will be accepted.

For a major: Courses 105, 106, 107, 140, 141, 142, 143, 144, 145, of which 105 and 106 are required unless 11 and 12 were taken in the freshman year.

For teaching botany: 3, 105, 106, 140, 141, 142, 143, 144, 145.

For pharmacy students: 13, 14.

For forestry students: 11, 12, 140, 141, 142, 261, 262.

For fisheries students: 53, 130.

1. **Elementary Botany.**—The structure and functions of roots, stems, leaves and seeds. Only for those who have had no botany in the high school. Five credits; autumn. Rigg and Assistants

2. **Elementary Botany.**—Types of the great groups of plants from the lowest to the highest. Open to students entering the second quarter without any previous botany. Five credits; winter.

Frye and Assistants

3. **Elementary Botany.**—Plant analysis; field work with local flora. Open to students entering the third quarter without any previous botany. Five credits; spring.

Frye, Rigg and Assistants

8, 9, 10. **Ecology and Taxonomy.**—For city teachers. Field trips every other Saturday, with noon campfire talks. Two or three credits per quarter; autumn, winter and spring quarters. Frye

11, 12. **Foresters' Botany.**—A study of types of plants to illustrate the advances in complexity. For forestry students. Five credits per quarter; winter and spring. Prerequisite, course 7.

Hotson and Assistant

13, 14. **Pharmacy Botany.**—Gross structure of vegetative and reproductive parts of seeds; brief study of spore plants; microscopy of powdered drugs. Five credits, winter; four credits, spring quarter. Rigg and Assistant

26. **School Garden.**—Prerequisite, courses 1, 2, or 10. Five credits; spring quarter.

Hotson

53. **Aquatic Botany.**—A course on the plants of fresh water habitats, especially those involved in the study of fishes and their culture. Five credits; spring.
105. Taxonomy.—The flowering plants. Prerequisite, one year high school botany or 10 credits in the University. Five credits; autumn. Frye and Assistant

106, 107. Morphology and Evolution.—A morphological study of types to show advances in complexity. Required for all majors unless courses 11 and 12 were taken in the freshman year. Prerequisite, courses 2 or 10, or Zool. 1 and 2. Sophomore standing, or senior standing without prerequisites. Five credits per quarter; winter, spring. Frye and Assistant

111. Forest Pathology.—The recognition and treatment of common wood-destroying fungi. Prerequisites, courses 10 or 105. Five credits; spring. Hotson and Assistant

119. Plant Histology.—Preparation of slides for the compound microscope. Prerequisite, courses 12 or 106. Three credits; any quarter.

130. Economic and Marine Botany.—Economic marine plants, their condition, the products derived therefrom and the process of manufacture. Prerequisite, one year of chemistry and junior standing. Four credits; autumn. Frye

187. Journal Club.—Reviews of articles in current journals, suggested for seniors, graduates and instructors in the department. Prerequisite, junior standing; two years of botany. No credit; each quarter. Frye

140-141-142. General Fungi.—Morphology and classification of fungi as a basis for plant pathology. Prerequisite, course 11 or 105, junior standing. Five credits per quarter; autumn, winter, spring. Hotson

143, 144, 145. Plant Physiology.—Prerequisite, two quarters of botany and Chem. 21, junior standing. Five credits per quarter; autumn, winter and spring quarters. Rigg

200. Proseminar.—Semi-independent work by students. Open only on consultation with the head of the department. Credit to be arranged; any quarter. Frye, Rigg, Hotson

233. Research.—Credit to be arranged; any quarter. Frye, Rigg, Hotson

250. Algae.—Prerequisite, course 11 or 105. Five credits; any quarter. Frye

251. Bryophytes.—Prerequisite, course 12 or 106. Five credits; any quarter. Frye

252. Pteridophytes.—Prerequisite, course 12 or 106. Five credits; any quarter. Frye
DEPARTMENTS OF INSTRUCTION

253. Gymnosperms.—Prerequisite, course 12 or 107. Five credits; any quarter.

254. Angiosperms.—Prerequisite, course 12 or 107. Five credits; any quarter.

261, 262, 263. Plant Pathology.—A study of the diseases of plants and the fungi which produce them. Prerequisite, course 142. Five credits per quarter; autumn, winter, spring. Frye

271, 272, 273. Experimental Morphology. — Prerequisite, course 12 or 106, one year chemistry, senior standing. Two credits per quarter.

279. Colloidal Biology.—Prerequisite, course 143, Chem. 32, senior standing. Five credits; any quarter.

280. Micrometabolism.—Prerequisite, courses 12 or 107, 148 senior standing. Five credits; any quarter.

CHEMISTRY

Bagley Hall

Professors Benson, Johnson, Denn, Smith; Assistant Professors Tartar, Heath, Barton and Thompson; Instructor Wetton; Associates Powell, Whitwell, Radford, Freeman, Whipple

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 realized that the subject is eminently practical; hence it is the desire of those in charge so to guide the student that he may fit himself for work in those lines in which chemistry has become an applied science.

REQUIREMENTS OF THE DEPARTMENT

For a major a minimum of thirty-six credits selected from the courses outlined and including courses in general chemistry, and 131, 132, 133, 112, 113, or their equivalent.

The fee for each laboratory course is $5 per quarter. This deposit covers the cost of materials furnished by the laboratory and provides the student for a full quarter’s work. The student is required to purchase a breakage ticket when he obtains his locker key. The cost of the ticket is $5, and any portion of it unused will be refunded.

1-2-3. General Chemistry.—The first two quarters are devoted to general chemistry and the chemistry of the non-metals; the third quarter to the chemistry of the metals. Open only to students who have had no high school chemistry. Three lectures and two laboratory periods per week. Five credits per quarter; autumn, winter, spring.
3-1-2. General Chemistry.—A repetition of the course described above. Five credits per quarter. Tartar

2-3-1. General Chemistry.—A repetition of the course described above. Five credits per quarter. Tartar

4. General Chemistry.—For short course miners. Three lectures and one four-hour laboratory period per week. No credit; winter. Benson

5-6. General Chemistry.—For students in the department of home economics. Only women admitted. Three lectures and two laboratory periods per week. Five credits per quarter; winter, spring. Tartar

10. Qualitative Analysis.—For students of pharmacy. Two lectures and two laboratory periods per week. Four credits; spring. Tartar

21-22-23. General Chemistry.—For students who have had a high school course in chemistry, and especially for students in the colleges of Science and Engineering. Prerequisite, an accredited high school course in chemistry. Three lectures and two laboratory periods per week. Five credits per quarter; autumn, winter, spring. Smith

22-23-21. General Chemistry.—A repetition of the course above beginning the spring quarter. Five credits per quarter. Tartar

23-21-22. General Chemistry.—A repetition of the course described above. Five credits per quarter. Tartar

37-38-39. Organic Chemistry for Pharmacy Students.—Three lectures and two laboratory periods per week; autumn, winter, spring. Johnson

51. Engineering Chemistry.—An elective for engineering students. The course deals with the chemistry of fuels and construction materials. Two lectures and one laboratory period per week. Prerequisite, course 3 to 23. Three credits; spring. Benson, Whitwell

101. Qualitative Analysis.—For students of chemistry and chemical engineering. Two lectures and three laboratory periods per week. Prerequisite, course 23 or its equivalent. Five credits; autumn, winter, spring. Thompson

105-106-107. Chemistry and Analysis of Food.—Laboratory and class work in analysis of food products and the study of federal and state laws regulating the sale of food products and drug products. Laboratory deposit, $5. Five credits per quarter; autumn, winter, spring. Johnson
108. Food Analysis.—For students in the department of home economics. Methods of analysis of various foods and federal and state laws studied. Two lectures and two laboratory periods per week. Four credits; spring. Johnson

111. Quantitative Analysis.—A brief course which deals with both gravimetric and volumetric methods. This course is intended for students in general science. Prerequisite, course 23 or its equivalent. One lecture and three laboratory periods per week. Four credits; autumn, winter, spring. Heath

112. Quantitative Analysis.—A course in gravimetric analysis. Prerequisite, course 23 or its equivalent. One lecture and three laboratory periods per week. Four credits; autumn, winter, spring. Heath

113. Quantitative Analysis.—A course in volumetric analysis. Prerequisite, course 23 or its equivalent. One lecture and three laboratory periods per week. Four credits; autumn, winter, spring. Heath

114. Quantitative Analysis.—An advanced course in quantitative methods. Prerequisite, course 23, and either 112 or 113. One lecture and three laboratory periods per week. Four credits; spring. Heath

121. Industrial Chemistry.—Three lectures and two laboratory periods per week. Prerequisite, course 112. Five credits per quarter. Benson

121-122-123. Industrial Chemistry.—The first quarter deals with fuels, gases, cements, refractories, iron and steel, and alloys with special reference to technical testing. The second quarter deals with the machinery and processes for the manufacture of acids and alkaliels. The third quarter deals with organic industrial chemistry, particularly with the technology of oils, fats, paints, rubber and cellulose products. The work of each quarter may be undertaken independently. Three lectures and two laboratory periods per week. Prerequisite, course 113. Five credits per quarter; autumn, winter, spring. Benson, Whitwell

131-132-133. Organic Chemistry.—Designed especially for major students in chemistry and for students preparing for medicine. Prerequisite, course 3 or its equivalent. Three lectures and two laboratory periods per week. Five credits; autumn, winter, spring. Benson, Whitwell

135-136. Organic Chemistry.—For students in the department of home economics. Only women are admitted. Three lectures and two laboratory periods per week. Prerequisite, course 6 or its equivalent. Five credits per quarter; autumn, winter. Dehn
141-142. **Physiological Chemistry.**—A general course for students of medicine, biology and bacteriology. Chemical composition of foods, tissues, secretions and excretions, their physiological and pathological changes. Prerequisite, courses 111 or 113 and 133. Three lectures and two laboratory periods. Five credits; autumn, winter.

Barton

144. **Physiological Chemistry.**—For students in the department of home economics and those desiring a brief course. Three lectures and two laboratory periods per week. Prerequisite, course 136. Five credits; spring.

Barton

146. **Urinary Analysis.**—A study of normal and pathological urine. A course intended for pre-medical students. Prerequisite, courses 111 or 113 and 133. One lecture and two laboratory periods.

Three credits.

Barton

153. **Sanitary Chemistry.**—Materials and processes used in the purification of water, sewage, and in sanitation. Two lectures, one laboratory period per week. Prerequisite, course 3 or 23. Three credits; autumn.

Benson

155. **Forest Products.**—Wood distillation, tannin, wood pulp, alcohol, viscose, vulcanized fiber and wood oils. An elective for students in forestry and chemical engineering. Two lectures and one laboratory period per week. Prerequisite, course 3 or 23. Three credits; autumn.

Benson

156. **Road Materials.**—Bitumens and methods of testing. An elective for students in civil and chemical engineering. One lecture and one laboratory period per week. Prerequisite, course 3. Two credits; spring.

Benson

181-182. **Physical and Theoretical Chemistry.**—A course dealing with the fundamental theories of chemistry based upon physical measurements. Three lectures and two laboratory periods per week. Prerequisite, Physics 2 and course 113 and 133. Five credits per quarter; autumn, winter.

Tartar

183. **Electro Chemistry.**—Theories and laws of voltaic currents and laboratory work with electro-chemical processes and measurements. Three lectures and two laboratory periods per week. Prerequisite, course 182. Five credits; spring.

Tartar

192. **Chemistry of Plant and Animal Tissues.**—The application of physiological chemistry to the study of biology. Prerequisite, courses 111 or 113 and 133. One lecture and two laboratory periods. Three credits, autumn.

Barton

193. **Chemistry of Nutrition.**—A study of enzyme and chemical reactions involved in digestion and metabolism. Prerequisite, courses 111 or 113 and 133. One lecture and two laboratory periods. Winter.

Barton
203. Advanced Physical Chemistry.—Chemical statics and dynamics. Three lectures and two laboratory periods per week. Prerequisite, 202. Five credits; spring. Tartar

211. Inorganic Preparations.—The preparation of special substances involving representative laboratory methods. Four laboratory periods per week. Prerequisite, 223. Five credits; autumn. Thompson

212. Organic Preparations.—This course and 211 are required of all candidates for the degree of doctor of philosophy. Four laboratory periods per week. Prerequisite, 223. Five credits; autumn. Thompson

213. Organic Analysis.—The fundamental special methods used in the analysis of organic substances. Two laboratory periods per week. Prerequisite, courses 133 and 113. Two credits; winter. Dehn

215-216-217. Chemical Engineering.—For seniors and graduates in chemical engineering. In the autumn quarter the course consists of selected chemical processes with special emphasis on the factors of control and inspection. The winter quarter deals with the preparation of drawings and specifications of fundamental apparatus such as driers, coolers, grinders, conveyors, evaporators, and stills, together with computations of heat interchange, etc. The spring quarter deals with the evolution of a chemical process from assigned raw materials quantitatively and experimentally tested. This quarter's work may be reported in the form of a thesis for the bachelor's degree. Prerequisite, courses 123, C. E. 2 and M. E. 90. Five credits per quarter; autumn, winter, spring. Benson, Whitwell

221-222-223. Advanced Inorganic Chemistry.—A course in chemical theory recommended for all major and graduate students. Two credits per quarter; autumn, winter, spring. Smith

224-225. History of Chemistry.—A course in the historical fields of organic chemistry. Prerequisite, courses 133, 182. Five credits; autumn, winter. Smith

231-232-233. Advanced Organic.—A detailed study of special fields of organic chemistry. Prerequisite, courses 133, 182. Five credits per quarter; autumn, winter, spring. Smith

219. Chemical Engineering.—The design, construction, equipment and operation of a plant for semi-commercially testing the results of laboratory experiments. The results may be reported as a thesis for an advanced degree. Prerequisite, course 217. Credit to be arranged; autumn, winter, spring. Benson, Whitwell

250. Research.—The work in research offered by the department is of two types; (1) Research for the master's degree. This
work is not necessarily laboratory investigation, although the investigation of the literature is ordinarily supplemented by laboratory development of the subject. The maximum credit is nine hours; (2) research for the doctor's degree. Work for this degree may be carried on under the direction of any member of the regular staff of the department, or in food investigation with Dean Johnson of the College of Pharmacy. The work may be upon any topic approved by the department. The maximum credit is forty-five hours. Prerequisite, course 182. Credit to be arranged; autumn; winter and spring.

CIVIL ENGINEERING

Engineering Hall

Professors More, Allison; Associate Professors Harris, Hayden, Rubey; Assistant Professors Rathbun, Collier, May; Instructors C. L. White, R. H. White, Wilbur; Acting Instructors Miller, Brown, Van Horn, Gehiardt, Dobren, Dana, Associate Weld.

1. Engineering Drawing.—The use of instruments, free-hand lettering, fundamental principles of making working drawings, plotting of traverse from field notes. Laboratory deposit, $1. Three credits; autumn, winter, spring.

2. Engineering Drawing.—Reading of working drawings, conventional symbols and standards, tracing. Prerequisite, course 1. Three credits; autumn, winter, spring.

11-19-18. Engineering Problems.—The class room work is devoted to training students in methods of attacking, analyzing and solving engineering problems. Three credits; autumn, winter, spring.

21. Plane Surveying.—Instruments, computations, mapping, and an introduction to the U. S. system for the survey of the public lands. Prerequisite, C. E. 1 and Math. 51. All freshman engineers. Laboratory deposit, $1.50. Three credits; autumn, winter, spring.

22. Railroad Surveying.—Elementary railroad engineering. Prerequisite, C. E. 24. Laboratory deposit, $1.50. Four credits; autumn.

23. Higher Surveying.—Meridian observations; triangulation and base line measurements; computations and adjustment of measurements; plane table surveying. Prerequisite, C. E. 24. Laboratory deposit, $1.50. Four credits; winter.

24. Field Engineering.—Field practice in the survey and construction of highways, railroads, canals, etc. Prerequisite, C. E. 21. Laboratory deposit, $1.50. Four credits; spring.

27. Mine Surveying.—Surface and underground practice; observation for meridian; topography; mining claim survey; tunnels
and vertical shaft work and connections; mapping. Prerequisite, C. E. 21. Sophomore mining engineers. Laboratory deposit, $1.50. Three credits; winter.

Hayden

30. Surveying.—(Short session in Forestry). Laboratory de­
posit, $2. Five credits; winter.

Hayden

38. Surveying.—(Short session in Mining). Laboratory de­
posit, $2. Five credits; winter.

Hayden

41. Engineering Construction.—A consideration of structures from the standpoint of utility, design, construction and mainten­
ance. Three credits; winter, or spring.

Hayden

55. Forest Surveying.—For students in forestry. Labora­
tory deposit, $3. Three credits; winter.

Hayden

56. Forest Surveying.—Chain, compass, transit and level sur­
veying, with reference to work in forestry. Laboratory deposit, $3. Five credits; spring.

Hayden

112. Railway Construction.—Railway construction methods, machinery and tools; details of track, and terminal structures. Pre­
requisite, C. E. 24. Five credits; winter.

Hayden


Hayden

122. Highways.—Location, methods, and types of construc­
tion, with local application. Prerequisite, C. E. 22. Three credits; winter.

Professor Allison

126. Roads and Pavements.—Surface materials and mainten­
ance, including comparative laboratory study of properties of local materials. Prerequisite, C. E. 122. Five credits; autumn.

Allison, Collier

131. Mechanics.—Statics, stresses in structures, beams, col­
umns, flexible cords; theorem of least work; theorem of three mo­
ments; combined stresses. Prerequisite, Math. 62. Three credits; autumn, winter, or spring.

More

132. Mechanics.—Dynamics; translation and rotation; work, energy and power; friction, torsion; inertia of rigid bodies. Prere­
quisitive, C. E. 131. Three credits; autumn, winter, or spring.

More

133. Reinforced Concrete.—The mechanics of reinforced concrete beams, girders, columns and retaining walls and introduc­
tion to reinforced arch bridges. Prerequisite, C. E. 131. Three credits; spring.

More
184. *Framed Structures.*—Problems presenting structural engineering, cranes, roof trusses, highway bridges and simple spans. Prerequisite, C. E. 131. Three credits; autumn. Rathbun

185. *Advanced Mechanics.*—General theories of flexure, elasticity and least work, with applications. Senior and graduate engineers. Prerequisite, C. E. 132 and C. E. 133. Five credits; spring. More

142. *Hydraulics.*—Flow of water through pipes, orifices, over weirs and in open channels; energy, impulse and reaction of jets with application to impulse wheels; review of hydrostatics. Prerequisite, C. E. 131. Laboratory deposit, $3. Five credits; autumn, spring. Harris

148. *Hydraulic Engineering.*—Complete problems presenting hydraulic engineering. Prerequisite, C. E. 142. Three credits; winter. Harris

144. *Hydraulic Mining.*—A course of two lectures per week on theory and practice of hydraulic mining. For students taking short course in mining. Two credits; winter. Allison

145. *Hydraulic Machinery.*—Development and theory of water wheels and turbine pumps; design of a reaction turbine; reference to hydrostatic machinery and dredging equipment. Prerequisite, C. E. 12. Senior and graduate E. E. and M. E. Three credits; winter. Harris

147. *Hydraulic Power.*—Generation of power; penstock and turbines; types of installations. Prerequisite, C. E. 142; senior and graduate C. E. Five credits; autumn. Harris

153. *Water Supply.*—The principal engineering operations necessary to secure suitable water supplies for cities and towns; purification of water. Prerequisite, C. E. 142; senior and graduate C. E. Five credits; winter. Allison

154. *Sanitary Engineering.*—The design and construction of sewage systems, sewage treatment, and disposal; garbage collection and destruction. Senior and graduate C. E. Prerequisite, C. E. 142. Five credits; spring. Allison

157. *Irrigation Problems.*—Special problems and investigations. Senior and graduate C. E. Three credits; spring. Allison

158. *Sewage Treatment.*—Supplementary to C. E. 154 with special problems in matters relating to public health. Senior and graduate C. E. and Ch. E. Three credits; spring. Allison

161. *Bridges.*—Stresses, design and deflection of simple trusses; detail drawings; estimates. Prerequisite, C. E. 134. Senior and graduate C. E. Five credits; winter. Rathbun
DEPARTMENTS OF INSTRUCTION

164. Higher Structures.—Primary and secondary stresses and design. Prerequisite, C. E. 161. Senior and graduate C. E. Five credits; spring.


169. Construction.—Consideration of materials of construction and study of construction projects. Prerequisite, senior standing. Five credits; winter.

171. Engineering Astronomy.—(See Astronomy 171).

172. Geodetic Astronomy.—(See Astronomy 172).

173. Geodesy.—(See Astronomy 173).

CLASSICAL LANGUAGES AND LITERATURE

Denny Hall
Professor Thomson; Associate Professor Sidey; Assistant Professors Densmore, Clark

Requirements for a major; at least 36 hours in the department, chosen from courses other than Greek II and 13-14; Latin, 1, 2, 3; 11; 14-15-16. A student specializing in Greek must take at least nine hours of Latin; one specializing in Latin must take at least ten hours of Greek.

I. GREEK

1-2-3. Elementary Greek.—Translation from a wide range of Greek authors. An especial effort will be made to give students who take but one year of Greek an appreciation of its spirit and its bearing on the English language. Five credits per quarter; autumn, winter, spring.

Densmore

4-5. The World of Homer and Hesiod.—The epic age as seen in Homer and the renaissance of the Greek world. Illustrated lectures, conferences, and reports. Prerequisite, one year of Greek. Three credits per quarter; autumn and winter.

Clark

6. Herodotus.—A study of the Persian war period. Prerequisite, course 4-5. Three credits; spring.

Clark


*8-9-10. Greek Art.—Autumn—architecture; winter—sculpture; spring—painting, numismatics, and the minor arts. This course alternates with that in Roman art. Primarily for students of fine arts but open to all students. One credit per quarter.

Sidey

*Not offered in 1920-1921
11. Greek Civilization.—An institutional and cultural survey of the Greek world from the earliest times to the Roman conquest. Illustrated lectures, conferences and discussions. Five credits; autumn, or winter.

Densmore

12. Advanced Greek Civilization.—A continuation of the problems of course 11 with particular attention to their development in modern times. Conferences and discussion groups. Prerequisite, course 11 or junior standing. Five credits; spring.

Densmore

13-14. Greek and Roman Literature.—A two-quarter course devoted to the study of the chief masterpieces in English translation. Knowledge of Greek and Latin is not required. Five credits; autumn, winter, spring.

Sidey

107-108-109. Greek Prose.—Two credits per quarter; autumn, winter, spring.

Densmore

*151-152-153. Plato.—Intensive study of the Republic, the Laws (in part), and some of the shorter dialogues. Prerequisites, courses 101-103. Three to five credits per quarter; autumn, winter, spring.

Densmore

Greek History.—(See History 71-72-73 and 171-172-173.)

II. LATIN

1-2-3. Elementary Latin.—This course covers the first and second years of high school Latin. It is designed to help those who have previously had little or no Latin to an appreciation of the sources of the English and Romanic languages, as well as to enable those who desire to study Latin more thoroughly to bring their preparations up to the college requirements. It will be given if any considerable number of students desire it. Five credits per quarter; autumn, winter, spring.

Sidey

4. Ovid.—Selections, chiefly from the Metamorphoses, with some study of the same myths as they appear in English literature. Prerequisite, three and one-half years of high school Latin. Three credits; autumn.

Clark

* Not offered in 1920-1921
5. **Cicero: De Senectute.**—A comparison of Cicero’s work with similar essays. Prerequisite, three and one-half years of high school Latin. Three credits; winter. Clark

6. **Catullus.**—The Latin lyric. Emphasis upon finished translation and comparison of the best English versions. Prerequisite, three and one-half years of high school Latin. Three credits; spring. Clark

7, 8, 9. **Grammar and Composition.**—Prerequisite, three and one-half years of high school Latin. Two credits per quarter; autumn, winter, spring. Clark

11. **Roman Civilization.**—The part played in history by the Romans and their contributions to modern civilization. Lectures, illustrated, when possible; collateral reading, and reports. Five credits; autumn, winter, or spring. Clark

13. **Roman Literature.**—(See Greek 13-14.)

14-15-16. **Roman Art.**—Roman architecture for two quarters, followed by sculpture, numismatic and minor arts. Illustrated by photographs and slides. Primarily for students of fine arts but open to all. Alternates with the course in Greek art. One credit per quarter; autumn, winter, spring. Sidey

40, 41, 42. **Sight Translations.**—Prerequisite, three and one-half years of high school Latin. Two credits per quarter; autumn, winter, spring. Thomson

50. **Horace and Tibullus.**—Selections from the odes of Horace and the elegies of Tibullus and Propertius. Prerequisite, courses 4, 5, 6, or special permission. Three credits; autumn. Thomson

60. **Livy.**—One book and selections from the other books. Prerequisite, courses 4, 5, 6, or special permission. Three credits; winter. Thomson

70. **Plautus and Terence.**—A study of the Roman drama and its Greek sources. Prerequisite, courses 4, 5, 6, or special permission. Three credits; spring. Thomson

100. **Cicero’s Letters.**—Selected Letters of Cicero; characteristics of Latin epistolary literature; value of the Letters as a source of information on the political and social conditions of Cicero’s day. Prerequisite, course 50, 60 or 70. Two credits per quarter. First quarter. Clark

101. **Pliny’s Letters.**—Selected Letters of Pliny; comparison of Cicero and Pliny in their letters. Pliny as a corrective of Tacitus in regard to their times. Reading of selections from the famous letters of modern times. Prerequisite, courses 50, 60, or 70. Two credits per quarter. Second quarter. Clark
102. *Tacitus' Annals.*—Books I, II will be read as a basis for the study of Tacitus' style, method and attitude as an historian. Tacitus compared with Pliny the Younger. Prerequisite, courses 50, 60, or 70. Two credits per quarter. Third quarter. Clark

103-104-105. *Teachers' Course.*—Caesar, Cicero, and Vergil; methods, practice teaching, and observation. Prerequisite, courses 50, 60, or 70. Three credits per quarter; autumn, winter, spring.

*110. Horace's Satires.*

*111. Juvenal and Martial.*

*112. Short Stories from Apuleius.*


Sidey

152. *Seneca.*—Moral Essays. Two credits; winter.

Sidey

153. *Latin of the Empire.*—Gudeman's Selections. Two credits; spring.

DRAMATIC ART

*Denby Hall*

**Professor Gorsuch; Instructor Hughes**

The work in this department is planned for three classes of students: (a) those who desire some knowledge of dramatic art as part of a liberal education; (b) those who need some knowledge of dramatic art as part of their technical training; and (c) those who wish to pursue the subject more intensively than either of the former groups.

For a major the department requires 38 to 60 credits, of which 21 must be in the department, including courses 1-2-3 and 21-22-23. Courses 1-113 (inclusive) may be entered at the beginning of first, second or third quarters.

1-2-3. *Dramatic Literature.*—Introductory course. Selected plays of the great dramatists are studied with the purpose of increasing the students' power of analysis and appreciation. Three credits per quarter; autumn, winter, spring.

Gorsuch

21-22-23. *Shakespeare.*—Dramatic reading and interpretation of selected plays. Courses 21-22-23 have as their general purpose the interpretation of the drama. Selected plays are used as exercises in dramatic delivery and for the study of effectiveness in the reading of lines. The special aims are to correct personal mannerisms of vocal expression and to encourage habits of speech that are right and natural; to cultivate proper instinctive expression, and the use of imagination in conceiving the situation, relation and characteriza-

*Not offered in 1920-1921.*
tion as these are manifested in utterance. Three credits per quarter; autumn, winter, spring.

27-28-29. Contemporary Drama.—Dramatic reading and interpretation of selected plays. For further information see courses 21-22-23. Gorsuch

31. Practical Public Speaking.—An introductory course. Principles of public speaking are studied and short, original talks are prepared and delivered. Prerequisite, English 1. Three credits per quarter; autumn, winter, spring. Gorsuch

32. Practical Public Speaking.—Prerequisite, course 31. Three credits per quarter; autumn, winter, spring. Gorsuch

101-102-103. Play-acting and Play-producing.—A practical course in the art of acting, with some time given to the problems of producing. Includes work in interpretation of both standard and original plays, with at least one public performance during each quarter. Four credits per quarter; autumn, winter, spring. Hughes

111-112-113. Play-writing.—A study of the principles of dramatic composition, together with experimental creative work. Five credits per quarter; autumn, winter, spring. Hughes

Work to be announced later will include courses in producing. General stagecraft.

DRAWING, PAINTING AND DESIGN

Miss Edens, Mr. Patterson, Mrs. Worman, Miss Campbell,
Advanced students applying for credit must present work to head of the department.

3. Principles of Design.—The principles of design in line, dark and light, and color. For students in home economics. Four credits; autumn, winter, spring.

5-6-7. Freehand Still Life and Cast.—The technique of drawing from elementary forms, with all mediums—water color, oil, pen, etc. Prerequisite for any subsequent course in drawing and painting; cast drawing from models of antique and modern sculpture, preparatory to drawing from living model. Laboratory deposit, $1. Three credits per quarter; autumn, winter, spring. Patterson

9-10-11. Art Structure.—A study of the principles of design in line, dark and light, and color, to develop power of appreciation and creation of good design. Prerequisite for any subsequent course in art structure. Laboratory deposit, $1. Four credits per quarter; autumn, winter, spring.

16-17-18. Art Appreciation.—Historical development, from the art of primitive man to the present day, including the anatomical
structure and function of the human body as related to artistic construction. One credit per quarter; autumn, winter, spring.

53. Art Structure.—Working out simple units, borders, and all-over patterns with needle and cloth as medium. Laboratory deposit $2. Four credits; autumn.

54. Art Structure.—Bookbinding and woodblock printing. Laboratory deposit $2. Four credits; winter.

55. Art Structure.—Woodblock printing and furniture decoration. Designing of woodblocks and printing on textiles. Laboratory deposit $2. Four credits; spring.

56-57-58. Illustration and Life Study.—Drawing and painting, from the model in various mediums, for reproductive processes such as magazines, newspapers and commercial work, including a study of the anatomy of the human figure. Prerequisite, freshman freehand. Laboratory deposit, $3. Three credits per quarter; autumn, winter, spring.

59-60-61. Household Design. Designs for tiles, leaded glass, metal-works, fixtures and embroidery. Three credits per quarter; autumn, winter, spring.


101. Public School Drawing.—For drawing supervisors. The working out of such drawings as would be used in the public schools. Three credits spring.

103-104. Art Structure. Pottery.—Advanced students will be allowed to work for advanced credits. Laboratory deposit, $2. Three credits per quarter autumn, winter.

105. Art Structure.—Design as applied to lettering, advertising, and cartooning. Three credits; autumn.

106. Art Structure.—Posters. Three credits; winter.

107-108-109. Portrait.—Portraiture in all mediums. Prerequisite, freshman freehand. Laboratory deposit, $3. Three credits per quarter; autumn, winter, spring.

110-111-112. Art Structure.—Interior decoration. Three credits per quarter; autumn, winter, spring.

113-114-115. Furniture Design.—Lectures on the history of furniture and the working out of original designs in furniture. Two credits per quarter; autumn, winter, spring.

*151-152. Landscape.—Design.

153. Methods of Teaching Art.—Courses of study, methods and material. Three credits; autumn.

*Not offered in 1920-1921.
154. **Practice Teaching.**—Teaching under supervision in city schools. Five credits; winter. Edens

157. **Art Structure.**—Simple metal work—etching, sawing, and hammering of copper and brass. Laboratory deposit, $2. Three credits; autumn. Edens

158. **Art Structure.**—Jewelry. Laboratory deposit, $2. Three credits; winter. Edens

159. **Art Structure.**—Landscape composition. Three credits; spring. Edens

160-161-162. **Portrait and Life.**—Laboratory deposit $3. Three credits per quarter; autumn, winter, spring. Patterson

163-164-165. **Mural Decoration.**—Decorative compositions done in oil, applied to the beautifying of wall spaces, in harmony with the scheme of architecture. Prerequisite, junior standing. Laboratory deposit, $3. Three credits per quarter; autumn, winter, spring.

*166. **Landscape.**

169-170-171. **Textile and Costume Drawing.**—Two credits per quarter; autumn, winter, spring. Edens

172-173-174. **Interior Decoration.**—Advanced problems in interior decoration in elevation and prospective. Five credits per quarter; autumn, winter, spring.

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**ECONOMICS AND BUSINESS ADMINISTRATION**

*Commerce Hall*

**Professors:** Miller, Dohlas; **Associate Professors:** Curtis, Douglas, Smith, Moriarty; **Assistant Professors:** McManion, Skinner, Cox, Dakan; **Instructors:** Aukerman, Thoma, Gregory, Gould; **Assistant Tunpin**

1. **General Economics.**—Introductory course covering the general principles of economics. Five credits; autumn, winter, or spring. Miller

7. **Economic Resources of the World.**—A study of the principal, agricultural and mineral resources of the world and their development; commerce in them; governmental policies of conservation. Five credits; autumn, winter or spring. Skinner

11-12. **Elementary Accounting.**—The philosophy of debit and credit, the various books of original entry, different forms of ledgers, balance sheet, profit and loss statement, business papers, classification of accounts, accounting problems of partnerships and corporations, etc., from the point of view of the business manager as well as the accountant. Two quarters must be taken. Five credits, beginning autumn and winter. Cox, Dakan, and Gregory

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*Not offered in 1920-1921.*
COURSES 50-99. PREREQUISITE, SOPHOMORE STANDING

51. *Economics of Transportation.*—The history of transportation; railroad problems in relation to industry and society; the present American railway situation. Three credits; autumn, winter, or spring. Miller

53. *Water Transportation.*—A study of inland and ocean transportation; rate determination; combinations; and government regulations. Two credits; winter. Miller

54-55-56. *Business Law.*—This course covers the fundamental principles of law. The more general and practical principles are developed from problems and selected cases, particularly as related to the law of contracts, property, agency, negotiable paper, insurance, partnership and corporations, with special lectures on the statutory regulations pertaining thereto. Three credits per quarter; beginning autumn. Ayer

57. *Money and Banking.*—The nature and functions of money, the relations between money and price levels; the various types of financial institutions, including the Federal Reserve System, national and state banks, investment banks, and the like. Five credits; autumn, winter, or spring. Custis

58. *Risk and Insurance.*—Study of the risk factor in its economic and social consequences; productivity and the cost of risk taking; ways of meeting risk. Life, fire, and compensation insurance, briefly discussed. This course is a prerequisite to all insurance courses. Three credits, autumn, winter, or spring. Smith

61. *Social and Economic Standards of Living.*—An historical study of standards of living; racial differences in habits, and ideals of consumption; economic and social influence in industry; conflict of standards and racial survival. An analysis of class standards of consumption in the United States; their economic and social background; new standards in their evolutionary development. Three credits; autumn, winter, or spring. Smith

63. *Immigration and Labor.*—The influence of immigration upon the American labor movement. Two credits; winter. McMahon

64-65-66. *Second Year Accounting.*—Continuous course covering three quarters. (two lectures and one laboratory period.) Required of all students majoring in accounting. General principles of valuation, depreciation, investments, different types of assets and liabilities, surplus and reserves, etc. Prerequisite, courses 11-12 or their equivalent. Three credits per quarter; beginning autumn. Cox, Dahan, Gregory

69. *Economics of Consumption.*—The social psychology of consumption in its relation to the economic laws of production and distribution. Two credits; winter. McMahon
71. Economics of Markets.—The development of the market from early times to the present, with emphasis on the marketing of raw products. This course is a prerequisite to all the other courses in marketing. Three credits; autumn, winter, or spring. Moriarty

72. Marketing of Manufactured Products.—A general survey of modern marketing methods in manufactured products and trade-marked goods. Three credits; winter. Moriarty

73. Sales Management.—Selling methods, the organization of the sales force, and the training of salesmen are carefully studied. Three credits; spring. Moriarty

81-82-83. Typewriting.—This course requires ten hours practice each week for three quarters. One credit per quarter; beginning autumn. Turpin

81-85-86. Shorthand.—Two hours class work required daily, with from one to two hours preparation. Students with previous training may be admitted to second or third quarters upon examination. Two credits per quarter; beginning autumn. Turpin

90. Business Correspondence.—Principles of business writing; theory and practice of various types of letters; sales, adjustments, credit, collection, etc.; reports and summaries. Three credits, autumn, winter, or spring.

COURSES 100-199. PREREQUISITE, JUNIOR AND SENIOR STANDING

100-101-102. Secretarial Training.—Use of office appliances and practice in filing, telephoning, and general office work. This course rounds out and completes the training of the stenographer. Prerequisite, courses 82-83, 84-85, or their equivalent. Two credits per quarter; beginning autumn. Turpin

103. Office Management.—The principles of office administration, office location, layout, and equipment; communication; correspondence; business departments; training office workers. Prerequisite, courses 11-12, 81-82-83, 90, or their equivalent. Two credits; winter. Turpin

105. Trusts and Combinations.—The form of business organization from the point of view of the industrial concern, and from that of the public. Three credits; autumn. Custis

114. Banking Accounting. Comparative study of keeping ledger accounts with depositors, analysis of depositors' accounts to determine value to bank, analysis of statement of conditions, preparation and analysis of customers' credit statements, bank examinations and reports, bank budget and cost accounting for bank. Prerequisite, courses 11-12, 64-65-66 or their equivalent. Dakan

115. Installation of Accounting Systems.—Required of all accounting majors. Methods of business analysis and installation of appropriate accounting systems, including departmental and branch office budgets. Prerequisite, courses 11-12, 64-65-66 or their equivalent. Three credits; winter. Gregory

116. Railroad Accounting.—Required of all students majoring in railroads and accounting. Preparation and analysis of maintenance of ways and structures, maintenance of equipment, traffic, transportation, and general expense accounts. Preparation of analysis of profit and loss, and balance sheet records; practices involved in auditing freight and passenger revenue. Prerequisite, courses 11-12, 64-65-66 or their equivalent. Three credits; spring. Gregory

118. Business Statistics.—The preparation and interpretation of statistical information concerning business operations; the preparation of graphs for the use of executives. Prerequisite, Math. 13 (one quarter). Two credits; fall or spring. Douglas

120. Business Administration.—The principles according to which business organizations are conducted. Field work; a study of a number of business houses, including bank, steamship line, lumber mill, store, and also trade associations. Three credits; autumn, winter spring. Douglas

121. Corporation Finance.—Methods of financial management and control of corporations; issue of stocks and bonds; problems of re-organization and liquidation; and the relation of stock and bond holders to the management. Three credits; winter. Custis

122. Railroad Finance.—A study of railroad compensation, valuation, bond and stock issues, earnings, and receivership; government control, its efficiency, etc. Prerequisite, courses 51 and 151. Three credits; winter. Custis

123. Investments.—A critical study of the various types of investment securities with special reference to the needs of different types of investors and to the work of the investment banker in dealing with them. Prerequisite, course 121. Three credits; spring. Custis

125. Banking Practice.—The accounting systems of commercial and savings banks, the duties of the officers and employees, and the preparation of reports. Prerequisite, courses 11-12 and 57. Three credits; winter. Dakan
126. Commercial Credits.—A study of the bases of granting credit by mercantile establishments. The organization of the credit and collection departments, the use of commercial agencies and credit associations, and the preparation and analysis of credit statements. Prerequisite, course 58. Two credits; spring. Dakan

127. Foreign Exchange.—The theory of foreign exchange; and the method of dealing in foreign exchange; financing of import and export shipments. Prerequisite, course 57. Three credits; autumn. deHaas

137. The Economics of Advertising.—Fundamental economic principles applied to the proper relations of advertising to product, sales plans, and media. Three credits; autumn. Moriarty

138. The Principles of Advertising.—The application of the technical principles of advertising to widely different types of business. Three credits; winter. Moriarty

139. Advertising Campaign.—Advertising as an integral part of sales campaigns. Choice of media and sequence copy for specific campaigns. Three credits; spring. Moriarty

*140. Real Estate Problems.—Factors determining urban and rural land values; methods of operation and administration of the real estate business. Two credits; autumn. deHaas

141. Fire and Miscellaneous Property Insurance.—Theory and practice of fire insurance; study of clauses in standard fire policy; apportionment of losses; rate making; fire prevention. Also credit, title, fidelity, automobile, steam boiler, plate glass insurance. Prerequisite, course 58. Five credits; autumn. Smith

142. Life, Accident and Health Insurance.—Functions of life insurance; premiums; reserves; kinds of companies and policies; dividends; lapses. Disability, group, industrial insurance. State regulations of life insurance business. Prerequisite, course 58. Five credits; spring. Smith

147. Social Insurance.—A study of employer’s liability and workmen’s compensation legislation in Europe and the United States; methods of insuring; premiums; reserves. Insurance against illness, old age and unemployment. Prerequisite, course 58. Three credits; winter. Smith

149. Marine Insurance.—History, principles, and practice of marine insurance as applied to ships and cargo. Prerequisite, course 58. Five credits; winter. Smith

151. Rail and Marine Rates.—A study of cases; the jurisdiction of the Interstate Commerce Commission, and of the U. S. Ship-
ping Board; local and commodity tariffs; rate structures. Prerequisite, course 51. Three credits; spring. Miller

153. Railroad Administration.—A study of railroad administration from the foreign and American viewpoint; divisional and departmental systems compared and criticized; the relation of administration to efficiency will consume considerable time; uniform accounting as a basis for statistical comparison and railroad efficiency emphasized; typical railroad systems studied and contrasted; conclusions, and constructive criticisms developed. Prerequisite, courses 11-12 and 51. Three credits; autumn. Miller

154. Auditing—Required of all students majoring in accounting. Auditing procedure, balance sheet audits, analysis of asset and liability values, profit and loss statement, audits, analysis of income and expense, certificates and reports, etc. Prerequisite, courses 11-12, 64-65-66, 111-112-113. Three credits; autumn. Cox

155. Corporation Accounting.—Required of all students majoring in trusts and corporations or accounting. Detailed analysis of a dozen selected corporations with special emphasis on accounting practices involved and financial conditions indicated. Prerequisite, courses 11-12, 64-65-66, 111-112-113. Three credits; autumn. Cox

156. Cost Accounting.—Required of students majoring in accounting. Elements of cost, general methods of cost finding, factory routine, distribution of overhead, compiling and summarizing cost records. Ledger control of factory accounts, installation of cost systems. Prerequisite, courses 11-12, 64-65-66, 111-112-113. Three credits; winter. Cox

157. Income Tax Accounting.—Required of students majoring in accounting. Detailed study of income tax law; government decisions affecting the practical determination of what constitutes taxable income; persons and corporations subject to tax; preparation and analysis of return schedules. Prerequisite, courses 11-12, 64-65-66, 111-112-113. Three credits; spring. Cox

158. C. P. A. Problems.—Required of students majoring in accounting. Selected problems covering various accounting principles, or work taken from state C. P. A. examinations. Open only to seniors in accounting. Three credits; spring. Cox

160. Advanced Economics.—This course is intended to give more thorough training in economic theory. The various theories of value and distribution are critically studied. Prerequisite, senior standing. Five credits; autumn, winter, or spring. Akerman

161. History of the American Labor Movement.—This course aims to show the relation between the development of the Ameri-
can labor movement and free lands, immigration, economic organization, prices and industrial crises. Three credits; autumn. McMahon

162. Modern Labor Problems.—An analysis of the modern labor movement with special emphasis on craft unionism, industrialism, the cooperative movement, and profit-sharing; the psychology of laborers as influenced by modern industrial tendencies. Three credits; winter. McMahon

163. European Labor Problems.—Three credits; spring.

165. Labor Legislation.—Three credits; autumn. Not given 1920-1921, alternates with 166. McMahon

166. Women in Industry.—A study of the evolution of women's work; the relative importance of women in industry; social reaction in labor legislation. Three credits; autumn. McMahon

167. Industrial Management.—The internal organization and administration of industrial enterprises. Factors in plant location; accounting records and executive control. Three credits, winter. Douglas

168. Employment Management.—The organization and operation of the employment management department, its relation to the workers and to the management of industrial enterprises. The sociological effect of employment management upon the labor market. Three credits; spring. Douglas

170. Commercial Policies.—The history of commerce and the commercial policies of the principal nations in connection with the development of American foreign trade. Two credits; winter. deHaas

171. Organization of Foreign Trade.—The organization of foreign trade; methods of public and private trade promotion; the principle and practice of international market organization. Three credits; autumn. deHaas

172. Technique of Foreign Trade.—The technique of importing and exporting. The administration and operation of an export department; the preparation of documents and calculation of values of staples and of manufactured products. Three credits; winter. deHaas

173. Ports and Terminals.—The administration and technical equipment of ports and the bearing of these factors on port efficiency. A comparative study of foreign and American ports, their relative importance and their relation to the hinterland. Three credits; spring. deHaas

175. Trade of the Northwest.—An intensive study of the resources and trade of the Pacific Northwest. Prerequisite, course 7. Two credits; autumn. deHaas
176. Trade of Australasia and Africa.—An intensive study of the resources of Australia and New Zealand, and Africa as a basis for study of trade relations with America. Prerequisite, course 7. Two credits; winter. deHaas

177. Trade of Europe.—The resources of the European countries; trade of Europe with the world. Prerequisite, course 7. Three credits; spring. deHaas

178. Trade of the Far East.—An intensive study of the resources and trade of China, Japan, Siberia, the Philippines, French-Indo China, Siam, India, the Malay Peninsula and the Dutch East Indies. Prerequisite, course 7. Three credits, autumn. Skinner

179. Trade of the Near East.—A study of the present and potential resources of Turkey, Syria, Armenia, Mesopotamia, Arabia, Afghanistan, and Russian Turkestan, with a view to the prospect of American trade with these countries. Prerequisite, course 7. Three credits, winter. Skinner

180. Trade of Latin America.—A study of the products of Mexico and the Central and South American countries, with special consideration of their trade with the United States. Prerequisite, course 7. Three credits; spring. Skinner

182-183-184. Commercial Teachers' Course.—For those preparing for teaching positions in high schools. A study is made of texts, teaching methods, and of the subject matter of a commercial course for high schools. Prerequisite, courses 7, 81-82-83, 84-85-86, 100-101-102, 103, or their equivalent. The student must have senior standing. Two credits per quarter; beginning autumn. Turpin

187A, 187B, 187C. Research in Secretarial Training.—Two credits per quarter; autumn, winter, spring.

190B, 190C. Research in Money and Banking.—Two credits per quarter; autumn, winter, spring. Custis

191A, 191B, 191C. Research in Accounting.—Open only to seniors or graduate students in accounting. One to three credits per quarter, depending upon nature of investigation. Autumn, winter, spring. Cox

192A, 192B, 192C. Research in Insurance.—Two credits per quarter; autumn, winter, spring. Smith

193A, 193B, 193C. Research in Transportation.—Prerequisite; nine credits in Transportation. Two credits per quarter; autumn, winter, spring. Miller

194A, 194B, 194C. Seminar in Labor.—A research course in current labor problems of the Pacific Northwest. Two credits per quarter; autumn, winter, spring. McMahon
195A, 195B, 195C. Research in Foreign Trade.—Two credits per quarter; autumn, winter, spring.

196A, 196B, 196C. Research in Industrial Management.—Two credits per quarter; autumn, winter, spring.

197A. Research in Trusts and Combinations.—Two credits; autumn.

198A, 198B, 198C. Research in Marketing and Advertising.—Three credits per quarter; autumn, winter, spring.

199A, 199B, 199C. Industrial Research.—Three credits per quarter; autumn, winter, spring.

Courses 200. Prerequisite, graduate standing.

201A, 201B, 201C. Seminar in Economics and Business Administration.—Autumn, winter, spring. Credits depending on nature of investigation.

EDUCATION

Home Economics Hall

Professor Bolton, Ayer, Counts: Associate Professor Woody; Assistant Professors Freeland, Jensen

Sociology and zoology as well as psychology are very desirable as a foundation for the study of education. The courses in principles of education and social foundations of education are fundamental to all other courses in education. Students should take psychology during the freshman or the sophomore year, and principles of education in either the last half of the sophomore year or the first half of the junior year. This should be followed by educational sociology, the high school curriculum, or childhood and adolescence and methods of teaching; practice teaching should be taken in the senior year. Students who major in the department should take all of the fundamental courses required for the normal diplomas and then select enough to total 36 credits in the department. Major students in education must take course 171, Experimental Education.

Psychology 1 is prerequisite to all courses in Education except Education 1. In exceptional cases Psychology 1 may be taken concurrently, but only on the approval of the dean of the College of Education.

The dean of the College of Education may accept as the equivalent of such a fundamental course in psychology the incidental psychological training which may have been received by experienced teachers, with the understanding that they are eventually to take psychology as part of the professional work.
1. How to Study.—Following a consideration of how to study effectively, an attempt is made to help students to apply this knowledge in their work. Required of all freshmen in the College of Education. Elective for students of other colleges. Counted toward a major in education but not toward the normal diploma. Two credits; autumn, winter or spring. Freeland

75. Principles of Education.—An attempt to interpret the meaning of education, to understand human nature and to comprehend how environment may be utilized to promote the development of the individual and of society. Prerequisite, Psychology 1. Five credits; autumn, winter, spring, or summer. Bolton

85. Educational Sociology I: Social Foundations.—Introductory course treating social factors in the development of the individual and in school administration, and educational functions of typical social groups. Prerequisite, Psychology 1. Three credits; autumn, winter, spring, or summer. Ayer

95. Childhood and Adolescence.—A study of the characteristics of the child to reveal how education is conditioned upon successive stages of development; physical, mental and moral. Prerequisite, Psychology 1. Three credits; autumn, winter, or spring. Bolton

119. High School Curriculum.—Secondary school curricula and closely related problems. Prerequisite, upper division standing and 8 credits in education. Three credits; autumn, winter, spring or summer. Bolton

140. Methods of Teaching I.—The application of psychology to high school instruction. Prerequisite, upper division standing and at least 8 credits in education. Three credits; autumn, winter, spring, or summer. Woody

145. Practice Teaching.—One lecture each week, conferences with the instructor, assigned readings, and one period each day during the quarter devoted to observation and practice teaching under supervision in the Seattle city schools. As far as possible the details of the course are arranged to meet individual needs. Five credits; autumn, winter, or spring. Freeland

146. Practice Teaching II. A second quarter of practice teaching may be elected. Freeland

COURSES FOR ADVANCED UNDERGRADUATES AND GRADUATES

To be admitted to the following group of courses students must be upper division students and have had at least 10 credits in education:
151. *Educational Sociology II: Cooperative Agencies.*—Evolution of the school curriculum with reference to social organization; the social and school survey; relation of the school to other educational agencies. Prerequisite, course 85. Three credits; spring. Ayer

154. *The Junior High School.*—History of the movement for reorganization and functions and relations of this new organization. Prerequisite, course 119. Two credits, winter. Counts

160. *Play in Education.*—The psychological and biological meaning of play; values and applications. Three credits; autumn. Freeland

161. *History of Education; Ancient and Medieval.*—Social interpretation of the historic beginnings of education, the contributions of the Greeks and Romans, the development of Christianity, medievalism, and the beginning of modern education. Three credits; autumn. Ayer

162. *History of Education; Modern.*—Development of educational practices since the Renaissance. The growth of democracy in and through education will be traced. European countries will be treated chiefly from the point of view of influence upon educational progress in the United States. Three credits; winter. Ayer

167. *Improvement of Teaching.*—This course is offered as a substitute for practice teaching for experienced teachers. (Also offered as a five-hour course in the summer.) Supervised teaching and self-supervision will be emphasized. Credits to be arranged; autumn, winter, or spring. Freeland

171. *Experimental Education.*—Designed to show the possibility and value of experimental work in education, to give first hand knowledge in the technique of properly conducting experiments in connection with school work. Three double periods per week. Required of all majors in College of Education. Laboratory fee, $1. Three credits; autumn or winter. Woody

172. *Psychology of Common School Subjects.*—Survey of experimental studies which furnish the basis for current methods in reading, spelling, arithmetic, penmanship, language, etc., and their bearing. Three credits spring. Woody

173. *Psychology and Measurement of High School Subjects*—Relation of psychology of the different subjects and measurement, desirable outcomes to be derived from each subject; psychological foundations for special school room practices such as direct teaching of languages, oral composition projects in science, etc; measurement of results of high school teaching involving the giving, scoring, and evaluating of such standardized tests as the Rugg Algebra Tests, Minnick Geometry Tests, Hermon Latin Tests, etc.,
Course especially devised for prospective teachers. Laboratory deposit of $1. Three credits; spring.

176-177. Vocational Guidance.—A study of the vocational guidance movement in the public schools. Two credits per quarter; winter, spring.

Ayer

181-182-183. Educational Problems of Adolescence.—A critical consideration of the physical, intellectual, emotional, moral and social characteristics of adolescence, and the educative activities suited to the period of secondary school education. Two credits per quarter; autumn, winter, and spring.

Bolton

185. Educational Statistics.—Statistics needed by the graduate student in conducting research or the teacher, principal, or superintendent in meeting the every day problems of the school room. An introduction to the course in educational measurements and other courses in which statistics are needed. Two credits; autumn.

186-187. Educational Measurements.—Lectures, discussions, reading, class experiments, and projects. Primarily for experienced teachers, principals or those preparing for such positions. Prerequisite, course 185. Laboratory deposit, $1. Two credits per quarter; winter and spring.

Woody

190. Special Problems.—A course for advanced undergraduates, especially majors in education, who wish preliminary training in individual research methods. Supervised by the instructor representing the special field selected. Credits to be arranged.

191. Rural School Administration.—A study of the problems of rural life and the adaptation of the educational system to rural needs with special attention to Washington and neighboring states. Three credits; winter.

Counts

192. Educational Administration; City Schools.—For those preparing for superintendencies, principalships, and other supervisory positions, as well as those desiring an acquaintance with the large problems of city school administration. Five credits; autumn, spring.

Counts

195-196-197. Applied Principles of Education—An analysis of the various principles of education involved in particular educational processes. Special emphasis upon the psychological principles and growth stages that should be recognized and followed in teaching school subjects. Two credits per quarter; autumn, winter, spring.

Bolton

COURSES FOR GRADUATES ONLY

To be admitted to the following group of courses students must be college graduates and have at least 18 credits or an equivalent in education.
211-212-213. Comparative Education.—The critical study of modern educational organization and practice in foreign countries, especially in Germany, France, England, Norway, Sweden and Canada. Brief consideration of their development. Relations between social ideals of nations and their educational systems. Particular emphasis regarding their influence upon the development of the educational theories and practices in America. Two credits per quarter; autumn, winter, spring. Bolton

231-232-233. Advanced Educational Psychology.—A survey of the latest contributions to educational psychology, with especial emphasis upon the contributions of Thorndike. Two credits per quarter; autumn, winter, spring. Woody

261-262-263. Seminar in Educational Sociology.—A survey of recent contributions to educational sociology and study of special problems. Two credits per quarter; autumn, winter, spring. Ayer

271-272-273. Seminar in Educational Surveys.—The course will include a consideration of the purpose and method of the school survey and a study of the principles of educational practice exhibited in the reports of typical school surveys. Two credits per quarter; autumn, winter, and spring. Ayer

275-276-277. Seminar in Secondary Education.—A research course in the problems of high-school administration. Two credits per quarter; autumn, winter, spring. Counts

298-299-300. Individual Research or Thesis Work.—Intensive study and original investigation of special problems. Results are usually reported in one of the seminars and when especially meritorious may be published. The special problems are directed by the members of the department representing the fields of work chosen by the students. Credits to be arranged.

SMITH-HUGHES COURSES IN TRADES AND INDUSTRIES

The following courses conforming to the methods of teaching trades and industries will be credited toward the bachelor's degree in education if all other requirements for admission and graduation are fulfilled:

3. Industrial Education.—The purpose, history, organization, and the promotion of industrial education and its articulation with the traditional school system, with industry and with the Smith-Hughes Law. The continuation school, prevocational school and vocational guidance. Three credits; autumn. Jensen

4. Methods of Teaching Trades and Class Management.—General principles of education that apply particularly to trade edu-
cation and methods in teaching trade subjects. Development of lesson plans as an outgrowth of the study of methods of trade teaching. (Thirty-six hours in class room.) Three credits; winter.

Jensen

5. *Trade Analysis and Teaching Program.*—Each member of the class will develop a teaching program or detailed course of study following the analysis of the trade that he expects to teach. (Thirty-six hours in class room.) Three credits; spring. Jensen

6. *Practice Teaching in Trades and Industries.*—Practice teaching under conditions as nearly as possible like in their respective trades. (Thirty-six hours in class room.) Not a substitute for the regular required practice teaching, Education 145. Three credits; autumn, winter, or spring. Jensen

**Electrical Engineering**

*Engineering Hall*

Professor Magnusson; Associate Professor Loew; Assistant Professors Kirsten, Curtis; Instructors Shuck, Spraragen

99. *Direct Currents.*—Theory of the electric and magnetic circuits; construction, operation and characteristics of direct current generators and motors. Prerequisite, Physics 98. Four credits; autumn, winter, spring. Loew, Shuck, Spraragen

100. *Direct Currents Laboratory.*—Laboratory work on direct current machinery. Prerequisite, Physics 98. Laboratory deposit, $4. Two credits; autumn, winter, spring. Shuck, Spraragen


104. *Direct Currents Laboratory.*—Experimental work on direct current dynamo machinery and on storage batteries. Prerequisite, E. E. 100. Laboratory deposit, $4. Four credits; autumn, winter, spring. Kirsten, Spraragen, Shuck

15. *Elementary Direct Currents.*—(Night Class). The laws of the electric and magnetic circuits with application to direct current machinery without the aid of advanced mathematics. For electricians having at least two years of practical experience with electrical machinery. Laboratory deposit, $6. Four credits per quarter. Bessesen

on alternating current machinery. Prerequisite, E. E. 15. Laboratory deposit, $6. Four credits per quarter.

121. Alternating Currents.—A short course in alternating currents for non-electrical students. To be taken in connection with course 122. Prerequisite, E. E. 99. Four credits; autumn, winter, spring.

Bessesen

122. Alternating Currents Laboratory.—Experimental work on alternating current machinery. Prerequisite, E. E. 100. Laboratory deposit, $4. Two credits; autumn, winter, spring.

Curtis, Shuck


Curtis

132. Telephones and Telegraphs.—Details of automatic and manual switchboards; testing and locating faults; multiplex telegraphy; railway signal systems. Junior or senior elective. Prerequisite, E. E. 131. Laboratory deposit, $2. Three credits.

Curtis

141. Electric Lighting.—Electric lamps; commercial photometry; adaptation of electric lighting to commercial requirements. Junior or senior elective. Prerequisite, E. E. 99, 100. Laboratory deposit, $2. Four credits; winter.

Spraggen

151. Electrical Machine Design.—Complete design of one direct current generator or motor. Prerequisite, E. E. 103, 104. Five credits; autumn, winter, spring.

Kirsten, Loew

152. Design of Electrical Apparatus.—Switchboards, transformers, alternators or alternating current motors. Prerequisite, E. E. 151. Four credits.

Kirsten, Loew

161. Alternating Currents.—The theory of singlephase and polyphase system; energy storage in magnetic and dielectric fields; vector diagrams and the symbolic method of analysis; power factor and power measurements; hysteresis and eddy currents; theory of the transformer, singlephase and polyphase induction motors and alternators. Prerequisite, E. E. 103. Five credits; autumn, winter, spring.

Magnusson, Loew, Shuck

162. Alternating Currents Laboratory.—Experimental work with alternating current machinery. Prerequisite, E. E. 104. To be taken in connection with course 161. Laboratory deposit, $4. Four credits; autumn, winter, spring.

Curtis, Loew, Shuck
163. **Alternating Currents**.—The theory of rotary converters, synchronous and commutator motors and transmission lines; high tension phenomena; corona; commercial wave forms; unbalanced and inter-linked systems. Prerequisite, E. E. 161. Five credits; Laboratory deposit, $4. Five credits per quarter; winter. Curtis

164. **Alternating Current Laboratory**.—Prerequisite, E. E. 162. Laboratory deposit, $4. Autumn, winter, spring. Curtis, Loew

170. **Electric Railways**.—Equipment, roadbed, construction and operation. Prerequisite, E. E. 99, 100. Four credits; autumn. Curtis

174. **Central Stations**.—Location, design and operation of electric central stations. Prerequisite, E. E. 161, 162. Three credits; spring. Shuck

176. **Power Transmission**.—Theory, design and operation of electric power transmission lines. Prerequisite, E. E. 163, 164. Four credits; winter. Kirsten

181, 182. **Radio**.—Radio systems; lineal, open and complex oscillations; coupled circuits; resonance; transmitters; receivers; vacuum tubes in radio work; quenched and undamped oscillations. Prerequisites, calculus, physics, and direct and alternating currents. autumn, winter, spring. Magnusson, Loew

195. **Thesis**.—After consultation with the head of the department each student selects a suitable topic for investigation. Reports of progress are made weekly to the instructor in charge of the work selected. A complete report of the work is typewritten and bound and a copy deposited in the University library. Five credits; autumn, winter, spring. Magnusson, Loew, Kirsten, Curtis

196. **Electric Transients**.—The exponential law of simple transients; single and double energy transients; current oscillations and traveling waves; natural period of transmission lines; short circuit transients; surges; corona; lighting phenomena. Prerequisite, E. E. 161, 162. Laboratory deposit, $2. Three credits; autumn, winter, spring. Magnusson

197. **Electric Transients Laboratory**.—To be taken in connection with course 196. Prerequisite, E. E. 161, 162. Laboratory deposit, $2. Two credits; autumn, winter, spring. Magnusson, Curtis

200, 201, 202. **Research**.—Five credits per quarter; autumn, winter, spring. Magnusson, Loew, Kirsten, Curtis
DEPARTMENTS OF INSTRUCTION

ENGLISH

Denny Hall

PROFESSORS PADELFORD, PARRINGTON, BENHAM; ASSOCIATE PROFESSORS MILLIMAN, COX;
ASSISTANT PROFESSORS GABBEt, DANDY, CHITTICK, HARRISON, ERNST; INSTRUCTORS
GREGG; ASSOCIATES HAGERTY, KELSEY, STRUBLE; ASSISTANTS THOMAS,
DAHLIN, BROWN, KAHN, WRIGHT, WILT, HUGHES, COLLINS, SLOVNR

REQUIREMENTS FOR MAJOR STUDENTS

At the conclusion of the course in their senior year, all major
students are required to pass a departmental examination in the
history of English literature and literary criticism.

Candidates for the teacher's certificate are required to take 188-
189-190.

It is expected that senior major students will take 191-192-193,
but the work is not a definite prescription.

1-2-3. Freshman Composition.—A course in the principles and
practice of composition, with conferences for personal criticism.
The word done in this course is regarded as belonging rather to the
high school than to the University. Those whose preliminary train­
ing has been superior are excused from the course on examination.
A grade of "A" in course 1 excuses a student from course 2. Five
credits for two quarters. For students in Fine Arts, three credits;
autumn, winter, spring. Padelford in charge

4. Freshman Composition.—For students in Engineering,
Forestry and Fisheries. Students are required to repeat the course
if their work is not of high quality. Three credits for one quarter.
Padelford in charge

5. Freshman Composition.—A second quarter's work for stu­
dents in Fisheries. Three credits per quarter. Padelford in charge

7-8-9. Freshman Composition and Literature.—A course com­
bining practice in writing with the study of modern authors.
Primarily for students intending to major in English. Five credits;
autumn, winter, spring. Gregg, Ernst.

*21. An Introduction to Poetry.—Three credits; autumn.
Parrington

24-25-26. Victorian Essayists.—A study of the Victorian
background of contemporary thought as found in the prose work
of Macauley, Herbert Spencer, J. S. Mill, Newman, Carlyle, Rus­
kin, Arnold, Huxley, Morris, Pater, Stevenson. Two credits per
quarter; autumn, winter, spring. Chittick

37. Argumentation.—Prerequisite, course 1. Five credits;
autumn.

38. Debating.—Prerequisite, course 37. Three credits; winter.

* Not offered in 1920-1921
39. **Debating.**—Prerequisite, course 38. Three credits; spring.

**40-41. Development of the Oration.**—A study of the oration as a distinct type of literature. Analysis of modern orations, and the development of original orations. Two credits per quarter; winter, spring.

**51-52-53. Advanced Composition.**—Composition based upon model English and American essays. Prerequisite, courses 1-2-3. Three credits per quarter; autumn, winter, spring. Milliman, Cox

**57-58-59. Dramatic Composition.**—(Dramatic Art 111-112-113. See Dramatic Art for description.) Three credits per quarter; autumn, winter, spring. Hughes

*61-62-63. Versification.**—A study of the principles of English versification, with practice in verse writing. Prerequisite, courses 1-2-3 or 7-8-9. Two credits per quarter; autumn, winter, spring. Parrington

**67-68-69. Great American Writers.**—Studies in the works of Emerson, Hawthorne, Longfellow, Lowell, Whitman, Poe, Bryant, Whittier, Mark Twain, and others. Two credits per quarter; autumn, winter, spring. Milliman

**70-71-72. Shakespeare.**—A detailed study of a few plays, with rapid reading of the remainder. Open any quarter. Three credits per quarter; autumn, winter, spring. Milliman

**73-74-75. Introduction to Modern Literature.**—Essay studies of European and American thought during the nineteenth century and later; followed by readings in poetry, novel and drama involving similar ideas. Open any quarter. Three or five credits; autumn, winter, spring. Milliman, Darby, Chittick, Ernst

**81-82-83. Literature of the English Colonies.**—The autumn quarter will be devoted to the study of the literature of Canada, the winter quarter to the literature of Australasia and of South Africa, and the spring quarter to the English literature of India. Two credits per quarter; autumn, winter, spring. Garrett

**98-99-100. The Bible as Literature.**—A study of the literature of the Old Testament. Open any quarter and to all students. Two credits per quarter; autumn, winter, spring. Padelford

**101-102-103. The Short Story.**—(Journalism 160-161-162.) (See Journalism for description.)

**104-105-106. Contemporary Literature.**—Special studies in temporary literature for advanced students. One section is held in

*Not offered in 1920-1921.*
the evening, and is especially addressed to teachers and other part
time students. Three credits per quarter; autumn, winter, spring.

108-109-110. Studies in Romance.—A study of transmission
and diffusion of stories. A certain number of literary motifs which
are popular today are traced through various lands and ages and
their manifestations are observed. Two credits per quarter; au­
tumn, winter, spring.

123. Philosophy in English Literature of the Nineteenth Cen­
tury.—(Philosophy 123. See Philosophy for description.) Savery

124. Chaucer.—A study of the poetical works of Chaucer.
Three credits; autumn quarter.

125. Mediaeval Literature.—The life and the ideals of the
Middle Ages studied through the literature. Some of the texts read
are Piers Plowman, Aucassin and Nicolette, Little Flowers of St.
Francis, the Pearl, Everyman, Malony's Morte l'Arthur. Three
credits; winter quarter.

126. The Mediaeval Revival in English Literature.—The re­
vival of interest in mediaeval life and literature will be traced
through Walpole, Scott, Carlyle, Ruskin, the Pre-Raphaelites, Wil­
liam Morris, to the present day. Three credits; spring quarter.

127-128-129. Milton and His Age.—The historical background
of Milton's poetry and prose. Three credits per quarter; autumn,
winter, spring.

130-131-132. The English Drama.—A study of plays repre­
sentative of the origin and development of English drama. Three
credits per quarter; autumn, winter, spring.

133-134-135. Main Tendencies in English Literature.—A
study in English national ideals, with consideration of significant
literary figures and works. Three credits per quarter; autumn, win­
ter, spring.

136-137-138. Shakespeare.—Shakespeare's environment and
the technique and influence of his plays. For upper division stu­
dents. Three credits; autumn, winter, spring.

141-142-143. Growth of the Democratic Ideal in English Lit­
erature.—A study of the development of political and religious
ideals from the age of Chaucer to the present. Three credits per
quarter; autumn, winter, spring.

144-145-146. Eighteenth Century Literature.—The conflict of
classical and romantic tendencies in English and Continental lit­
erature. Three credits per quarter; autumn, winter, spring.
147-148-149. The English Novel.—The genesis of the novel; its relations to drama, essay and letter. Study of plot, characterization and social background. Three credits; autumn, winter, spring. Darby

150-151-152. Old and Middle English Language and Literature.—The grammar of the early English. Readings in Old and Middle English authors. Three credits per quarter; autumn, winter, spring. Benham

161-162-163. American Literature from the Beginnings to the Year 1870.—The autumn quarter deals with the period before 1800; the winter quarter, with Irving, Brown, Cooper, Bryant, Poe, and the slavery controversy; the spring quarter, with the New England group. Any quarter may be taken separately. Three credits per quarter; autumn, winter, spring. Parrington, Gregg

164-165-166. American Literature from the Year 1870 to the Year 1914. The autumn quarter deals with Whitman, Mark Twain and the Post New England group; the winter quarter, with Howells and the rise of realism; the spring quarter, with late tendencies in fiction and poetry. Three credits per quarter; autumn, winter, spring. Parrington

167-168-169. Present Day Tendencies in American Literature.—An advanced course open only to those who secure the consent of the instructor in charge. Two credit per quarter; autumn, winter, spring. Parrington

171-172-173. Romantic Poets.—The background, technique and ideas of Wordsworth, Shelley and their contemporaries. Three credits; autumn, winter, spring. Darby

174-175-176. Victorian Poets.—Studies in Clough, Arnold, Morris, Swinburne, the Rossettis. Tennyson, the Brownings. Three credits per quarter; autumn, winter, spring. Padelford

183-184-185. General Literature—Readings in European literature, with conferences and reports. Three credits per quarter; autumn, winter, spring. Harrison, Cox

*187. Philosophy in Contemporary Drama.—(Philosophy 126.) Social and philosophical ideas in the contemporary drama. Five credits; spring. Benham

188-189-190. Teachers' Course.—Methods and problems in the teaching of English in the high school. Two credits per quarter; autumn, winter, spring. Garrett

191-192-193. Senior Conference.—For senior major students. Individual conferences for the purpose of effecting a correlation of

* Not offered in 1920-1921
DEPARTMENTS OF INSTRUCTION

studies, and for guidance in original investigation. Each student is expected to meet the instructor once a week in conference. One-third credit per quarter; autumn, winter, spring.

*201-202-203. *English Literature from 1550 to 1660.*—For graduates.

207-208-209. *English Literature from Chaucer to Dryden.*—Studies in English Renaissance and Reformation and in the Puritan Revolution. Methods of historical research and criticism. Editing. Two to eight credits per quarter; autumn, winter, spring.

*221-222-223. *Modern English Literature.*—For graduates. Studies in modern English and American literature from the mid-nineteenth century period to the present day. Two to eight credits per quarter; autumn, winter, spring.


*227-228-229. *Literary Criticism.* For graduates.

FISHERIES

Fisheries Hall

Professor Cobbs, Kincaid, Embody; Instructor Anderson

1-2. *Introduction to Fisheries.*—A general review and history of the world’s fisheries. Two credits per quarter; autumn, winter.

3-4-5. *Ichthyology.*—The structure, classification and habits of economic fishes. Course 5 will also include other economic marine animals. Prerequisite, Zoology 1, 2. Laboratory deposit, $2. Five credits per quarter; autumn, winter, spring.

6. *Pacific Fisheries.*—A general review and history of the fisheries of the Pacific. Winter quarter is open to short course students. Two credits; winter, spring.

101-102-103. *Fish Culture.*—The developmental history and artificial propagation of economic fishes. Prerequisite, Fisheries 3-5, and Zoology 5. Laboratory deposit, $2. Five credits per quarter; autumn, winter, spring.

104-105. *Fishery Methods.*—The construction and uses of apparatus; handling and transportation of products, etc. These lectures and two laboratory periods. Laboratory deposit, $2. Five credits; winter, spring.

*Not offered in 1920-1921.*
106. Preparation of Fishery Products.—The curing and preservation of fishery products. Prerequisite, Fisheries 3-5. Three lectures and two laboratory periods. Laboratory deposit, $3. Five credits; autumn. Cobb, Anderson

107, 108, 109. Problems in Fish or Shellfish Culture.—Students with the proper preparation, which should include at least 15 hours' work in fish culture or 15 hours' work in shellfish culture and course 5, will be assigned special topics to be worked upon under the direction of one of the instructors. Five credits per quarter; autumn, winter, spring. Embody, Kincaid

110, 111, 112. Problems in Fisheries.—Students with the proper preparation, which should include at least 15 hours' work in fishery methods and preparation of fishery products, will be assigned special topics to be worked upon under the direction of the instructor. Five credits per quarter; autumn, winter, spring. Cobb

112-113. Shellfish Culture.—The development and propagation of shellfish and crustaceans. Elective. Prerequisites, junior standing and course 5. Laboratory deposit, $2. Five credits per quarter; autumn, winter.

114. Terrapin, Turtle, Frog, Etc., Culture.—The developmental history and propagation of terrapins, turtles, frogs, etc. Elective. Prerequisite, course 5. Laboratory deposit, $2. Five credits; spring.

115. The Economic Fishery Resources of North America.—A study of the fishery resources of the North American continent and adjacent seas, their development and commerce, and government policies of conservation. Three credits; spring. Cobb

117. Diseases of Fish.—A study of the nature and causes of disease in fishes. Prerequisite, Fisheries 3-4-5. Laboratory deposit, $2. Five credits; autumn. Fasten

SHORT COURSE SUBJECTS

7. The Canning of Fishery Products.—The theory and practice of canning, together with demonstrations on such species as are available. Laboratory deposit, $3. Cobb, Anderson

8. The Curing of Fishery Products.—The pickling, dry-salting, smoking and spicing of fishery products, together with demonstrations on such products as are available. Laboratory deposit, $2. Cobb, and others

9. Scotch and other Methods of Curing Herrings.—Laboratory deposit, $2. Anderson

10.—Classification, Habits, etc., of Pacific Economic Aquatic Species. Kincaid
12. **Fish Culture.**—The culture of salmon and other aquatic fishes. Laboratory deposit, $2.

18. **Pond Culture.**—The construction and maintenance of fish ponds, the stocking of these with suitable species, and the raising of same for either home use or market. Laboratory deposit, $2.

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**FORESTRY AND LUMBERING**

*Forestry Hall*

PROFESSORS WINKENWERDER, KIRKLAND; ASSOCIATE PROFESSOR CLARK

ASSISTANT PROFESSOR GRÖNDAL; MR. ZIMMERMAN

1. **Elementary Dendrology.**—Nomenclature and classification of trees, a study of one type species of each genus of the important timber trees of North America. Prerequisite, high school botany. Required of freshmen. Two recitations, four laboratory periods per week, field trips additional. Laboratory deposit, $1. Five credits; autumn or spring. Winkenwerder, Gröndal

2-3. **General Forestry.**—To familiarize the student with the field of work he is about to enter. Required of freshmen. Three credits per quarter; autumn, winter. Winkenwerder

4. **Forest Protection.**—Its economic importance; forest fires, their prevention and control. Required of freshmen. Three credits; spring. Winkenwerder

5. **Woodcraft.**—Food and clothing, camp equipment and sanitation, packing a horse, and general woodcraft. A section will be arranged for students not enrolled in forestry if not less than six apply. Two lectures per week; demonstrations and practice work additional. Laboratory deposit, $1. Two credits; autumn. Clark

51-52. **Forest Mensuration.**—Principles and methods of computing, scaling, estimating, mapping, volume, growth and yield tables. Required of sophomores. Three recitations, two three-hour laboratory periods. Laboratory deposit, $3. Five credits per quarter; winter and spring. Winkenwerder, Clark

53. **Construction.**—Trails, roads, logging railroads, telephone lines, wooden bridges, cabins, barns, and fences; clearings from the standpoint of U. S. Forest Service improvement work, and logging construction. Required of sophomores. Laboratory deposit, $1. Three credits; autumn. Clark

57-58. **Silviculture.**—The individual tree, the forest as a whole, and cultural practices. Required of sophomores. Laboratory deposit, $2 for course 58. Three credits, autumn; five credits, spring. Kirkland
101. Wood Technology.—Wood structure, leading to identification of the commercial timbers of the U. S.; physical properties of woods. Each student is required to prepare permanent microscopic mounts of fifty species. Required of juniors. Prerequisite, college botany, 8 hours. Laboratory deposit, $2. Five credits; autumn.

102. Wood Identification.—This course includes the laboratory work only of Forestry 101. Open to students in other departments. Prerequisite, college botany, 8 hours. Laboratory deposit, $2. Two credits; autumn.

103. Wood Analysis.—Identification, physical properties and characteristics of woods used in building construction. For juniors in architecture. Two credits.

104. Timber Testing.—Stresses, tests, theory of flexure, moisture and strength; mechanical properties of wood. Prerequisite, Math. 54, 55, 56, and Forestry 101. Required of juniors. Laboratory deposit, $1. Five credits; spring.

105. Wood Preservation.—Nature of decay of timber and methods and economics of preservation. Laboratory work with the college treating plant and reports on local creosoting plants. Required of juniors and graduates. Prerequisites, Forestry 101 and one year of chemistry. Laboratory deposit, $2. Five credits; spring.

109. General Forestry.—Lectures, assigned readings, and reports. Occasional field trips. Offered only to students not enrolled in the College of Forestry, and may be taken at the University or as an extension course by correspondence. Two credits; autumn.

110. Characteristics of Trees.—The identification, distribution, life habits, and uses of trees of the Pacific Northwest. Offered only to students not enrolled in the College of Forestry, and may be taken at the University or as an extension course by correspondence. Two lectures weekly and occasional field trips. Two credits; spring.

111. Teachers' Course.—Offered only as a correspondence course. Must be accompanied or preceded by Forestry 109. One credit.

112. Properties and Uses of Woods.—Offered only as a correspondence course.

119. Forest Administration.—Objects, principles, and methods of administering private and public forests. Prerequisite, Forestry 126. Three credits; autumn.
120. National Forest Administration.—National Forest land regulations, protection, fiscal matters, improvement. Three credits; winter. Kirkland

126. Forest Economics.—The forests of the United States, their uses, their relation to industries and resources. Required of juniors or seniors in forestry and open to students in other departments. Prerequisite, B. A. 1. Two credits; winter. Kirkland

151-152. Forest Management.—Forest finance, organization, methods of silviculture, administration. Required of students in senior or graduate year. Prerequisites; Forestry 51-52, 57-58. Five credits, autumn; three credits, spring. Kirkland

153. General Lumbering.—Comparative methods of logging on the Pacific Coast and in other lumbering regions of the United States. Required of seniors and graduates. Prerequisites, Forestry 51-52. Five credits; autumn. Clark

158. Forest Utilization.—Paper making, wood distillation, tanbark, naval stores, and other secondary forest products; lumber and its economic uses in construction. Required of juniors and graduates. Prerequisites, Forestry 101, and one year in chemistry. Five credits; winter. Gröndal

159. Scientific Management.—Fundamental principles of scientific management, with special reference to the lumber industry. Given in alternate years, not in 1920-1921. Two credits; autumn. Kirkland

183. Milling.—The sawmill; yard arrangements; practical operation. For seniors and graduates. Five credits; autumn. Gröndal

184. Marketing.—Territorial consideration, technical trade requirements, problems of wholesaler and retailer, line yards, rail and cargo problems, financing, accounting, advertising. Three credits; winter. Gröndal

185-186-187. Logging Engineering.—Logging machinery and equipment, organization of logging companies, construction of railroads, camps, etc. Lectures, demonstrations at plants manufacturing logging machinery, and field work in nearby logging camps. During the third quarter the work is transferred to the field, where extensive work in logging engineering is carried on. No credit is given for 186 unless followed by 187. Primarily for seniors and graduates. Prerequisites, Forestry 51, 52, 53, 153. Laboratory deposit for 187, $2. Four credits per quarter, autumn and winter; sixteen credits, spring. Clark

188. Advanced Forest Products.—Advanced studies in wood technology and utilization, with individual problems. A laboratory
course. Prerequisite, Forestry 101, 158. Laboratory deposit, $3. Five credits; spring.

201. Advanced Dendrology.—An extension of course 1, covering the identification and distribution of all important commercial tree species of the United States. Prerequisite, Forestry 1. Three credits; autumn.

Winkenwerder

208-209. Seminar.—Reviews, assigned readings, reports, and discussions on current periodical literature and the more recent Forest Service publications. Prerequisite, senior or graduate standing. Two credits per quarter; autumn, winter.

Winkenwerder, Kirkland, Gröndal

213-214. Research.—Two credits per quarter, any quarter. Prerequisite, senior or graduate standing. Laboratory deposit, $3. Instructors assigned according to nature of work.

221. Forest History and Policy.—Forest policy of the United States; forestry in the states and island possessions; the rise of forestry abroad. Two credits; winter.

Kirkland

223. Advanced Forest Management.—About one week of field work on a tract of 50,000 to 100,000 acres on which data concerning different soil classes, forest types, etc., and volume of timber is already available. This work will be followed by the actual formation of a working plan providing for regulation of the yield and organization of all forest work on the area, with estimates of outlay and income. Prerequisite, courses 151-152. Eight credits; spring.

Kirkland

GEOLoGY

Science Hall

Professor Lander; Associate Professor Weaver; Assistant Professors Saunders, Goodspeed

Courses in the department are grouped to lead into the different fields of geographical work, as follows:

General Geology: Courses 1-9, 100-109, 200-209.


Paleontology and Stratigraphy: Courses 30-39, 139, 230-239.

For the required earth science in the College of Science: Courses 1-2, 12-2, 11- and 12; or one quarter with laboratory work, together with one quarter of astronomy.

For the third year of Science in the College of Liberal Arts: Any of the elementary courses to make the required number of credits: Courses 1-2, 3-4, 6-7-8, 11-12, 12-2, 10-2, 31-32.
DEPARTMENTS OF INSTRUCTION

1. **General Geology.**—Dynamical and Structural. Geological agencies and processes affecting the earth. Lectures and laboratory work, with occasional half-day field trips. Laboratory deposit, $1. Five credits; autumn or winter. Goodspeed

2. **General Geology.**—Historical. Continuation of course 1, dealing with the origin and evolution of the earth. Lectures and laboratory work, with some field excursions. Prerequisite, I, 5, or 12. Laboratory deposit, $1. Five credits; autumn, winter or spring. Saunders or Weaver

3. **Principles of Geology.**—Dynamical and Structural. The fundamental facts and principles of geology. Lectures, assigned readings and field trips but no laboratory work. Three credits; autumn. Saunders

4. **Principles of Geology.**—Historical. The earth’s origin and the general history of the continent. Lectures, recitations and field trips, without laboratory work. Three credits; winter. Saunders

5. **Engineering Geology.**—A survey of the field of general geology, for the special needs of students in mining, civil, and chemical engineering and forestry. Laboratory deposit, $1. Five credits; autumn or spring. Goodspeed

6. **Elements of Geology.**—Structural. The common minerals and rocks, of the composition and arrangement of the materials constituting the crust of the earth. Lectures and recitations, with field trips. Two credits; autumn. Landes

7. **Elements of Geology.**—Dynamical. Physiographic geology, or a study of the dynamical forces at work in modifying the face of the earth. Lectures and recitations, with field trips. Two credits; winter. Landes.

8. **Elements of Geology.**—Historical. An outline of the origin of the earth and the evolution of the continent. Lectures and recitations, with field trips. Two credits; spring. Landes

10. **Modern Geography.**—An introductory study of the problems of modern geography; the scientific investigation of geographic environment and its influence; use of maps and charts; geographic control of production and trade; study of the major geographic features of the continents. Five credits; autumn. Saunders

11. **Meteorology and Elementary Climatology.**—Weather elements and controls; causes and effects of atmospheric conditions; principles and methods of weather forecasting and use of instruments. With or without laboratory. Laboratory deposit, $1. Three to five credits; winter. Saunders

12. **Physiography.**—Land forms or earth’s features with reference to origin and characteristic changes under different agencies
during the geographic cycles. Occasional field trips. With or without laboratory. Laboratory deposit, $1. Three or five credits; spring.

21. Mineralogy.—A brief study of crystallography followed by descriptive mineralogy and blowpipe methods. At least a high school course in chemistry is essential as a prerequisite, and a quarter in general geology is desirable. Laboratory deposit, $3. Five credits; winter.

31. General Paleontology.—A consideration of the broad principles of paleontology. An elementary course open to all students. Laboratory deposit, $1. Five or three credits; autumn.

32. Stratigraphic Paleontology.—A study of the fundamental principles of stratigraphy and of the characteristic fossils by means of which the geologic formations of the continent may be determined. Prerequisites, courses 1 or 2, 12 or 31. Laboratory deposit, $1. Five or three credits; winter.

107. Geology of Washington.—Lectures with assigned readings and laboratory study. Prerequisite, one quarter of general geology or physiography. Two credits; spring.

110. Teachers' Course in Geography.—The teaching of geography, physical geography, and commercial geography in the schools. Prerequisites, one term in geology, physiography and geography. Two credits; winter.

111. Climatology.—The broader aspects of climate controls and characteristics of different climates and climatic provinces, with special references to United States and the Pacific Coast. Prerequisite, courses 10 or 11. Three credits; spring.

112. Physiography of the United States.—The physiographic regions of the United States and their effects on development and history of the country. Lectures and map study. Prerequisite, courses 10 or 12, or 1, 3, or 5. Laboratory deposit, $1. Three credits; autumn.

113. Physiography of Europe.—The physiographic regions of Europe and effects of topography and climate on development and relations of different countries. Lectures and map study. Prerequisite, courses 10 or 12 or 1, 3 or 5. Laboratory deposit, $1. Three credits; winter.

114. Oceanography.—Study of the ocean, oceanic circulation and temperatures in their geographic relations and influence. Prerequisite, course 11 or equivalent work. Two credits; spring.
116. Economic Geography of Washington.—The economic and industrial development of the state, based on the geological, physiographic and climatic conditions. Three credits; autumn.

Landes

117. Geography of Asia.—A study of the continent by natural regions based on topography and climate. Prerequisite desirable, course 10 or 12. Three credits; spring.

Saunders

118. Geography of South America.—Physiographic features, climate and resources of the continent and their effects on development and relations of different countries. Prerequisite desirable, course 10 or 12.

Saunders

120. Petrology.—A study of rocks, their components, occurrence and structural relations. Occasional field trips. Laboratory deposit, $2. Prerequisite, courses 21 and either 1, 5, or 12. Three credits; spring.

Goodspeed

121 Advanced Mineralogy.—A study of opaque, metalliferous minerals with the use of the reflecting microscope, or "mineralography"; The relation of the latter to geologic, mining and metallurgical problems. Prerequisite, course 21. Three credits; spring.

Goodspeed

122. Field Methods.—Principles and methods of geologic surveying and mapping. Detailed field work in small areas, with field trips. Prerequisite, courses 1 and 2, or 5 with 21 and 120. Two credits; spring.

Goodspeed

123. Optical Mineralogy.—The use of the polarizing microscope in the examination of minerals and rocks in thin sections. Prerequisite, courses 1 or 5, and 21. Laboratory deposit, $2. Three credits; autumn.

Goodspeed

124. Petrography.—The principles of petrography and petrographic methods in the systematic study of igneous, sedimentary and metamorphic rocks. Prerequisite, course 123. Laboratory deposit, $2. Four credits; winter.

Goodspeed

125. Advanced Petrography.—A continuation of the work in petrography for majors in mining and geology. Prerequisite, course 124. Two credits with additional credits optional; spring.

Goodspeed

126. Economic Geology.—Economic deposits of non-metallic minerals, their production and use. Lectures and discussions of papers. Prerequisites, courses 1 to 5, and 21. Three credits; autumn.

Landes

127. Economic Geology.—Economic deposits of metal, their production and use. Lectures and discussion of papers. Prerequisite, course 1 or 5, and 21, 124. Five credits; winter.

Landes
128. Economic Geology.—An intensive study of certain economic minerals or of particular areas of great importance. Prerequisite, course 126 or 127. Two credits; spring. Landes

131-132. Invertebrate Paleontology.—A detailed and systematic biologic study of fossil and living representatives of the Mollusca. Autumn quarter, Pelecypoda; winter quarter, Gastropoda. Prerequisite, course 31. Three credits; autumn, winter. Weaver

134. Vertebrate Paleontology.—A study of the anatomy and structures of the more important groups of extinct vertebrates and their relationships to living vertebrates. Prerequisite, course 31. Five credits; spring. Weaver

135. Paleobotany.—A systematic biologic study of the structure and classification of the plant life which formerly inhabited the earth, and the application of paleobotany to correlation problems in historical geology. Prerequisite, Botany 11-12 or 105-106 and Geology 2 or 31. Five credits; spring. Weaver

GRADUATE COURSES

200.—Field studies or advanced work in general geology. Credits and hours to be arranged.

210.—Advanced or research work in geography, climatology or physiography. Credits and hours to be arranged. Each quarter.

220.—Advanced or research work in mineralogy, petrography and metamorphism. Credits and hours to be arranged. Each quarter.

225.—Advanced or research work in economic geology. Credits and hours to be arranged. Each quarter.

SPECIAL SHORT COURSES

S. C 1. Geology.—Two lectures per week. Laboratory deposit, $1. Two credits; winter. Goodspeed

S. C. 2. Mineralogy.—A laboratory course is physical determination of minerals and the use of blowpipe methods. Two laboratory periods per week. Laboratory deposit, $2. Two credits; winter. Goodspeed

GERMANIC LANGUAGES AND LITERATURE

Denny Hall
Assistant Professor Eckelman

REQUIREMENTS OF THE DEPARTMENT

For a major: 35 to 60 credits, including at least 30 credits in courses above 100.

For the normal diploma: The same as for a major, including course 160-161-162.

Credit is allowed for any quarter in any course except 1-2.

All courses are conducted in German unless otherwise specified.
1-2. **First Year.**—Stage pronunciations, grammar, reading of easy prose and verse, conversation. Five credits per quarter; autumn and winter, winter and spring. Eckelman and Assistants

3. **First Year Reading.**—Reading of modern prose, conversation, composition, continuation of grammar. Prerequisite, course 1-2 or one year in high school. Five credits per quarter; autumn, spring.

5. **Second Year Reading.**—Pronunciation, review of grammar with emphasis on syntax, reading of modern prose, simple conversation. Prerequisite, course 3 or one and one-half to two years high school. Three credits, autumn; five credits, winter. Eckelman and Assistants

6. **Second Year Rapid Reading.**—Special sections with suitable prose for students in colleges of Science, Engineering and Forestry. Prerequisite, course 5 to two and one-half to three years high school. Three credits; spring. Assistant

10. **Second Year Supplementary Reading.**—Modern prose, simple conversation. Prerequisite as for course 5. Two credits; autumn. Eckelman

70-71. **Modern German Literature in Translation.**—The reading and discussion of significant works illustrating the social and industrial development in the nineteenth century. No knowledge of German required. Two credits; winter and spring. Eckelman

*100-102. **Schiller and Goethe.**

103-104-105. **Recent Writers.**—Social problems as represented in the works of Hauptmann, Sudermann, Fulda, Schnitzler, Paul Ernst. Prerequisite, courses 6 or 7, or four years high school. Three credits; winter, spring. Eckelman

*110-111. **Advanced Grammar and Composition.**

112-113-114. **Scientific German.**—Scientific essays, monographs and technical periodicals. Each student does private reading in his own field under the guidance of the instructor and major professor. Prerequisite, course 5 or two to two and one-half years in high school. Two or three credits per quarter; autumn, winter, spring. Eckelman

*116-117-118. **German Prose Reading.**

*120. **Phonetics.**

*130-131-132. **German Institutions.**

*133-134-135. **Modern Novels.**

*136-137-138. **Modern Drama.**

*Not offered in 1920-1921.
*140-141. History of German Literature.

142. Lyrics and Ballads.—Goethe, Schiller, the Romanticists, Uhland, Heine, Moerike, Storm and others. Two credits; autumn.

Eckelman

*151. Lessing.

152. Goethe's Faust.—Parts I and II.—Interpretation, genesis, plan and purpose of the drama. Three credits; winter.

Eckelman

*160-161. Teachers' Course.

180. Nineteenth Century Literature.—Study of the drama and novel to 1880. Kleist, Grillparzer, Hebbel, Ludwig, Raabe, Keller, Storm, C. F. Meyer. For advanced students. Three credits; spring

Eckelman


*203-204-205. Storm and Stress Period.


*220-221-222. Inter-relations of German and English Literature.

*250-251-252. History of the German Language.

*253-254-255. Middle High German.

*256-257-258. Gothic.

*259. Old Saxon.

HISTORY

Denny Hall

PROFESSORS MEANY, RICHARDSON, SCHOLZ; ASSOCIATE PROFESSOR MCMARON; ASSISTANT PROFESSOR STOUFF; PROFESSOR GOODWIN

REQUIREMENTS OF THE DEPARTMENT

The University requirements in history may be satisfied by one of the following courses:

History of Europe and the Near East (1-2-3). It is desirable that this course be selected in fulfillment of the history requirements and that it be taken in the freshman year. This course is repeated beginning with the winter quarter.


English Political and Social History (5-6). Open without prerequisites to freshmen, sophomores and upper classmen.

Ancient History (71-72-73). Open without prerequisites to sophomores and upperclassmen.

For a major at least nine credits shall be obtained in the most advanced undergraduate courses. Course 1-2-3 is required of all history majors.

* Not offered in 1920-1921
It is recommended that all history majors shall take, in excess of departmental requirements, additional work in history, political and social science, philosophy, modern languages, and English literature. Medieval Latin is desirable for those who intend to study history for advanced professional purposes.

Prospective teachers of history as a major subject in high schools who desire the recommendation of the department of history must become acquainted with the elementary facts requisite for the teaching of all courses in history and in civil government taught in the high schools of the state, and have specialized knowledge in their chosen fields. Courses in history, government and economics should be elected with this aim in view.

The work in undergraduate courses consists of lectures, papers, assigned and collateral readings, with quiz sections organized for the larger classes. Graduate courses are devoted to research work and reports thereon.

1-2-3. **History of Europe and the Near East.**—A general survey from the Roman world empire of Augustus to our own times. Three credits per quarter; autumn, winter and spring quarters.

Scholz and

The above course is repeated beginning with the winter quarter.

5-6. **English Political and Social History.**—A survey of the political, social, economic and intellectual development of the English people from the Saxon conquest to the present time. Five credits per quarter. (By performance of special work under direction of the instructor upper division students may receive upper division credit.) Autumn, winter.

Richardson

21-22. **History of China.**—From the earliest time to the present. Three credits per quarter; autumn and winter.

Gowen

23. **History of Japan.**—Three credits per quarter; spring.

Gowen

57-58-59. **History of the United States.**—A general survey with emphasis upon political history. Not open to freshmen. Three credits per quarter; autumn, winter and spring.

McMahon

60-61-62. **Makers of the Nation.**—American history through the biographies of prominent characters. Not open to freshmen. Two credits per quarter; autumn, winter and spring.

Meany

71-72-73. **Ancient History.**—A survey during the first quarter to about 400-387 B.C., during the second quarter to the death of Augustus, during the third quarter to Justinian. Not open to freshmen. Three credits per quarter; autumn, winter and spring.

Scholz

105-106-107. **English Constitutional History.**—The development of the legal and governmental institutions of the English peo-
ple to the present time. A course valuable for students of political science and law as well as history. Prerequisite, 5-6, except for upper division students who are majoring in economics, sociology and political science, or who are taking courses 5-6. Open also to pre-law sophomores who have taken 5-6 in freshman year. Pre-law sophomores who elect this course and have not taken courses 5-6 are required to take course 108-109-110. Three credits per quarter; autumn, winter and spring.

108-109-110. English Political History.—Open only to those pre-law sophomores and majors in political science who are taking course 105-106-107. All pre-law sophomores who are taking course 105-106-107 and who have not taken course 5-6 are required to take this course. Two credits per quarter; autumn, winter, spring.

*114-115-116. Renaissance and Reformation.—(Given 1919-1920; omitted 1920-1921.) Richardson

*117-118-119. France from the Reformation to the French Revolution.—(Given 1919-1920; omitted 1920-1921.) Richardson

121-122-123. Prussia and Northern Europe.—This course deals with Sweden as a great power, its rise, progress and decline; the rise of Russia and Prussia; the partition of Poland; and the beginnings of the Eastern Question. Special attention is paid to the economic, political and military development of the Prussian state from its foundation through the reign of Frederick the Great. Prerequisite, course 1-2-3. Two credits per quarter; autumn, winter, spring. (Omitted 1919-1920; given 1920-1921.)

126-127-128. England Since the Accession of George III.—The development of recent English institutions and of social reform, foreign relations and the British “Commonwealth of Nations” from 1760 to the present time. Prerequisite, 1-2-3 or 5-6-7. Two credits per quarter; autumn, winter, spring.

129. The French Revolution and Napoleonic Era.—Prerequisite, 1-2-3. Three credits; autumn.

130. Europe, 1814-1870.—European development from the Congress of Vienna to the foundation of the German Empire at the close of the Franco-German war. Prerequisite, 1-2. Three credits; winter.

131. Europe Since 1870: The War and Its Background.—The historical background, fundamental causes and progressive development of events and issues in the world war. Prerequisite, 1-2-3, or upper division standing. Not open to freshmen. Five credits; spring.

Richardson and

* Not offered in 1920-1921.
139. The Southern Colonies.—Open only to juniors, seniors and graduates. Three credits; autumn. McMahon

140. The New England Colonies.—Open only to juniors, seniors and graduates. Three credits; winter. McMahon

141. American Revolution.—Open only to juniors, seniors and graduates. Three credits; spring. McMahon

142-143-144-145. History of the United States.—Three credits. McMahon

147. History of the Civil War Period.—Open only to juniors, seniors and graduates. Three credits per quarter; autumn. McMahon

148. History of the Reconstruction Period.—Open only to juniors, seniors and graduates. Three credits per quarter; winter. McMahon

149. History of National Development.—The development of the American nation from the close of the reconstruction period to the present time. Open to juniors, seniors, graduates and to such sophomores as have completed courses 57-58-59. Five credits per quarter; spring. McMahon

153. Spain in America.—The rise and fall of Spanish power in America, and an outline of the history of the Spanish-American republics. Three credits per quarter; autumn. Open to juniors, seniors and graduates. Meaney

154. Development of the Pacific.—History of the countries bordering upon the Pacific Ocean with especial reference to recent changes. Open to juniors, seniors and graduates. Three credits per quarter; winter. Meaney

155. History of Canada.—Canadian development to the present time. Open to juniors, seniors and graduates. Three credits per quarter; spring. Meaney

157-158-159. History of American Diplomacy.—American relations with foreign powers from colonial times to the present. Open to juniors, seniors and graduates. Two credits per quarter; autumn, winter and spring. Meaney

163-164-165. Northwestern History.—From the earliest voyages to the Pacific Northwest to the organization of the present form of government. Open to juniors, seniors and graduates. Two credits per quarter; autumn, winter and spring. Meaney

*171-172-173. Hellenism.—The spread and tranformation of Greek civilization from its beginning to the fall of Constantinople

* Not offered in 1920-1921
(1453 A. D.). Open to juniors, seniors and graduates. Two credits per quarter; autumn, winter and spring. Scholz

*175. Ancient Imperialism.—Two credits. Scholz

*176. History of Ancient Law.—Two credits. Scholz

106-107. Methods of Teaching History.—Required of advanced students who expect to teach history. Two credits per quarter; autumn, winter. McMahon

201-202-203. Historical Criticism and Historiography.—Two credits per quarter; autumn, winter and spring. Scholz

215-216-217. Seminar in English History.—A graduate course which lays more stress upon the constitutional than upon the political side of the subject. The course will deal with topics in the Tudor and Stuart period and with the antecedents of the Puritan Revolution. Two to four credits per quarter; autumn, winter and spring. Richardson

221-222-223. Seminar in American History.—Two credits per quarter; autumn, winter and spring. McMahon

227-228-229. Seminar in State History.—Two credits per quarter; autumn, winter and spring. Meany

HOME ECONOMICS

Professor Raitt; Assistant Professors Denny, Patty, Amery, Kehnke; Instructors Dressler, Lushy

(For curricula in Home Economics see College of Science Bulletin)

1-2-3. General Course.—This course is planned for those students who will elect no other work in this department. It will include consideration of the selection, decoration and furnishing of the home; textiles and clothing; cookery and meal planning. Laboratory deposit, $4. Three credits per quarter; autumn, winter, spring. Denny, Dressler

4. Foods: Principles and Practice of Food Preparation.—Prerequisite or parallel, Chemistry 3. Laboratory deposit, $4. Three credits; spring. Dressler

5-6. Foods: Selection and Preparation.—Continuation of course 4. Prerequisite or parallel with course 6; course 4, or two years' high school domestic science, or equivalent, Chemistry 5-6, Physiology 7. Laboratory deposit, $6. Five credits per quarter; autumn, winter, spring. Dressler


* Not offered in 1920-1921.
Problem, garment making. Laboratory deposit, $1. Three credits; winter.

II-12. Needlework.—History of tapestry, lace and needle-craft. Application of principles of design to modern needle-craft. Problems: Marking of household linens, decorative stitches, fine mending. Consult instructor before electing. Prerequisite course 8. Laboratory deposit, $1. Two credits per quarter; autumn, spring.

*20. Laundering and Dyeing.

25. Textiles.—Fabrics and fibers; economic phases of textile industry. Laboratory deposit, $2. Five credits per quarter; autumn, winter or spring.

27. Non-Textiles.—A study of merchandise from non-textile sources, such as leather, rubbers, paper and metals. Raw materials, sources of supply, manufacture, methods of judging. A classification of departmental stock. Three credits; winter.

32. Economics of Clothing.—Materials, designs, simple dressmaking. Laboratory deposit $2. Two credits; autumn, winter. Patty

43. Housewifery.—Selection, sanitation and care of the equipment and material of the household. Three credits; autumn, spring.

101-102. Clothing: Selection and Construction.—Patterns, fitting, simple tailoring, construction of dresses. Prerequisite, course 8, or two years' high school clothing. Laboratory deposit, $2. Five credits; autumn, winter, spring.

103. Foods: Comparative Studies of Food Materials and Cooking Processes.—Prerequisite, course 5-6. Laboratory deposit, $4. Three credits per quarter; spring.

105-106. Nutrition: Elementary Dietetics.—Functions and nutritive value of food. Diet for the sick. For those who wish to obtain a practical knowledge of nutrition as part of a liberal education but who are not preparing to teach the subject. Prerequisite or parallel, course 4, Chemistry 5-6, Zoology 7. Laboratory deposit, $3. Four credits; winter, spring.

107-108. Nutrition: Dietetics.—Principles of human nutrition. Diet for the sick. Prerequisites, course 5-6, Chemistry 144. Laboratory deposit, $3. Four credits; autumn, winter.

110. Nutrition.—The development of the science of nutrition. Original sources; library research. Prerequisite, course 107. Three credits; spring.


* Not offered in 1920-1921
121. Large Quantity Cookery.—Preparation of food in large quantities for cafeterias, tea rooms, dormitories, hospitals and camps. Laboratory practice. Laboratory deposit, $4. Three credits.

122. Buying and Dietaries.—Marketing, buying, institution equipment and supplies. Planning menus for dormitories, hospitals, cafeterias and tea rooms. Three credits; spring.

123. Institutional Management.—A study of the problems of various types of institutions, relating to their organization and operation, relation to the state and community, employment of help. Three lectures. Three credits; spring.

124. Practice Work I.—At least nine hours per week spent in the different departments of the University Commons and university dormitories, under supervision of the instructor in charge. Conferences, service in food preparation. Three credits; autumn, winter, or spring.

125. Practice Work II.—Eight hours’ work off the campus among the following: Tea rooms, cafeterias, school lunch rooms, hospitals. Conferences, services in food preparation. Three credits; autumn, winter, or spring.

130. Clothing; Dressmaking.—Designing and draping on the form, practice in dress construction, and a study of trade conditions. Prerequisite, course 101, Fine Arts III, 170-171. Laboratory deposit, $3. Six credits; spring.

*133. Clothing: Costume and Design.—Development of fashion from ancient times to the present with emphasis upon the best art periods. Prerequisite, Fine Arts III, 170-171. Laboratory deposit, $5. Five credits; spring.

135. Clothing: Millinery.—The making and covering of frames, fitting and trimming of hats and a study of trade methods and materials. Prerequisite, course 8, Fine Arts II, 3. Laboratory deposit, $4. Three credits; autumn.

143. Home Furnishing.—Application of structural art principles to choice and arrangement of household furnishings. Prerequisite, Fine Arts III, 2. Laboratory deposit, $1.50. Autumn or spring.

144-145. Household Management.—Organization of the household and application of the principles of scientific management. Prerequisite, courses 5-6, 101-102, 107 or 106, 143, Fine Arts II, Physics 89-90. Three credits; autumn, winter.

146-147. Teachers’ Course.—Curricula, methods of teaching and equipment. Prerequisite, courses 5-6, 107, 101-102, 145,144; Fine Arts II, 1; Physics 89-90; Bacteriology 101. Three credits; autumn, winter.

* Not offered in 1920-1921.
109. Critical Writing.—Book reviewing and dramatic criticism; study of successful theatrical stories and reviews of books, practical assignments. Three credits per quarter; spring. Spencer

120-121-122. Copy Reading.—Copy reading, headline writing and general desk work; discussion of theory and style in news presentation; laboratory work in every writing department of a daily paper, actual copy of the Associated Press and the United Press being used. Required in the junior year of all majors in journalism. Laboratory fee, $2. Three credits per quarter; autumn, winter, spring. Casey

130. Function of Newspaper Advertising.—The advertising department; selling white space; advertising ethics; relation of the newspaper to advertising agencies. Laboratory fee, $2. Three credits per quarter; autumn.

131. Display Advertising.—Study of successful advertisements; preparation of copy; instruction in types and layouts; retail advertising problems. Laboratory fee, $2. Prerequisite, Journalism 130. Three credits per quarter; winter.

132. General Publicity.—Relation of news-column publicity to display advertising; publicity work of corporations; publicity work in municipal and public service movements; sequence copy and follow-up methods; capitalizing advertising success. Prerequisite, Journalism 131. Laboratory fee, $2. Three credits per quarter; spring.

133-134-135. Advertising Typography.—Type families; application of type; advertising type units; type problems. Required of majors specializing in advertising. Laboratory fee, $2. Two credits per quarter; autumn, winter, spring. Kennedy

136-137. Comparative Journalism.—Comparison of American, Canadian, and foreign newspapers in makeup, news presentation, and editorial policy. Laboratory fee, $2. Two credits per quarter; autumn, winter. Casey

138-139. History of Journalism.—Study of the problems of newspaper editing and publishing in the light of their origin and development; history of American journalism. Required of all majors in journalism. Two credits per quarter; winter, spring. Spencer

140-141-142. The Business Office (I).—Cost finding, estimating, and simplified accounting for newspaper plants; selling commercial printing; business office management. Required for graduation of all majors in journalism. Laboratory fee, $2. Two credits per quarter; autumn, winter, spring. Kennedy
143-144-145. The Business Office (II).—Creative methods in the business office; business office administration; business correspondence; analysis of typography and type harmony; labor and machine conservation; apprenticeship problems; practical training in the journalism laboratory. Designed for those looking forward to management or ownership of newspapers or printing plants. Two credits per quarter; autumn, winter, spring. Kennedy

150-151. Editorial Writing.—Theory and practice of interpreting current news by means of the editorial; human interest editorials; daily assignments. Required for graduation of all majors in journalism. Two credits per quarter; winter, spring. Spencer

153. Editorial Policy.—Study of the rights, duties, and power of the press, its morals and its part in community, state, and national life; policies that have made and unmade papers; present press tendencies. Required for graduation of all majors in journalism. Two credits per quarter; autumn. Spencer

160-161-162. Trade Journalism.—Trade news and publicity methods; study of trade journals, trade journal policies, and class publications. Laboratory fee, $2. Three credits per quarter; autumn, winter, spring.

170-171-172. Magazine and Feature Writing.—Practice in writing special articles for magazines and newspapers; study of current magazines and newspaper supplements; syndicate stories. Feature articles are written at regular intervals and are graded according to their probable market value. Laboratory fee, $2. Two credits per quarter; autumn, winter, spring. Edgington

173-174-175. The Short Story.—Critical appreciation of the short story; extensive readings. Stories are written at regular intervals and graded according to their probable marketability. Laboratory fee, $2. Three credits per quarter; autumn, winter, spring. Edgington

188. Teachers’ Course.—Methods and problems of teaching news writing in the high school. Two credits per quarter; winter. Spencer

200. Senior Conference.—Practical newspaper problems; summary of all departments of newspaper work. One quarter required of all majors in journalism. One credit per quarter; autumn, winter, spring. Journalism Faculty
ance, partnership and corporation, with special lectures as to the statutory regulations. Three credits per quarter; autumn, winter and spring.

Ayer

158. Mining Law.—A series of lectures on the mining laws of the United States and Alaska; illustrated by diagrams and mine maps. Two credits; winter.

O'Bryan

Note.—Fifteen hours or credits in each quarter are required, making a minimum total of 150 hours or credits for completion of the law course.

Students are limited to fifteen hours per quarter, except upon special permission of the dean.

LIBRARY SCIENCE

Library

Professor Henry; Associate Professor Smith; Instructors Howe, Spencer, Staples

101. Order Accession and Circulation.—In this course the routine of ordering, receiving, checking, accessioning and mechanical preparation of books and elements of trade bibliography are treated. Also loan administration, covering charging systems, registration of borrowers, circulation of books and circulation records are dealt with. Two credits; autumn.

Howe, Stanley

102 Classification and Subject Headings.—The work in classification is mainly a study of the decimal system. An exercise in classifying selected books follows each lecture with later revision, correction and discussion. Other classification systems are briefly described. Under subject-headings lectures and practice work with selected books are given. Three credits; autumn.

Spencer

103-104. Cataloguing.—The course in cataloguing, including book numbers, shelf-listing, alphabeting and name lists consists of lectures, recitations and practice work selected as illustrative examples of rules given in class. The A. L. A. rules are used as a basis for study. Three credits per quarter; winter and spring.

Spencer

105-106-207. Reference.—The purpose of these courses is to give a working knowledge of important types of reference books and to develop the power of research. Lectures cover books and methods. Practical problems are assigned and worked out. These courses include also the work with government documents. Two credits per quarter; autumn, winter, spring.

Smith

208. Subject Bibliography.—Practical work in the preparation of bibliographic lists; lectures on sources and methods of work. Problems cover arrangement and form of entry. One piece of independent bibliographic work is required of each student. Two credits; spring.

Smith

109-110-211-212-213. Practice.—Each student is expected to do approximately one hour of practice or laboratory work un-
der expert personal supervision for each class period of instruction as a test of practical ability and as an opportunity to exhibit personality in service. The practice work is given in both the University Library and the Seattle Public Library, and consists of six hours per week for five quarters or twelve hours per week for thirty weeks. Twelve credits; winter and spring quarters of senior year; autumn, winter, and spring of graduate year.


Henry

215-216. *Library Organization and Extension*—In this course such subjects are treated as legalization and organization of a general library system for city, county or state, as the unit of organization; also the organization of various types of libraries with varying degrees of equipment. One credit, autumn; two credits, winter.

Henry

116-217-218-219. *Book Selection.*—Designed to cultivate taste and judgment in the evaluation of books through a study of the principles of book selection, annotation and book reviewing. One credit; winter quarter of senior year; two credits per quarter, autumn, winter, spring of graduate year.

Henry

220. *Library Administration and Library Literature.*—Lectures, readings and discussions upon library legislation, local taxation, library budget, and all means and instruments for realizing the educational and social functions of the library. Reading and class discussion of the literature of libraries and librarianship, including library periodicals and the publications of library organizations, with special emphasis upon the best papers in the *A. L. A. Proceedings* for recent years. Two credits: spring.

Henry

221. *Work with Children and Schools.*—This course is planned to meet the needs of general library assistants and librarians in charge of small libraries. It deals with principles of book selection with special attention to choice of books for children of various ages. Students read and discuss children's books with these ideals in mind. Two credits; winter.

Howe

222. *Special Lectures by Active Librarians.*—Ten lectures are given by as many persons, each upon some vital problem of library service or administration. These persons are selected because of their experience and success in dealing with the problems treated. One credit; spring.

Howe

223. *Study of a Selected Public Library.*—Each student is assigned to make a study of some specific public library reasonably near Seattle, and write a report upon its general policy and plans of organization, extension and administration. One credit; spring.

Henry
For a major in mathematics, 36 credits, including courses 5 and 9.

Candidates for the normal diploma must complete course 127 (teachers' course) in addition to the major requirement.

Candidates who are not majors in mathematics but wish to teach mathematics as a minor subject must have earned at least 15 credits in mathematics, including courses 4 and 5, before receiving the recommendation of the department.

Major students in mathematics should, if possible, select their courses in mathematics in the following order: Math. 4, 5, 6, 107, 108, 109. In addition they should elect physics as their freshman science and take solid geometry (Math. 2) in their freshman year.

1. Advanced Algebra.—Algebra from quadratics on. Prerequisite, one year of high school algebra. Five credits; autumn, winter.
   Bell (a), Carpenter (w), (s)

2. Solid Geometry.—Prerequisite, one year of plane geometry. Five credits; winter, spring. —-(w), Bell (s)

4. Plane Trigonometry.—For students in the Colleges of Liberal Arts, Science, Education, Fisheries, Law, and Pharmacy. Prerequisites, one year of algebra and one year of geometry. Five credits; each quarter.

5. College Algebra.—Prerequisite, course 1 or one and one-half years high school algebra. Five credits; winter.
   Winger, Mullemeister

6. Analytical Geometry.—Primarily for students in the College of Science. Prerequisite, courses 1, 2 and 4. Five credits; spring.
   Winger

11-12. Theory of Investments.—Primarily for students in commerce. A two-quarter course. The first quarter's work deals with the preliminary processes of algebra, together with applications to problems in interest and annuities. The second quarter's work deals with annuities, amortization, capitalization and depreciation, sinking funds, bond values, building and loan associations. This is followed by a brief study of life contingencies applied to the computation of single and annual premiums on life policies. Prerequisite, one year algebra, one year geometry. Five credits per quarter; autumn, winter, spring.

13. Elements of Statistical Methods.—Data obtained by observation, enumeration or estimate, and their application to inter-
preting social or natural phenomena. Prerequisite, one year algebra, one year plane geometry. Five credits; each quarter. Gavett

51. *Algebra and Trigonometry.*—Primarily for students in the Colleges of Engineering and Mines. Prerequisite, one and one-half years algebra, one year plane geometry. Three credits; each quarter.

52. *Trigonometry and Analytical Geometry.*—Primarily for students in the Colleges of Engineering and Mines. Prerequisite, course 51. Three credits; each quarter.

53. *Analytical Geometry.*—Primarily for students in the Colleges of Engineering and Mines. Prerequisite, course 52. Three credits; each quarter.

54-55-56. *Mathematics for Foresters.*—A study of advanced numerical and graphical methods and solution of plane triangles by trigonometric methods. Prerequisite, one and one-half years algebra, one year plane geometry. Three credits per quarter; autumn, winter and spring. Gavett

57-58-59. *Mathematics for Architects.*—Algebra through quadratic equations and plane trigonometry through solution of triangles. Advanced topics in algebra; the elements of analytical geometry; elementary differential and integral calculus. Prerequisite, one year algebra, one year plane geometry. Three credits per quarter; autumn, winter, spring. Gavett

61-62-63. *Calculus.*—Primarily for students in the Colleges of Engineering and Mines. Prerequisite, courses 2 and 53. Three credits per quarter; autumn, winter, spring.

101. *Spherical Trigonometry, with Applications.*—Prerequisite, course 2 and 4. Two credits; autumn. Small

102-103. *Solid Analytical Geometry.*—Prerequisite, course 8 or 63. Two credits per quarter; winter, spring. Small

107-108-109. *Calculus.*—Elements of differential and integral calculus, primarily for students in the College of Science. Prerequisite, course 6. Five credits per quarter; autumn, winter, spring. Moritz

111-112-113. *Introduction to Applied Mathematics.*—For students of science. Line, surface, volume integrals. The theorems of Green, Gauss, Stokes and Kelvin, and their applications to electricity. Maxwell's equations; derivation of the equation of wave motion, and its solutions in special cases, including Hertzian oscillations. Elements of Fourier Series, with selected problems from propagation of heat and electricity. Generalized Coordinater, the Principle of Least Action, and Lagrange's equations with applications to systems of two degrees of freedom. The aim of the course is to give the student sufficient mathematics to en-
able him to read the easier scientific papers in the current literature. It presupposes a thorough grasp of elementary physics and mathematics through the calculus. Differential equations should be taken before or concurrently. Three hours per week. Bell

114-115-116. Ordinary and Partial Differential Equations.—With applications to problems in physics, chemistry, astronomy, and engineering. Prerequisite, course 108 or 63. Two credits per quarter; autumn, winter, spring. Neikirk

117-118-119. Projective Geometry.—An analytic treatment. The relation of projective to metric geometry is emphasized. Prerequisite, course 8 or 61. Two credits per quarter; autumn, winter, spring. Winger

121-122-123. Higher Plane Curves.—The projective properties of algebraic curves. Prerequisite, course 8 or 61. Two credits per quarter; autumn, winter, spring. Winger

*124-125-126. Real Variables. Smail

127. Teachers' Course.—Required of those who make mathematics their major study and who are applicants for the teachers' certificate. Prerequisite, course 109. Five credits; autumn. Winger


151-152-153. Mathematics of Insurance.—Mathematical principles underlying life insurance. Construction and graduation of life tables. Computation of life annuities and life insurance. Various forms of policies and their premiums. Calculation of reserves. Survivorship and joint life policies and premiums. Prerequisite, one year of college mathematics or course 12. Three credits per quarter; autumn, winter, spring. Moritz

161-162-163. Analytical Mechanics.—Prerequisite, course 109. Two credits per quarter; autumn, winter, spring. Moritz

201-202-203. Introduction to Projective Differential Geometry.—Projective theory of plane and space curves, surface and line congruences, as developed from certain differential equations and their invariants. Prerequisite, courses 119 and 116. Three credits per quarter; autumn, winter, spring. Carpenter

*204-205-206. Modern Algebra.

207-208-209. Infinite Series.—Prerequisite, courses 5 and 9. Two credits per quarter; autumn, winter, spring. Smail


* Not offered in 1920-1921

251-252-253. Mathematical Journal and Research Club.—Meets on the second Thursday of each month in Science Hall, room 2, at 5 p.m. The club consists of advanced students and teachers in the department of mathematics. The purpose of the club is primarily to discuss the research work carried on by members of the club, and secondarily to review important recent mathematical literature. Prerequisite, open to all graduate students in mathematics. No credit; autumn, winter, spring.

MECHANICAL ENGINEERING

Engineering Hall

PROFESSOR EASTWOOD; ASSOCIATE PROFESSORS WILSON, WINSLOW;
INSTRUCTORS McINTYRE, BEATTIE, KANE

1, 2, 3. Woodwork.—Bench work; cabinet work; pattern making. Laboratory deposit, $2. One credit per quarter; autumn, winter, spring.

4. Woodwork.—Mine timber framing. Prerequisite, Mining 50. Laboratory deposit, $2. One credit; spring. Daniels, Beattie

53, 54, 55. Metalwork.—Foundry; forge; machine work. Laboratory deposit, $2. One credit per quarter; autumn, winter, spring. Kane

81. Mechanism.—The operation of machines involving the transmission of forces and the production of determinate motions. Prerequisite, C. E. 2, Math. 52. Three credits; autumn, winter, spring.

Wilson, Winslow, McIntyre

82. Steam Engineering.—The various forms of steam apparatus used in modern steam plants; their construction, use, and reason for their installation. Not open to freshmen. Prerequisite, C. E. 2. Three credits; autumn, winter, or spring.

Eastwood, Winslow

83. Steam Engineering Laboratory.—Calibrations of thermometer, gages, indicator springs, etc.; tests of the simple steam engine; one complete engine and boiler test with report. Preceded or accompanied by M. E. 82. Laboratory deposit, $2. Three credits; autumn, winter, spring.

Wilson

90, 91. Machine Design.—The design of machine details. Preceded or accompanied by M. E. 81. Prerequisite, C. E. 2. Three credits per quarter; autumn, winter or spring. McIntyre

*Not offered in 1920-1921.
101, 102, 108. Machine Design.—The design of hoisting and pumping machinery; special machines. Prerequisite, M. E. 90, C.E. 131, 132. Three credits per quarter; autumn, winter, spring.

Winslow

105, 106, 107. Metalwork.—Advanced machine shop practice. Prerequisite, M. E. 55. Laboratory deposit, $2. One credit per quarter; autumn, winter, spring.

Kane

108. Metalwork.—Manual arts for teachers. Prerequisite, M. E. 107. One credit; autumn, winter, or spring.

Beattie


Beattie


Winslow

123, 124, 125. Engines and Boilers.—The generation and use of steam in various types of boilers and engines. Three lectures per week first quarter; one lecture and six laboratory periods per week second and third quarter. Prerequisite, M. E. 82, 91, C. E. 131. Three credits per quarter; autumn, winter, spring.

Winslow

151-152-153. Experimental Engineering.—A continuation of M. E. 83, involving more extended and complete investigations. Prerequisite, M. E. 83. Laboratory deposit, $2. Three credits per quarter; autumn, winter, spring.

Wilson

167. Engineering Materials.—The properties of the various materials used in engineering construction, including iron, steel, reinforced concrete, timber, etc. Recitation and laboratory. Prerequisite, C. E. 132. Junior mechanical engineers. Laboratory deposit, $2. Three credits; spring.

Winslow

179. Steam Turbines.—The theory, construction and design of steam turbines. Prerequisite, M. E. 82. Three credits; autumn.

Eastwood

182. Heating and Ventilation.—The various systems of heating and ventilating, methods or design and tests. Prerequisite, M. E. 82. Three credits; winter.

Eastwood

183. Thermodynamics and Refrigeration.—The fundamental principles underlying the transformation of heat into work, with special application to engineering. Prerequisite, M. E. 82. Five credits; autumn.

Eastwood

184. Power Plants.—The design of steam power plants, involving their location, buildings, prime movers, power transmission, etc. Prerequisite, M. E. 123, 83. Three credits; spring.

Eastwood
186, 186, 187. Naval Architecture.—The theory of naval architecture, as pertains to displacement, stability and strength, and the usual calculations involved in construction. Not open to freshmen. Three credits per quarter; autumn, winter, spring.

Eastwood

188, 189. Ship Design.—Application of the principles of naval architecture to the design of a ship for a definite purpose. Prerequisite, M. E. 186. Two credits per quarter; autumn and winter.

Eastwood

190. Marine Engineering.—The power plant equipment of ships, including boilers, engines, auxiliaries and propellers. Prerequisite, M. E. 82, 185. Three credits; spring.

Eastwood

198. Gas Engineering.—The development of gas engineering, including stationary, marine, automobile and airplane motors, and gas producer plants. Prerequisite, M. E. 82. Three credits; winter.

Wilson

199. Gas Engine Design.—Calculations and plans for the design of a given type of motor. Prerequisite, M. E. 198. Three credits; spring.

Wilson

210. Thesis.—An investigation, design or experiment under the direction of the professor in charge. Three credits; senior year.

Eastwood, Wilson, Winslow

211. Research.—Time to be arranged. Three credits per quarter.

Eastwood, Wilson

MILITARY SCIENCE AND TACTICS

The Armory

COLONEL PHILLIPS; CAPTAIN FRAZER; CAPTAIN BETCHER; CAPTAIN MEREDITH; SERGEANTS THOMAS, KOONTZ, FETTERS, AND KENT

All male students in the University who are American citizens, and not physically disqualified, are required to take military training throughout the first two years of attendance. The present requirement is five hours per week.

The instruction of these two years, together with that provided for the third and fourth years, constitute the courses prescribed by the War Department for institutional units of the Reserve Officers Training Corps. Two of these units have been established in this University, an Infantry Unit and a Coast Artillery Unit, each leading to commissions as Reserve Officers in the appropriate Corps. The Advanced Courses, those of the third and fourth years, are open to all students who have completed the first two years—Basic Course—of instruction and training.
Much of the instruction and mental development acquired by the student from his regular college course is of the highest importance in his preparation to perform the duties of a military officer. This has been kept in mind in outlining the schedules of instruction and training for the several R. O. T. C. units to the extent of restricting such schedules to subjects essentially military and which are not generally included in the curricula leading to graduation. It is evident, however, that in certain cases, there will be subjects requisite to his proper preparation for military duty which may not be included in the student's regular course for graduation. As to such subjects the University has authorized their listing as University electives whenever they are not included in the student's required subjects. To meet these requirements, the student desiring to complete the R. O. T. C. courses must present recorded collegiate credits in each such subject.

The following courses are listed as electives required under the conditions stated:


These courses may be taken by the student at his convenience except that Surveying, C. E. 21, is prerequisite to higher surveying, C. E. 23.

Military History and Policy of the United States, Special Course, Department of History, and Military Law, Special Course, School of Law, must be registered for by the student taking fourth year's course R. O. T. C. for the second and third quarters respectively and with the respective departments named.

With the foregoing exceptions, all assignments for instruction and training will be made at the time of registration with the Military Department.

In addition to the above courses, the University has provided for those students who desire to major in Military Science a four-year curriculum which will give a good general college education upon which any line of professional or technical study may be based and which will give to the graduate the degree of B. S. in Military Science, and at the same time enable him to obtain a commission as second lieutenant in the Officers Reserve Corps of the United States Army in accordance with the provisions of the National Defense Act.
FIRST YEAR
Two credits per quarter

BASIC COURSE—ALL UNITS


Summer Basic Camp—optional after completion of first year's course.

SECOND YEAR
Two credits per quarter.

BASIC COURSE—ALL UNITS


54-55. Theoretical.—Infantry Drill Regulations, first and second quarters. One hour per week.

56. Theoretical.—Interior Guard Duty, third quarter. One hour per week.

SPECIAL COURSE—INFANTRY


63. Theoretical.—Musketry, third quarter. One hour per week.

SPECIAL COURSE—COAST ARTILLERY

71-72-73 Coast Artillery Material.—One hour per week.

THIRD YEAR
Three credits per quarter.

BASIC COURSE—ALL UNITS

101. Company Administration—First quarter, one hour per week.

102. Field Engineering—First quarter, one hour per week.

103. Combat, I. D. R.—Second quarter, one hour per week.

104. Field Service Regulations—Second quarter, one hour per week.

105. Minor Tactics.—Third quarter, two hours per week.
SPECIAL COURSE—INFANTRY

111-112-113. Practical.—Close and extended order drill. Ceremonies. Three hours per week.

SPECIAL COURSE—COAST ARTILLERY

126. Material.—First quarter, one hour per week.
127. Ballistics.—First quarter, two hours per week.
128. Gunnery.—Second quarter, three hours per week.
129. Theoretical—C. A. Drill Regulations, third quarter, one hour per week.
130. Practical.—C. A. Drill, third quarter, 1 hour per week.

Summer Advanced Camp—Optional after completion of third year course. Required of all under contract for Advanced Course; requisite for commission.

FOURTH YEAR

Three credits per quarter

BASIC COURSE—ALL UNITS

151. Minor Tactics—First quarter, two hours per week.
152. Military History and Policy, U. S.—Second quarter, 1 hour per week.
153. Military Law—Third quarter, one hour per week.

SPECIAL COURSE—INFANTRY

161-162-163. Practical.—Close and extended order drill. ceremonies. Three hour per week.
164-165. Tactical Walks.—Second and third quarters, one hour per week.

SPECIAL COURSE—COAST ARTILLERY

171-172-173. Practical, Coast Artillery Drill.—One hour per week.
174. Organization of Artillery—First quarter, one hour per week.
175. Ordnance.—Second quarter, two hours per week.
176. Tactical Problems, Artillery.—Third quarter, two hours per week.
I. MINING

20. **Mine Timbering.**—Materials and methods used in timbering shafts, tunnels, and drifts in hard and soft ground. One lecture. One credit; winter. Daniels

21. **Mine Timber Framing.**—Shop practice in framing mine timbers. One laboratory period. Laboratory deposit, $2. One credit; spring. Daniels

51. **Elements of Mining.**—A general study of the field of mining, considering prospecting, boring, drilling, explosives, rock breaking, methods of development and working, transportation and drainage. Prerequisite, sophomore standing. Three recitations. Three credits; autumn. Daniels

101. **Milling.**—A preliminary course designed to familiarize all students in the department with the principles and uses of the various types of crushing, sampling, concentrating and washing machinery in the Mines Building. Prerequisite, junior standing. Two recitations and one laboratory period. Laboratory deposit, $3. Three credits; autumn. Roberts, Daniels

103. **Mine Rescue Training.**—Twenty-five hours of instruction. Practice in the care and use of oxygen rescue apparatus, smokeroom training, and first-aid-to-the-injured work in the U. S. Bureau of Mines Safety Station. Required of all students in the College of Mines. One credit; winter. Roberts, Daniels, Schoning

106. **Mining Excursion.**—A two-weeks excursion taken in the spring of each year to a neighboring mining region; detailed examinations of mining and metallurgical industries. Expense varies from $25 to $50. Three credits; spring. Roberts, Daniels, Corey

120. **Coal Resources of North America.**—The occurrence of coal in North America with special reference to geographic and geologic distribution and structure; classification and commercial requirements of coals. Prerequisite, Min. 51. Three recitations. Three credits; spring. Daniels

122. **Coal Mining Methods.**—Prospecting and development. A detailed study is made of a nearby mine. Prerequisite, Min. 51. Three recitations. Three credits; winter. Daniels

151. **Mining Engineering.**—Lectures on exploration, mine development and operation, mining costs, power generation, air
DEPARTMENTS OF INSTRUCTION

152. Ore Dressing.—A detailed study of certain branches of ore dressing accompanied by mill tests of ores checked by assays. Prerequisite, senior standing. Three recitations and two laboratory periods. Laboratory deposit, $5. Five credits; spring. Roberts, Daniels

153. Thesis Outline.—The outlining of senior thesis, the gathering of material, study of references, making of drawings, maps, etc. See also Min. 154-155. Prerequisite, senior or graduate standing. One laboratory period. One credit; autumn. Roberts, Daniels, Corey.

154, 155. Thesis.—A continuation of course 153. Weekly consultation and seminars. Prerequisite, course 153. A deposit of $5 or $10 will be required to cover cost of materials and equipment in thesis work involving the use of mining or metallurgical equipment. Two laboratory periods. Two credits per quarter; winter and spring. Roberts, Daniels, Corey.

158. Mining Law.—A series of lectures on the mining laws of the United States and Alaska; illustrated by diagrams and mine maps. Two lectures. Two credits; winter. O'Bryan

162. Mining Methods.—An advanced study of mining methods. Prerequisite, senior mining standing. Three recitations. Three credits; winter. Roberts

163. Mine Operation.—The complete operations at a few typical mines, including mining, transportation and treatment of ore, disposal of products, company finances, and management. Illustrated by ores and products, maps and photographs, cost sheets, engineering and financial reports of the mines studied. Prerequisite, senior mining standing. Three recitations. Three credits; spring. Roberts

170. Coal Mining Machinery.—Study of coal cutting machines, mine locomotives, fans, hoists, and pumps with especial reference to application to coal mining. Prerequisite, senior standing. Three recitations. Three credits; autumn. Daniels

171. Mine Gases and Ventilation.—Composition and properties of mine gases, methods of testing; lighting of mines; principles of ventilation; ventilating machinery. Prerequisite, Min. 122. Three recitations. Three credits; winter. Daniels
172. **Coal Mining Plant.**—Design of plant and machinery employed in mining and preparing coal for market. Prerequisite, senior standing. Three drafting periods. Three credits; spring. Daniels

176. **Coal Preparation.**—Methods of preparing coal for market, together with laboratory tests and runs on various coals, to determine best methods of preparation. Prerequisite, Min. 101, Met. 103. Two recitations and three laboratory periods. Laboratory deposit $5. Five credits; winter. Daniels

178. **Coal Preparation Machinery.**—Machines and equipment used in tipples and washeries for the screening and washing of coal. Prerequisite, Min. 176. Two recitations. Two credits; spring. Daniels

182. **Mine Management.**—The organization and administration of engineering plants, involving the keeping and interpretation of cost accounts, the efficiency of labor and methods, the financial, legal and social aspects of engineering operation. Prerequisite, senior standing. Three recitations. Three credits; spring. Daniels

201-202-203. **Seminar.**—Lectures and discussions by Bureau of Mines staff, College of Mines faculty and fellows. Required of Bureau of Mines fellowship holders. Prerequisite, senior or graduate standing. One credit; autumn, winter, spring. Roberts, Daniels, Corey

211, 212, 213, 214. **Graduate Thesis.**—Preparation of a thesis in mining engineering, metallurgy or ceramics. Prerequisite, graduate standing. A deposit will be required if the work involves the use of laboratory materials or equipment. Hours and credits to be arranged. Roberts, Daniels, Corey, Wilson

221, 222, 223. **Mine Development.**—Preparation of a plan of development for a metal mine, including studies of the geological conditions, surface and underground explorations, mining methods, layout of plant. Prerequisite, graduate standing. Hours and credits to be arranged. Roberts

231, 232, 233. **Mill Design.**—Design of a plant for ore dressing purposes. Prerequisite, graduate standing. Hours and credits to be arranged. Roberts

241, 242, 243. **Coal Mining.**—Methods which may be applied to the solution of problems in the coal mining industry such as a higher recovery of minable coal; economical layout of mine and plant; application of improved methods and machinery. Prerequisite, graduate standing. Hours and credits to be arranged. Daniels
251, 252, 253. Coal Preparation.—An advanced study of methods of coal preparation based on careful preliminary studies of character of coal and impurities in any locality. Laboratory testing will be emphasized. Prerequisite, graduate standing. Hours and credits to be arranged. Daniels

261, 262, 263. Utilization of Coal.—Investigation of the possibilities of use of coals of low rank and quality. Briquetting, pulverization, and distillation will be given especial attention. Prerequisite, graduate standing. Hours and credits to be arranged. Daniels

II. METALLURGY

101. Fire Assaying.—The testing of reagents, the crushing, sampling and assaying of ores, furnace and mill products. Prerequisite, Chemistry 111. One recitation and three laboratory periods. Laboratory deposit, $20. Five credits; autumn. Corey, Glenn, Merrill

102. General Metallurgy.—The properties of metals and alloys, fuels, refractory materials; furnaces; and the extraction of the common metals from their ores. Visits to smelters. Prerequisite, junior standing. Three recitations and two laboratory periods. Laboratory deposit, $10. Five credits; spring. Corey

103. Metallurgical Fuels.—The analysis of fuels and a consideration of the most effective utilization of the country’s present supplies. Prerequisite, junior standing. Two recitations and one laboratory period. Laboratory deposit, $5. Three credits; winter. Daniels

104. Copper and Lead.—The metallurgy of copper and lead, especially the methods of roasting, smelting and refining. Prerequisite, junior standing. Three recitations and one laboratory period. Laboratory deposit $5. Four credits; autumn. Corey

151. Gold and Silver.—Amalgamation, cyaniding and chlorination of gold and silver ores. Prerequisite, course 102. Three recitations. Three credits; spring. Corey

153. Wet Assaying.—Technical methods for the determination of copper, lead, zinc, etc., in ores and furnace products. For students in ceramics, the analysis of clays and ceramic products. Prerequisite, course Met. 102, Chemistry 111. One recitation and two laboratory periods. Laboratory deposit, $12. Three credits; winter. Corey

155. Iron and Steel.—The metallurgy and manufacture of commercial iron and steel, with especial reference to their properties and uses in engineering work. Prerequisite, junior standing. Three recitations. Three credits; autumn. Daniels
157. Design of Plant.—The design of a piece of equipment or a structure for mining, milling, or metallurgical purpose. Prerequisite, senior or graduate standing. Three drafting periods. Three credits; spring. Roberts, Daniels

158. Minor Metals.—The metallurgy of zinc, antimony, tin, aluminum, nickel, etc.; a study of the plant required, the methods and costs of treatment. Three credits; spring. Corey

160. Metallurgical Analysis.—Technical methods of analysis of slags and industrial products. Prerequisite, Met. 153. Two laboratory periods. Laboratory deposit, $12. Two credits; spring. Corey

162. Metallography.—The constitution and microstructure of metals and alloys, especially iron and steel. Prerequisite, senior standing. Two recitations. Two credits; autumn. Corey

163. Metallography.—The preparation and study of metal sections, photomicrography and the use of the microscope in testing industrial alloys. Two laboratory periods. Laboratory deposit, $5. Two credits; winter. Corey

165. Metallurgy Calculations.—Physical chemistry for the metallurgist, slag calculations, etc., illustrated by figures quoted from the present practice at a number of smelting plants. Prerequisite, senior standing. Two credits; winter. Corey

166. Electro-Metallurgy.—A study of methods and practice with special consideration of the possibilities of electrometallurgical industries in the Pacific Northwest. Prerequisite, senior or graduate standing. Three credits; spring. Corey

211, 212, 213. Metallurgical Research.—A study of methods applicable to the development of metallurgical processes for special ores and metals. Prerequisite, graduate standing. Hours and credits to be arranged. Corey

221, 222, 223. Electro-Metallurgy.—The application of electro-chemical and electro-metallurgical knowledge to the solution of the particular problems of the Pacific Northwest. Prerequisite, graduate standing. Hours and credits to be arranged. Corey

III. CERAMICS

90. Ceramic Materials.—Origin, occurrence, physical properties and preparation of clays, feldspar, limestone, magnesite, silica, and other materials used in the ceramic industry. Prerequisite, sophomore engineering or mining standing. Three lectures and recitations. Three credits; spring. Wilson

100. Ceramic Products.—Principles governing the shaping of structural, refractory and fine ceramic wares. Prerequisite, Ceramics 90. Three lectures. Three credits; autumn. Wilson
101. Drying and Burning.—The principles of drying and burning; the operation and control of commercial dryers and kilns. Prerequisite, Ceramics 100. Three lectures and recitations. Three credits; winter. Wilson

102. Ceramic Decoration.—The preparation and characteristics of vapor, natural clay slip, raw lead, bristol, terra cotta, porcelain and fritted glazes, bright and mat, with methods of coloring. Prerequisite, Ceramics 101. Three lectures and recitations. Three credits; spring. Wilson


110. Ceramic Physical-Chemical Measurements.—Laboratory testing of clays and other ceramic materials. Determination of fineness of grain, shrinkage, porosity and specific gravity; the study of plasticity, bonding power, vitrification and fusion, chemical purification and action of colloids. Prerequisite, Ceramics 105. Laboratory deposit, $5 per quarter. Two laboratory periods and two recitations. Four credits; spring. Wilson

120, 121, 122. Ceramic Products Laboratory.—Laboratory production of structural wares, stoneware, yellow ware, porcelain and refractories. Practice in blending of ceramic materials, molding, drying, firing and glazing ceramic products. Prerequisite, Ceramics 101. Laboratory deposit, $5 per quarter. Three laboratory periods and two recitations. Five credits per quarter; autumn, winter, and spring. Wilson

125, 126, 127. Ceramic Plant Design.—Design of ceramic plants. Arrangement of machinery and construction of storage bins, dryers and kilns. Prerequisite, Ceramics 101. Two laboratory periods and one recitation. Three credits; autumn, winter, and spring. Wilson

130, 131, 132. Ceramic Thesis.—An original investigation, bearing principally on the ceramic problems of the Pacific Northwest. Laboratory deposit, $5 to $10 per quarter. Laboratory and conference. Two credits, autumn; three credits, winter and spring. Wilson

140. Pottery.—Occurrence, winning and preparation of materials used in pottery manufacture. Processes used in molding, drying, firing, glazing, and decorating of pottery. Two lectures and recitations. Two credits; autumn. Wilson

150. Lime, Plasters and Cements.—The raw materials, manufacture and testing of lime, calcined gypsum, sand-lime brick, and Portland cement. Prerequisite, Chem. 3. Three lectures and recitations. Three credits; winter. Wilson
160. Glass Technology.—Theory and factory practice of glass manufacture. Prerequisite, Ceramics 105. Two lectures and recitations. Two credits; autumn. Wilson

170. Metal Enamels.—Theory and practice of metal enameling. Prerequisite, Ceramics 105. Two lectures and recitations. Two credits; autumn. Wilson

221, 222, 223. Ceramic Resources.—A study of the ceramic resources of Washington and the Pacific Northwest, or of some particular area in this region. Prerequisite, graduate standing. Hours and credits to be arranged. Wilson

231, 232, 233. Ceramics Manufacture.—Studies in the manufacture of clay products, especially the utilization of raw materials found in the Pacific Northwest. Prerequisite, graduate standing. Hours and credits to be arranged. Wilson

IV. MINING AND METALLURGICAL RESEARCH

THE TECHNICAL STAFF OF THE UNITED STATES BUREAU OF MINES SEATTLE EXPERIMENT STATION IN CO-OPERATION WITH THE INSTRUCTORS IN THE COLLEGE OF MINES

Class work will be directed by members of the instructional staff of the University. The research work is under the joint direction of the United States Bureau of Mines and the College of Mines. The subjects of research relate to the mining and metallurgical industries of the state and adjacent regions.

During the coming year investigations are contemplated in the following subjects:

1. The preparation and utilization of coal.
2. Ceramics.
3. Electrometallurgy.

MUSIC

Meany Hall

PROFESSOR GLEN; ASSISTANT PROFESSORS WOOD, ROSEN, VERNINO, DICKET; INSTRUCTORS VAN OGLE, FRENCH, ADAMS, KIRCHNER; ASSISTANT FERRYMAN

1-2-3. Music Appreciation.—This course is planned to aid not only music students but also all interested in music to become intelligent and discriminating listeners. Musical masterpieces, both instrumental and vocal, of different periods and forms, will be presented and discussed. Two credits per quarter; autumn, winter, spring. Van Ogle, French

4-5-6. History of Music.—The progress of musical development from the primitive period to the modern. Two credits per quarter; autumn, winter, spring. Glen, French
7-8-9. Sight Singing.—For prospective grade supervisors and for music students. Two sections — one for beginners and the other for students who have had some experience in sight singing. Two credits per quarter; autumn, winter, spring. Dickey, Wilson

*10-11-12. Choral Study.—The university chorus provides the opportunity, for those qualified, to study the more serious as well as the lighter forms of choral composition. Candidates must satisfy the director as to the extent of their musical ability. One credit; autumn or winter. Glen

14-15-16. Ear Training and Melody Writing.—Principles of melodic invention and training in hearing accurately; study in notation. Two credits per quarter; autumn, winter, spring. Dickey, Wilson

14D. Ear Training.—An intensive course for qualified students. Equivalent to courses 14-15-16. Five credits per quarter; autumn. French

17. Choral Study.—Part songs for men's voices. Candidates admitted only upon examination. Two credits; autumn. Glen

31-32-33. Applied Music (Freshman)
118-119-120. Applied Music (Junior).

Students of other colleges and schools may earn one or two credits per quarter in the applied music courses. Students of the College of Fine Arts carry a larger number of credits—one and one-half to three—as indicated in the set courses. Students enrolled in these courses will be given opportunity, upon demonstration of the required ability, to participate in the public recitals of the department.

Unless excused by reason of advanced standing upon entrance, students who major in courses in applied music will require two lessons a week, ordinarily, in order to cover the work necessary for a degree. One to three credits per quarter.

Piano—Venino, Van Ogle, Ferryman
Violin—Rosen
Voice—Glen, ————
Violoncello—Kirchner
Pipe Organ—Wood

19-20-21. University Orchestra.—The University orchestra affords to qualified students an unusual opportunity for the

*Only those who have successfully completed the work in course 11 will be eligible for registration in course 12.
study of the better grades of orchestral composition. No one is eligible to enter the course unless the director is satisfied of the ability of the applicant. One credit per quarter; autumn, winter, spring.

22-23-24. *University Band.*—Competent players of band instruments are admitted to the band upon consent of the bandmaster. Two credits per quarter; autumn, winter, spring.

25-26-27. *Chamber Music.*—Advanced study of the musical literature for string trios, quartets and quintets. One credit per quarter; autumn, winter, spring.

28-29-30. *Ensemble Singing.*—A choral course for women. Only advanced students will be admitted. One credit per quarter; autumn, winter, spring.

34-35-36. *Voice Training.*—A course presenting the principles of correct breathing and tone production essential to good singing. Two credits per quarter; autumn, winter, spring.

51-52-53. *Harmony.*—Ear training, analysis, and keyboard practice. Prerequisite, courses 7-8-9 and 14-15-16. Three credits per quarter; autumn, winter, spring. Wood, French

51D-52D. *Harmony.*—An intensive course for qualified students. Equivalent to courses 51-52-53. Five credits per quarter; winter and spring.

54-55-56. *School Music.*—A course for supervisors. Two credits per quarter; autumn, winter, spring. Dickey

101-102-103. *Advanced Harmony.*—Prerequisite, courses 51-52-53. Three credits per quarter; autumn, winter, spring. Wood

104-105-106. *History of Music, Advanced.*—A detailed study of important periods and composers of modern music. Two credits per quarter; autumn, winter, spring. Van Ogle

107-108-109. *Counterpoint.*—Prerequisite, courses 51-52-53. Two credits per quarter; autumn, winter, spring. Wood

110-111-112. *Instrumental Form.*—Analysis of many examples and simple exercises in composition. Prerequisite, courses 51-52-53. Two credits per quarter; autumn, winter, spring. Wood

113-114-115. *Music Education.*—Psychological and pedagogical principles and their application to the teaching of music. Two credits per quarter autumn, winter, spring. Dickey

151-152-153. *Musical Appreciation.*—An appreciative study of some modern composers and schools. Two credits per quarter; autumn, winter, spring. Van Ogle
154-155-156. Music Education and Supervision.—This course is for seniors and students of experience. High school, normal school and institute music. Two credits per quarter, autumn, winter, spring. Dickey

157-158-159. Free Composition.—Choral work, piano accompaniment idioms, vocal and instrumental solos and pieces in the smaller forms. Prerequisite, courses 101-102-103. Two credits per quarter; autumn, winter, spring. Wood

160-161-162. Polyphonic Forms.—Free counterpoint applied to the invention, canon, fugue, etc. Analysis and composition. Prerequisite, courses 107-108-109. Two credits per quarter, autumn, winter, spring. Wood

College Courses in Applied Music

The courses outlined are not arbitrary. They indicate the amount and character of the work that the student is expected to cover for his musical degree. Credit will be given for equivalent courses pursued elsewhere prior to entering the University.

Students not wishing to offer work in applied music as a major, may receive credit for applied music work done under the supervision of others than the instructional staff of the department, upon satisfying departmental and University requirements by examination. Approved equivalents of applied music courses in piano, voice, and violin may also be credited.

Piano

Freshman and Sophomore Years.—Major and minor scales and arpeggios; studies selected from Czerny, Cramer, Loeschorn, Kullak, Hiller and Krause; sonatos by Scarlatti, Haydn, Clementi, Mozart and Beethoven; shorter compositions and inventions by Bach; and works from the classic and romantic schools.

Junior and Senior Years.—Scales in thirds, sixths and tenths; studies by Czerny, Clementi, Chopin, Brahms, MacDowell and Moszkowski; Well-tempered Clavichord and suites by Bach; sonatos, pieces including at least one concerto, taken from the classic, romantic or modern composers. At least one recital program must be played from memory from the repertoire studied.

Vocal Music

The course in vocal music is even more flexible than that outlined for piano study. The purpose is to develop the voice and musical understanding so that the best in vocal music may be faithfully interpreted. The fact of having studied vocal music for four years will not necessarily entitle a student to graduation.
Freshman.—Practical work in voice placing, breathing studies, from among the following: Concone, Op. 9; Marchesi, Op. 1; Panofka, Op. 85; Vaccai, Book I; simple Italian and English songs.

Sophomore.—Progressive tone work; Bordogni, Concone, Marchesi, Panofka, simple Italian arias, Italian and English songs.

Junior.—Tone work; advanced technique. Arias from Italian, French and German operas. German song classics; modern French and English songs.

Senior.—Tone work and technique. Repertoire in opera and oratorio; recitals; senior program.

VIOLIN


Sophomore.—Scales, Hrimly; Studies, Blumenstengel Op. 33, Mazas, Books I and II; Concerto, Accoly; Scene de Ballet, De Beriot.

Junior.—Scales, Book II, Baillot; Exercises, Books I and II, Schraedieck; Etudes, Kreutzer, Fiorillo, Rode, Rovelli; Concerto, 9 and 7, De Beriot; Concerto, 2 and 8, Spohr, also one sonata by Handel.

Senior.—Scales, Rosen; Etudes, Dancla; Op. 73, Gavini; Op. 35, Dont; Sonata for violin alone, Bach; Concerto, Bruch, Mendelssohn, D-Minor, Wieniaski and No. 4 Vieuxtemps.

In the last semester the student is obliged to memorize one sonata by Bach for violin alone and one of the concertos given in the fourth year.

FEES

Since most of the work in the courses in applied music must necessarily be of the character of individual instruction, the student will be required to pay tuition fees for this work in addition to the general University tuition fee.

All fees are payable in advance to the Comptroller of the University. The following quotations of regular fees are based on one lesson per week. More than one lesson per week will be charged for at the same rate. All lessons are one-half hour in length.

Piano.—Mr. Venino, $22 per quarter; Mrs. Van Ogle, $22 per quarter; Miss Ferryman, $15 per quarter.

Vocal Music.—$22 per quarter.

Dean Glen will give individual instruction in singing and repertoire to a maximum number of ten students. The fee will be at the rate of $27 per quarter for one lesson weekly.

Violin.—Mr. Rosen, $22 per quarter.

Pipe Organ.—Mr. Wood, $22 per quarter.
Band and Orchestra Instruments.—Mr. Adams, $12 per quarter.

Arrangements may be made for individual instruction in other musical courses if necessary or desirable.

Piano for practice may be rented at the music department at the following rates:

One hour daily, $3 per quarter.
Two hours daily, $5 per quarter.
Pipe Organ for practice; one hour daily, $12.50 per quarter.

All rental charges must be paid in advance. No rebate in these charges will be allowed. Lessons lost through enforced absence may not be made up unless the teacher in charge has been previously notified of the intended absence and is willing to accept the excuse for the absence.

NURSING

ASSISTANT PROFESSOR BARTLETT

1. Nursing as a Profession.—An informational course dealing with the traditions and development of nursing, the newer branches of public health work, and the opportunities for college women in the nursing profession. Prerequisite, none. Open to any women student in the University. Two credits; winter, spring.

2. History and Ethics of Nursing.—A historical study of nursing from earliest times. Emphasis is given to the Nightingale period and modern schools of nursing. Ethics of the nurse in hospital and social work. Prerequisite, none. Three credits; winter, spring.

3. Home Care of the Sick.—A practical course for women students. Instruction given in baths and bed making, care of patients ill with common contagious diseases, care of chronics, invalids and babies. Prerequisite, none. Two credits; autumn, winter, spring.

4. Principles of Public Health Nursing.—Lectures on social and nursing technique in public health nursing. Discussion and observation of infant welfare, school, industrial, tuberculosis, and general visiting nursing. Theoretical and practical work required. Prerequisite, graduate registered nurse. Three credits; autumn, winter.

5. Administration of Public Health Nursing.—Course deals with the organization and administration of societies organized for visiting nursing, methods of collecting funds, boards of directors, and various committees of these associations, office equipment, records, vital statistics, and supervision of staff nurses will be dealt with. Prerequisite: Open to public health nurses who have had one year of public health nursing. Three credits; winter, spring.
The requirement of one year's work in ancient languages and literature may be satisfied by courses 50, 51 and 52. Courses 1, 2 and 3 count for credits in the department of history; courses 40, 41 and 42 in the College of Business Administration; and courses 114, 115 and 116 in the department of philosophy. Courses above 100 are for juniors, seniors and graduates.

1. History of China I.—History of China from the earliest times to the Manchu Conquest. Three credits; autumn. Gowen

2. History of China II.—History of China from the Manchu Conquest to the present day. Three credits; winter. Gowen

3. History of Japan.—Japan from the earliest times to the present. Three credits; spring. Gowen

30-31-32. Semitic Literature.—A study of the literature of the Old Testament. Continuous through the three quarters, but each course independent and self-contained. One credit per quarter; autumn, winter, spring. Gowen

40-41-42. Oriental Institutions.—Japan, Russia, and China.—The physical geography, social character and commercial resources of the Orient. Two credits per quarter; autumn, winter, spring. Gowen

50. Literature of India—Five credits; autumn. Gowen

51. Literature of Egypt and Babylonia.—Five credits; winter. Gowen

52. Literature of Arabia and Persia.—Five credits; spring. Gowen

100-101-102. Hebrew or Arabic.—The giving of these courses depends upon registration. Five credits per quarter; autumn, winter, spring. Gowen

104-105-106.—Sanscrit.—The giving of these courses depends upon registration. Five credits per quarter; autumn, winter, spring. Gowen

1-2. Theoretical and Manufacturing Pharmacy.—The study of the principles of pharmacopoeial operations, and the manufacture of Pharmacopoeial and National Formulary preparations. Three lectures and two laboratory periods per week. Pharmacy 1 is repeated in the winter quarter. Pharmacy 2 is repeated in the spring quarter. Laboratory deposits, $5 per quarter. Five credits per quarter; autumn, winter. Goodrich

3. Commercial Pharmacy.—A lecture course covering the commercial problems of the practical pharmacist. Two credits; spring. Mr. Osseward

4. Materia Medica.—A study of crude drugs, their source, methods of collecting and preserving, identification, active constituents and adulterations. Five credits; spring. Linton, Goodrich

5-6-7. Drug Assaying.—Experiments in gravimetric and volumetric analysis are given with the idea of training the students in the fundamental principles of quantitative chemistry, and at the same time making them familiar with the analysis of substances of pharmaceutical importance. Two recitations and three laboratory periods per week in autumn and winter quarters; one recitation and one laboratory period per week in spring quarter. Laboratory deposit, $5 per quarter. Five credits; autumn and winter. Three credits; spring. Goodrich

8. U. S. Pharmacopoeia and National Formulary.—A study of the methods and the chemistry involved in Pharmacopoeial and National Formulary preparations. Two credits; winter. Linton

9-10-11. Prescriptions.—Special attention will be given to incompatibilities and to the more important of the "new remedies." The students are required to criticise and compound approximately two hundred difficult prescriptions. One recitation and one laboratory period per week. Laboratory deposit, $2.50 per quarter. Two credits. Linton. Goodrich

12-13. Pharmacology and Therapeutics.—The actions and uses of chemicals, drugs and their preparations on the human organism in health and disease. Three credits, autumn; two credits, winter.

14. Toxicology.—The action of poisons, methods of treatment in cases of poisoning, and methods of identification and separation of poisons from tissue. Two credits; spring.
16. Field Materia Medica.—A study of the native medicinal plants of Washington and also of plants under cultivation in the drug garden. One laboratory period per week, consisting largely of work in the drug garden and field trips. Laboratory deposit, $1. One credit; spring.

Linton

16. Food Laws.—National, state and foreign food laws. For students in the department of fisheries. One credit; winter.

Johnson

87-88-89. Organic Chemistry.—A study of the principles of organic chemistry. Organic compounds of importance in pharmacy and medicine will be given special attention. Laboratory deposit, $5 per quarter.

Johnson

108. Food Analysis.—For students in the Department of Home Economics. Two lectures and two laboratory periods per week. Laboratory deposit, $5. Four credits; spring.

Johnson

105-106-107. Chemistry and Analysis of Food.—Methods of analysis of food products and the study of federal and state laws regulating the sale of foods and drug products. Methods of the Association of Official Agricultural Chemists are used. Graduate students, if prepared, may elect a research problem in food analysis. Laboratory deposit, $5 per quarter. Five credits per quarter; autumn, winter, spring.

Johnson

109-110-111. Toxicology.—A laboratory course in the separation, identification and estimation of inorganic and organic poisons and in the analysis of alkaloids. Laboratory deposit according to credit. Credit to be arranged; autumn, winter, spring.

Johnson

113-114-115. Advanced Prescriptions.—Extensive practice in difficult and incompatible prescriptions; also a study of special problems. Laboratory deposit according to credit. Credit to be arranged; autumn, winter and spring.

Linton

117-118-119. Current Problems.—A lecture and recitation course on current problems of scientific importance. Credit to be arranged; autumn, winter. spring.

Linton

121-122-123. Manufacturing Pharmacy.—An advanced course in pharmaceutical manufacturing, including the manufacture of some of the more difficult of the Pharmacopoeial and National Formulary preparations, as well as a number of organic and inorganic compounds used in pharmacy and medicine. Laboratory deposit according to credit. Credit to be arranged; autumn, winter, spring.

Linton

201-202-203. Investigation.—Senior and graduate students may undertake some original investigation in pharmacy, pharmaceutical chemistry or chemistry of foods under the direction of one of the instructors. Laboratory deposit according to credit. Credit to be arranged; autumn, winter, spring.
The Liberal Arts requirements are a total of ten credits in the departments of philosophy and psychology. The College of Science requirements are five credits in philosophy. These requirements may be satisfied from the following courses: Philosophy 1, 2, 3, 5. (None of these has any prerequisites).

Philosophy 1 and 2 are required of juniors in the College of Business Administration.

Philosophy 1, 2, and 5 are suited to arts-law students.

Psychology 1 is required of majors in philosophy.

1. *Introduction to Philosophy.*—Five credits; autumn, winter, or spring. Savery, Ducasse, Blake, Phillips

2. *Introduction to Social Ethics.*—Social ideals and problems, with special emphasis upon the opposition of democracy and aristocracy in government, industry, law, education, art, and religion. Five credits; winter. Savery, Phillips

3. *Introduction to Ethics.*—Ethical principles and their application to the problems of life. Five credits; spring. Blake, Phillips

4. *Introduction to Logic.*—The conditions of clear statement, adequate evidence, and valid reasoning, and their establishment in the mental processes of the student. Five credits; winter. Ducasse

101-102-103. *History of Philosophy.*—Ancient, medieval and modern. Prerequisite, Philosophy 1. Three credits per quarter; autumn, winter, spring. Blake

104-105-106. *Philosophy of Nature.*—A course in metaphysics, with special reference to the concepts and principles of science. For advanced students in philosophy or in the physical or biological sciences. Three credits per quarter; autumn, winter, spring.

Savery

*107-108-109. Philosophy of Science.* Savery

*113. Philosophy of Religion.* Savery


* Not offered in 1920-1921.
123. Philosophy in English Literature of the Nineteenth Century.—From Wordsworth to Shaw, Wells and Chesterton, and including Emerson, Whitman and Masters. Alternates with course 126 as requirement for seniors in the Library School.) Prerequisite, course 1. Five credits; spring. Savery

*126. Philosophy in Contemporary Drama.—(English 187.) Benham

129. Esthetics.—The origin and motives of art and the aesthetic principles of the different forms of art. Five credits; spring. Ducasse

133. Ethical Theory.—An advanced course in the fundamental concepts and principles of ethics. Prerequisite, course 2 or 3. Two credits; spring. Savery

141-142-143. Contemporary Philosophy.—Readings from authors representing the main tendencies in contemporary philosophy. Two credits per quarter; autumn, winter, spring. Blake

144-145-146. Hume and Kant.—A critical study. Open to students upon approval of instructor. Two or three credits per quarter; autumn, winter, spring. Ducasse

PHYSICAL EDUCATION AND HYGIENE

Gymnasium

UNIVERSITY HEALTH OFFICE, PROFESSOR HALL. PHYSICAL EDUCATION FOR MEN: ASSISTANT PROFESSOR ARBUTHNOT, ASSISTANT ————. PHYSICAL EDUCATION FOR WOMEN: ASSISTANT PROFESSORS GROSS, AMERY; LECTURER IRWIN; INSTRUCTORS LEMON, ————; ASSOCIATE BLOOM; ASSISTANT MACKINNON.

Requirements for Graduation.—All students, both men and women, are required to take a prescribed amount of directed physical training and hygiene or military science tactics.

Military Training.—Requirements in military science and tactics take precedence over the requirements in physical education. (See Military Science and Tactics.)

Physical Examination.—Upon entering college each student is given a physical examination. On the basis of their examination students are segregated into three divisions: A, B, and C.

Courses for Men

All able bodied men shall satisfy all requirements in this department with two years of military science and tactics. Students exempt from military training for any reason must take the same number of hours in physical training.

* Not offered in 1920-1921.
DEPARTMENTS OF INSTRUCTION

1-2-3. Calisthenics and Gymnasium.—Introductory courses for freshmen. Two credits per quarter; autumn, winter, spring.

4-5-6. Hygiene.—Required of all first year men. Credits included in first year's work in both physical education and military science and tactics.

11-12-13. Gymnasium Tactics.—Two credits; autumn, winter, spring.

13. Play-ground Supervision.—Two credits; spring. Arbuthnot

16-17-18. Intramural Sports and Games.—For freshmen. Two credits per quarter; autumn, winter, spring.

51-52-53. Calisthenics and Gymnastics.—For sophomores. Two credits per quarter; autumn, winter, spring.

57-58-59. Intramural Sports and Games.—For sophomores. Two credits per quarter; autumn, winter, spring.

61a-61b-61c-61d. Boxing, Wrestling, Fencing, Swimming.—Taught to large classes for physical development. Two credits per quarter; autumn, winter, spring.


71-72-73. History of Athletics.—One credit; autumn, winter, spring.

101-102-103. Advanced Gymnastics and Calisthenics.—For juniors. Two credits per quarter; autumn, winter, spring.

107-108-109. Intramural Sports and Athletics.—Small group leadership. For juniors. Two credits per quarter; autumn, winter, spring.

151-152-153. Class Leadership Calisthenics and Gymnastics—For seniors or graduates. Two credits per quarter; autumn, winter, spring.

COURSES FOR WOMEN

There are two kinds of classes in this department.

a—Those required of freshmen and sophomore students. All women, during the first two years of college attendance are required to participate two hours a week in some form of healthful exercise. The kind of exercise is determined by the medical and physical examination, and the amount of physical education the student has had in accredited high schools. The course in Personal Hygiene is required of freshmen; the course in Nutrition and Food is required of sophomores. Twelve credits, six in healthful and re-
creational exercise, three in Hygiene and three in Nutrition and Food, are required for graduation.

b—Those leading to a major in physical education in the College of Science.

Teachers well trained in all phases of physical education are in demand, the most frequent calls being for school supervisors and recreation leaders. For those especially interested in corrective and remedial gymnastics, an advanced course in the senior year is offered.

Intramural Athletics.—Intramural contests, under the supervision and control of the department, are conducted in the following sports: baseball, hockey, tennis, basketball, archery, field events and volley ball. The Women's Athletic Association co-operates with the department in the conduct of these activities. All students are urged to come out for at least one sport.

Uniforms.—A uniform, consisting of serge tunic, white blouse and black gymnasium shoes is required of all students, and may be purchased at the University Book Store. Because of change of style beginning September, 1920, students should consult the department before purchasing suit. The fee (dependent upon market price) will be approximately $13.50. No part of the uniform should be purchased before entering college.

Courses.—Courses 1-2-3 and 7-8-9 are open to freshmen who have had less than two years of physical education. Hygiene is required of all freshmen. Courses 10-11 are open to freshmen who have had two years or more of physical education. Courses 51 to 99 are open to sophomores. Course 54-55-56, Food and Nutrition, is required of all sophomores. Courses 100 to 200 are open to major students; these courses carry academic credit.

1-2-3. Healthful Activities.—A general course, includes gymnastics, dancing, athletics. For students who have had less than two years in high school, two hours practice a week. One credit per quarter; autumn, winter, spring. Gross, Lemon, Mackinnon

4-5-6. Hygiene.—One hour of lecture. One credit per quarter; autumn, winter, spring. Irwin

7-8-9. Corrective Gymnastics.—Two hours of practice. One credit per quarter; autumn, winter, spring. Bloom

10-11. Healthful Activities.—Gymnastics, dancing, and athletics. Open to freshmen who have had at least two years' physical education in high school. Students upon completion of courses 10 and 11 are eligible to sophomore athletic classes; autumn, winter quarters. Gross

13-14-15. Limited Healthful Activities.—Light gymnastics, the less strenuous games and athletic activities, the lightest forms
of dancing. Open, upon the recommendation of the examining physician, to students for whom the regular classes are too strenuous. Two hours per week. One credit per quarter; autumn, winter, spring.  
MacKinnon

51-52-53. **Gymnastics.**—Second year women. Two hours per week. One credit per quarter; autumn, winter, spring.  
Lemon

54-55-56. **Food and Nutrition.**—Required of second year women. Students majoring in home economics will substitute Bact 103, Public Hygiene. One hour lecture. One credit per quarter; autumn, winter, spring.  
Amery

57-58-59. **Corrective Gymnastics.**—Two hours of practice. One credit per quarter; autumn, winter, spring.  
Bloom

61-62-63. **Dancing.**—Two hours of practice. One credit per quarter; autumn, winter, spring.  
Lemon

64-66. **Hockey.**—Two hours of practice. One credit; autumn, winter, spring.  
Mackinnon

65. **Basketball.**—Two hours of practice. One credit; winter.  
Mackinnon

67-69. **Tennis.**—Two hours of practice. One credit; autumn, spring.  

71-72. **Volley Ball.**—Two hours practice. One credit; winter, spring.  
Gross

73-75. **Archery.**—Two hours practice. One credit; autumn, spring.  
Lemon

78. **Field Events.**—Two hours practice per quarter. Discus, javelin, relays, dashes. Spring.  
Gross

81. **Baseball.**—Two hours practice. One credit; winter, spring.  

82-83-84. **Limited Healthful Activities.**—A continuation of courses 13-14-15. For students for whom regular work is too strenuous. Two hours practice. Autumn, winter, spring.  

94-95-96. **Dancing.**—Two hours of practice. Prerequisite, courses 61-62-63. One credit; autumn, winter, spring.  
Lemon

97-98-99. **Advanced Gymnastics.**—Two hours of practice. Prerequisite, courses 51-52-53. One credit; autumn, winter, spring.  
Lemon

101-102-103. **Methods of Gymnastics.**—Drill in gymnastic floor work. Gymnastic terminology and survey and classification of gymnastic material. Principles and technique and teaching. Prerequisites, or accompanying courses, Anatomy 101-102 and Physiology 54-55. One hour lecture and two hours practice per week. Two credits per quarter for a year.  
Lemon

122-123.—Kinesiology. Required of majors. Lectures and recitations on the science of joint movement, muscular action, gravity, inertia and resistance applied to gymnastic movements. Prerequisites, Anatomy 101-102 and Physiology 54-55. Two credits; winter, spring.

104-105-106, Methods of Folk Dancing.—Dances of the nations arranged for teaching in the public schools. Fundamental steps, methods of teaching, relation of music to dancing, costuming, school festivals, etc. Open to students majoring in physical education. Prerequisite, 1 year of dancing or course 111-112-113. One hour lecture and two hours practical work per week. Two credits per quarter for a year.

109. History of Physical Education.—Purpose of course is to trace history of physical education as a science, to familiarize students with the literature bearing on physical education. Emphasis on health movement. Lectures and assigned reading. One credit for one quarter; autumn.

131-132-133. Corrective Gymnastic Theory.—Deviations from the normal, remedial gymnastics and application of exercises for correction. Prerequisites, Anatomy 101-102 and Physiology 54-55. Two lectures per week. Two credits per quarter for a year. Bloom

134-135-136. Corrective Gymnastic Practice.—Four hours clinical practice under supervision, in applying methods taught in courses 131-132-133. Two credits per quarter for a year. Bloom


154-155-156. Methods of Dancing.—Prerequisite, course 104-105-106. Technique of natural dancing, based on natural movements. Composing of dancing. One hour lecture and two hour practice. Two credits per quarter for a year.

161. Normal Diagnosis and First Aid.—Treatment of the normal and deviations from the normal. Prerequisite, Anatomy 101-102 and Physiology 54-55. Two credits; spring.
162. Anthropometry.—Standards of efficiency in measurements. Two credits for autumn quarter. Lemon

164-165-166. Theory and Practice of Physical Education.—Study of curricula for grades and high schools. Value of various types of activities. Methods in health instruction. Prerequisites, courses 101-102-103, and 104-105-106. Two credits per quarter; autumn, winter, spring. Gross

167-168-169. Athletic Coaching.—Methods in coaching. Hockey, baseball, volley ball, tennis, archery, field events, basketball. Prerequisites, Psychology 1, and knowledge of and participation in the above named athletics. Open only to students majoring in physical education. One hour lecture and three hours practice. Two credits; autumn, winter, spring. Gross, Lemon, Mackinnon

170-171-172. Advanced Athletic Coaching.—Students will take charge of classes in sports. Prerequisite, course 167-168-169. Two hours of practice. One credit; autumn, winter, spring. Gross, Lemon, Mackinnon

*173-174-175. Swimming.

176-177-178. Advanced Corrective Gymnastics.—An advanced course in corrective and remedial gymnastics, including study and treatment of diseased, undeveloped and deformed children. Clinical practice. Prerequisite, courses 131-132-133 and 134-125-136. One hour lecture and two hours of practice. Two credits; autumn, winter and spring. Bloom

PHYSICS

Denny Hall

Professor Osborn; Associate Professor Brackel; Assistant
Professor Anderson; Assistants Utterbach, Higgs

1, 2. General Physics.—Course 1, 2 will satisfy the physical science requirement in the Colleges of Liberal Arts and Science. Prerequisite, high school physics. Five credits per quarter; autumn, winter Osborn

3. General Electricity.—Course 3 is required of physics majors, and of mathematics majors taking physics as a minor, and also for pre-medical students. Prerequisite, course 1, 2. Five credits; spring. Osborn

47-48-49. Elementary Physics.—For students without high school physics these courses will satisfy the entrance condition in physics or the physical science requirement in the Colleges of Liberal Arts and Science. Five credits per quarter; autumn, winter, spring. Utterbach

50-51. Sound and Music.—For students in the College of Fine Arts only. Five credits per quarter; winter, spring. Anderson

*Not offered in 1920-1921.
89-90. Physics of the Home.—For students in home economics. These courses will also satisfy for women the physical science requirement in the College of Liberal Arts. Five credits per quarter; autumn, winter.

Osborn

92-93. General Physics.—For students in forestry and pharmacy. Prerequisite, high school physics. Five credits per quarter; winter, spring.

Brakel

97. Physics for Engineers.—Prerequisite, high school physics and fifteen hours of college mathematics. Five credits; autumn, winter, spring.

98. Physics for Engineers.—Prerequisite, course 97. Three class and two three-hour laboratory periods. Five credits; autumn, winter, spring.

Brakel

99. Physics for Engineers.—Prerequisite, course 97. Five credits; autumn, spring.

101. Mechanics.—Prerequisite, courses 1-2 or 47, 48, 49 and trigonometry. The laboratory work may be omitted by non-majors. Five credits; autumn.

Anderson

102. Heat.—Prerequisite, courses 1-2 or 47, 48 and trigonometry. Five credits; autumn.

103. Light.—Prerequisite, courses 1-2, and ten hours of college mathematics. Five credits; spring.

Osborn

104. Vibratory Motion and Sound.—Prerequisites, courses 1-2, and calculus.

Osborn

113. Acoustics and Illumination.—For junior or senior students in architecture. Prerequisite, courses 1-2. Four credits; spring.

114. Electrical Measurements.—Prerequisite, courses 97, 98, 99. Three credits; autumn, winter, spring.

Brakel

139. Ballistics.—Three credits; spring.

Anderson

169. Special Problems.—Students admitted after consultation with the instructors. Credit arranged; autumn, winter, spring.

201-202. Dynamics.—Prerequisite, course 101 and calculus. Three credits per quarter; autumn, winter.

Anderson

203. Theoretical Electricity and Magnetism.—Prerequisites, graduate standing and calculus. Five credits; winter.

Brakel

209. Electron Theory.—The important researches leading to the electron theory are presented and its applications in explaining the varied phenomena of physics and chemistry are considered. Prerequisite, course 1, 2, 3, and senior standing. Three credits; winter.

Anderson

Nota—For graduate students other courses will be given as the demands warrant.
The work in the department of political science is designed to give a scientific account of the activities of the state and of the functioning of the electorate and legislative bodies in determining state action. Some of the courses are planned to give that knowledge of public affairs which ought to be a part of a liberal education, while others lead to the special study and investigation of problems and methods in the different branches of the government. The aim is to train the powers of observation and reasoning, to develop correct methods of research, and to supply the knowledge gained to the solution of practical problems.

1. Elements of Government.—An introductory course in which special attention is given to the citizen's part in government. Five credits; autumn, winter, or spring.

10. American Government.—A general study of the American system of national government. Prerequisite, course 1. Three credits; winter.


50. Comparative Government.—The constitutional organization of the principal governments of Europe; with emphasis on political parties and current questions. Prerequisite, course 1. Five credits; winter.

*51. Principles of Political Science.—The state; political organization. Prerequisite, course 1. Three credits; winter.

52. Political Parties.—Organization and methods of modern political parties; growth and theory of the party system. Prerequisite, course 1. Three credits; spring.

100. Municipal Government.—Municipal organization and administration in the United States and Europe with some consideration of functions and problems. Prerequisite, eight credits in political science. Five credits; autumn.

102. Municipal Problems.—Problems of city government, with special attention to municipal utilities. Prerequisite, eight credits in political science. Three credits; winter.

*110. International Law.

*111. International Politics.

112. Oriental Politics.—Relations of the European powers and the United States to China and Japan. Prerequisite, eight credits in political science. Three credits; spring.

* Not offered in 1920-1921.
120. **Governmental Functions.**—A study of regulation with reference to individual liberty; the individualistic and the socialistic theory of governmental functions; influence of political democracy on state interference. Open to upper division students who have had eight hours in political science, and to graduates. Three credits; autumn.  

Smith

125. **Public Finance and Taxation.**—Prerequisite, course 1, Econ. 51. Five credits; autumn.  

Laube

126. **Problems in Taxation.**—Advanced problems in taxation, with special reference to the state of Washington. Prerequisite, course 125. Three credits; winter.  

Laube

127. **Municipal Finance.**—Prerequisite, course 125. Three credits; spring.  

Laube

150-151-152. **Reading Course.**—Discussions based on selective readings in political theory. Prerequisites, junior standing and eight credits in political science. Two credits per quarter; autumn, winter and spring.  

Smith

153-154-155. **Political Problems.**—Prerequisite, junior standing and eight credits in political science. Two credits per quarter; autumn, winter, spring.

181-182-183. **Research in Public Finance.**—Two credits per quarter; autumn, winter spring.

201-202-203. **Seminar.**—Graduates; first, second and third quarter.

### PSYCHOLOGY

_Science Hall Attic_

**Professor Smith; Acting Assistant Professor Guthrie; Instructor Wilson; Assistant Miss Wilkinson.**

The Liberal Arts requirements are a total of ten credits in the departments of philosophy and psychology.

The College of Science requirements are five credits in psychology.

For psychology as prerequisite to education, see announcement of department of education.

Majors in psychology may count five hours in Philosophy 1, or in 101-102-103 toward satisfying their major requirement.

1. **General Psychology.**—A survey of the science as a whole. No prerequisites. Three lectures, one discussion section, and one two-hour laboratory a week. Five credits; course repeated every quarter.  

Smith, Guthrie, Wilson

101. **Physiological Psychology.**—Man’s behavior viewed as a result of his neurological mechanism. Students who so desire
DEPARTMENTS OF INSTRUCTION

will be offered an opportunity for individual work in dissection and microscopic study. Prerequisite, Psychology 1. Three credits winter.

106. Experimental Psychology.—Students taking this course receive training in laboratory methods, are made familiar with the more important kinds of psychological apparatus, and perform many of the classical experiments in psychology. Prerequisite course 1. Three credits; spring.

109. Mental Tests.—Training in applying tests for intelligence and for mental analysis. The principles of experimental procedure, methods of measurement, and statistical treatment of results. The course is essential to work in clinical psychology. Prerequisite, course 1. Three credits; spring.

111. History of Psychology.—The origin and development of psychology, beginning with the primitive conceptions of mind, and including a comprehensive view of the sources of scientific psychology. Prerequisite, course 1. Two credits; autumn.

112. Modern Psychological Theory.—A criticism of psychological theories in the light of recent experimental findings. The significance of behaviorism and of the concept of the unconscious in psychology. Prerequisite, course 1. Three credits; spring.

114. Current Psychological Literature.—This course offers each student the opportunity of reading and discussion in the direction of his particular interests, and at the same time makes him familiar with a wide range of subjects treated in recent journals and with the new developments in psychology. Prerequisite, course 1. Two credits; winter.

116. Animal Behavior.—The mind of animals as shown by their behavior under natural conditions and in the laboratory. Prerequisite, course 1. Three credits; autumn.

118. Folk Psychology.—A psychological study of social human nature; language, custom, public opinion, morals, war, family, caste, nationalism, religion. Prerequisite, course 1. Two credits; autumn.

121. Applied Psychology.—Psychology as applied to personal efficiency, vocational guidance and the measurement of vocational fitness, scientific management, the psychology of advertising, legal testimony and the mental states affecting its reliability. The significance of sex and individual differences in practical life. Prerequisite, course 1. Five credits; winter.

124. Psychology of Learning.—The principles of learning and the transfer of training. Prerequisite, course 1. Two credits; spring.
126. Abnormal Psychology.—The explanation of unusual behavior and the influence of the subconscious mind upon conduct. Prerequisite, course 1. Five credits; winter. Guthrie

131. Child Psychology.—A study of mental development from infancy to adult age with the purpose of giving the student a scientific understanding of childhood. Prerequisite, course 1. Three credits; autumn. Wilson

132. Psychology of Exceptional Children.—The nature and cause of mental defects and peculiarities of children, with special reference to methods of diagnosis and to physical pathology. Prerequisite, course 1. Three credits; spring. Smith

151-152-153-154. Undergraduate Research.—Prerequisites, course 1 and 106. Each quarter. Smith, Guthrie, Wilson

201-202-203-204. Graduate Research. Smith, Guthrie, Wilson

Psychology Club.—Open to majors and to others by permission. Fortnightly meetings on Thursday evenings.

PUBLIC SPEAKING

Denny Hall

(See Dramatic Art)

ROMANIC LANGUAGES AND LITERATURE

Denny Hall

PROFESSORS FREE AND OMER; ASSOCIATE PROFESSORS UMPHRY AND PATE; ASSISTANT PROFESSORS RATTI, HELMLINGE, SANTANDER, GOGGIO; INSTRUCTORS WHITELSEY, PILBRICK

Students entering with high school credits in French or Spanish will be admitted to classes upon the basis of one high school semester counting as the equivalent of one university quarter. Exceptional cases will be determined by the head of this department.

Students may not begin French 1 and Spanish 1, (nor Italian 1) during the same quarter, and it is better to have three quarters of one Romanic language before beginning another.

1. FRENCH

Requirements of the Department.—Courses 41, 101, 102, 103, 191, 192, 193 are required of majors and those who wish to be recommended to teach.

1-2-3. Elementary.—As much as possible French will be used in the class room, but one section of the class will be devoted exclusively to those who wish only the ability to translate French. Each of the courses 1, 2, 3, is repeated each quarter. No credits
will be given for course 1 until course 2 has been completed. Five credits per quarter; autumn, winter, spring.

4-5-6. *Reading of Modern Texts.*—One section of the class will be devoted to translation, exclusively, while the other sections will read and be questioned in French. Each of the courses 4, 5, 6, is repeated each quarter. Course 4 may be combined with 7, making a five-hour course. The same is true of 5 and 8, 6 and 9. Prerequisite to course 4 is course 3, or equivalent. Three credits per quarter; autumn, winter, spring.

7-8-9. *Grammar and Composition.*—These courses must be taken by those who intend to major in French, unless they have already done the equivalent in high school. Course 7 may be combined with course 4. The same is true of 8 and 5, 9 and 6. Prerequisite to course 7 is course 3, or equivalent. Two credits per quarter; autumn, winter, spring.

41. *Phonetics.*—This course is intended to furnish the student an opportunity to acquire a reasonably correct pronunciation, and to bring more order out of what seems a mass of exceptions. Prerequisite, course 1. Three credits; repeated each quarter. Frein

101-102-103. *Composition and Conversation.*—With each of these courses is offered (at the same hour, but not on the same days) a course in advanced reading under the same instructor who gives these courses. See courses 104, 105, 106. Prerequisites, courses 6 and 9. Three credits per quarter; autumn, winter, spring.

Patzer, Ratti, Helmlinge, Goggio

104-105-106. *Advanced Reading.*—These courses are planned so that they may be taken with courses 101, 102, 103. Courses 101 and 104, 102 and 105, 103 and 106 may be taken together as five hour courses. The instructor will give occasional talks in French, upon the authors read, the interesting literary, social, and other topics of their day, so as to prepare the student to enter courses given by lectures in French. Prerequisite, course 6. Two credits per quarter; autumn, winter, spring.

Patzer, Ratti, Helmlinge, Goggio

117-118. *Renaissance Literature.*—For description, see Italian 117. Credits may be counted in French, in Italian, or in Spanish. Two credits; autumn, winter.

Goggio

121. *The French Novel.*—Lectures upon the novel with assignments of books to be read and reports made to class. Prerequisite, course 102. Five credits; spring.

Patzer

*124-125-126. The Short Story.*

131. *Lyric Poetry.*—Reading of the best French lyric poetry written from the Renaissance to modern times. Rules of versifica-

*Not offered in 1920-1921.*
tion. An occasional translation into metrical English, carefully written, and read in class. Prerequisite, course 6. Five credits; winter.

141-142-143. The French Drama.—Lectures, in French, upon the French drama from its beginning to modern times. Assignments for outside reading and report to class. The course may be entered at the beginning of any quarter. Prerequisite, course 101, or equivalent. Three credits per quarter; autumn, winter, spring.

Helmlinge

151-152. History of the French Literature of the Nineteenth Century.—Lectures in French, and assignments of reading to be done outside of class. Intended to give an opportunity to hear French spoken connectedly, though slowly. Students may enter at the beginning of either quarter. Prerequisite, courses 6 and 9, or equivalent. Five credits per quarter; autumn, winter.

Frein


191-192-193. Teachers' Course.—Emphasis on the methods of teaching pronunciation and syntax; review of phonetics and syntax, with students conducting the recitations. Prerequisite, courses 41, 101, 102, 103, and at least one of the literary courses. Two credits per quarter; autumn, winter, spring.

Frein

201-202. Middle and Sixteenth Century.—The masterpieces of the fourteenth, fifteenth and sixteenth centuries will be read, and their influence upon later French literature studied. Open to graduates and seniors who have studied French at least four years. Three to five credits; winter, spring.

Frein

223. Old French Readings.—One of the most helpful courses for teachers of French. Open to graduates and seniors who have studied French at least four years. Three to five credits; autumn.

Frein


II. SPANISH

Requirements of the Department.—Courses 191, 192 are required of majors and of all who wish to be recommended as teachers.

1-2-3. Elementary.—No credit will be given for course 1 until course 2 has been completed. Each of the courses 1, 2, 3, is re-

* Not offered in 1920-1921.
peated each quarter. Five credits per quarter; autumn, winter, spring.

4-5-6. Reading of Modern Authors.—Reading some of the best works of the nineteenth century. If desired, courses 4, 5, 6, may be combined with courses 7, 8, 9, making a five-hour course each quarter. Prerequisite to 4 is 3, or equivalent. Three credits per quarter; autumn, winter, spring.

7-8-9. Grammar, Composition, Conversation.—These courses may be combined with courses 4, 5, 6, making a five-hour course. Prerequisite to course 7 is course 3. Course 7 in prerequisite to course 8. Two credits per quarter; autumn, winter, spring.

112. Commercial Spanish.—Commercial terms and business correspondence. Prerequisite, course 9, five credits; autumn; repeated in spring.

115. Outline History of Spanish Literature.—Selected texts collateral reading, lectures. Prerequisite, 6. Three credits; spring.

117-118. Renaissance Literature.—For description see Italian 117, 118.

*121-122-123. The Novel.

*131-132.—Lyrics and Ballads.

141-142-143. Drama.—History of the Spanish drama from its beginning. Assignment of outside reading for which reports are asked. Prerequisite, course 6. Class may be entered either quarter. Five credits per quarter; winter, spring.

181-182. Spanish-American Institutions.—Lectures, in Spanish, upon the institutions, history, and government of Spanish-American republics. Collateral reading and reports. Prerequisites, courses 6, 9. Three credits per quarter; autumn, winter.


191-192. Teachers' Course.—Methods of teaching Spanish; practice teaching; observation; review of linguistic difficulties. Open to major students. Two credits per quarter; autumn, winter.

241-242. Old Spanish.—Reading of Old Spanish texts. Course open only to advanced students. Five credits; winter.

III. ITALIAN

Requirements of the Department.—No student will be allowed to begin Italian and French or Spanish the same year. Upper classmen who have had considerable French or Spanish may elect

*Not offered in 1920-1921.
elementary Italian. Not enough courses are offered to major in Italian.

1-2-3. Elementary.—No credits given in 1, 2, until 3 in complete. Five credits per quarter; autumn, winter, spring. Goggio

117-118. Renaissance Literature of Italy, France and Spain. —This course will be conducted in English. It is intended to give students an opportunity to become acquainted with the Renaissance literature of the principal three Romanic countries. Prerequisite, two years of French or Spanish or one year of Italian. Two credits per quarter; autumn, winter.

Goggio

SCANDINAVIAN LANGUAGE AND LITERATURE

Donny Hall

Professor Vickner

1-2-3. Elementary Swedish.—Grammar and reading; composition and conversation. Course, 1, 2 are so arranged that they may be taken with courses 4, 5, making a five-hour course. Three credits per quarter; autumn, winter, spring. Vickner

4-5. Swedish Reading Course for Beginners.—Reading of easy texts. These courses are supplementary to courses 1, 2, but may also be taken separately by students desiring a reading knowledge of Swedish with a minimum of grammatical study. No previous knowledge of Swedish necessary. Courses 4, 5 are especially adapted to meet the needs of students in the Colleges of Science, Education, Business Administration, and in the Library School. Two credits per quarter; autumn and winter. Vickner

10-11-12. Elementary Norwegian-Danish.—Grammar and reading; composition and conversation. Courses 10, 11 are so arranged that they may be taken with courses 13, 14, making a five-hour course. Three credits per quarter; autumn, winter, spring. Vickner

13-14. Norwegian-Danish Reading Course for Beginners.—Reading of easy texts. These courses are supplementary to courses 10, 11, but may also be taken separately by students desiring a reading knowledge of Norwegian-Danish with a minimum of grammatical study. No previous knowledge of Norwegian-Danish necessary. Courses 13-14 are especially adapted to meet the needs of students in the Colleges of Science, Education, Business Administration and in the Library School. Two credits per quarter; autumn and winter. Vickner

20-21-22. Norwegian-Danish Literature.—Representative authors are read in connection with a survey of the Norwegian-Danish literature. Prerequisite, ability to read easy Norwegian-Danish.

* Not offered in 1920-1921.
Course may be entered at the beginning of any quarter. Two credits per quarter; autumn, winter, spring.

23-24-25. Swedish Literature.—Representative authors are read in connection with a survey of the Swedish literature. Prerequisite, ability to read easy Swedish. Course may be entered at the beginning of any quarter. Two credits per quarter; autumn, winter, spring.

30. Scandinavian Culture and Institutions.—A lecture course dealing with the literature, art, political, social, commercial, and industrial development of Scandinavia. Lectures in English, collateral reading, slides. Especially adapted to meet the needs of students in the College of Business Administration. Knowledge of the Scandinavian languages not necessary. Two credits; autumn; repeated winter and spring.

*31-32-33. Reading Course in Norwegian and Swedish.

103-104-105. Recent Swedish Writers.—Representative writers of the nineteenth and twentieth centuries are read, including Strindberg, Fröding, Selma Lagerlöf. Study of cultural movements and social problems of modern Sweden. Course may be entered at the beginning of any quarter. Two credits per quarter; autumn, winter, spring.

106-107-108. Recent Norwegian-Danish Writers.—Representative writers of the nineteenth and twentieth centuries are read, including Ibsen, Björnson, Kielland, Jacobsen, Drachman. Study of cultural movements and social problems of modern Norway and Denmark. Course may be entered at the beginning of winter or spring quarter. Two credits per quarter; autumn, winter, spring.

109-110-111. Study of Modern Scandinavian Authors in English Translation.—A study of Ibsen, Björnson, Strindberg and Selma Lagerlöf the main feature of the course. A brief survey of Scandinavian culture and literature. Open to all. No knowledge of the Scandinavian languages necessary. Course may be entered at the beginning of winter or spring quarter. One credit per quarter; autumn, winter, spring.

*201-202. Old Norse, Scandinavian and Comparative Philology.

*203. History of the Swedish Language.

205-206. Scandinavian Literature in the Nineteenth Century.—Two credits per quarter; winter and spring.

*207. Scandinavian Lyric Poetry.

209. History of Scandinavian Literature.—Lectures in Scandinavian or English. Some of the masterpieces assigned for outside reading and report. One credit per quarter; spring.

*Not offered in 1920-1921.
180. *Recent Scandinavian Literature in English Translation.*

—The principal writers of recent Scandinavian literature will be read with special attention to literary and social movements and to the interrelation of English and Scandinavian literature. Lectures, reports, and discussion. For advanced students. Two credits; autumn; repeated winter and spring.

**Vickner**

**Sculpture**

_Architecture Buildings_

Mr. Wehn

72-73-74. *Clay Modeling.*—Construction of plaster moulds, elementary construction; modeling in clay and wax. Laboratory deposit, $3. Three credits; autumn, winter, spring.

**Wehn**

**Sociology**

_Commerce Hall_

Professor Woolston; Associate Professor Waterman

Students are advised to postpone work in sociology until lower division requirements in biology, psychology, economics, and political science are completed. For advanced courses in this department, such training is essential.

Course I or its equivalent is prerequisite throughout, and satisfies minimum requirements in this subject. Further work is arranged along three lines: I Anthropology and ethnology, II social problems and methods of reconstruction, III social theory and methods of investigation. For a major in sociology 36 credits are required. Students who intend to specialize as teachers or practical workers in any part of the field are urged to confer with the instructor in charge of their line immediately, in order that proper foundations may be planned. Courses in other departments are important, and may, when approved be credited toward advanced requirements.

Anthropology and Ethnology, see courses 51, 52, 53, 91, 92, 93, 141, 142, 143, 181, 182, 183, 204, 205, 206.


Social Theory and Methods of Investigation, see courses 29, 60, 70, 160, 161, 162, 201, 202, 203.

1. *Introductory Sociology.*—A general survey of the field of social relations, with some discussion of the forces at work, the practical problems presented and the methods of solution suggested. Five credits; autumn, winter, spring.

**Woolston**
29. **Social Statistics.**—Methods and sources of quantitative investigation. Three credits; autumn.

51. **Evolution of Material Culture.**—The origin and evolution of devices, implements, and arts, the stages in industrial history. Three credits; autumn.

52. **Primitive Social Life.**—The social institutions of primitive folk, including various forms of marriage, the family, the clan, totemism, blood-revenge, primitive systems of writing, folkways among savages. Three credits; winter.

53. **Fossil Man.**—Evolution as illustrated in the skeletal remains of early man and his forerunners. Primitive life as shown by prehistoric implements and other remains. Three credits; spring.

55. **Community Organization.**—A study of the principles of community organization, forms of community action, essentials of leadership. Three credits; autumn.

56. **The Family.**—The origin of marriage, the family and its status, the effects of the industrial revolution, and the functions of the modern family; three credits; winter.

57. **Child Welfare.**—A study of the biological, psychological, social, and economic factors bearing on the welfare of children in modern society. Three credits; spring.

60. **Social Psychology.**—The instinctive and psychological side of man, and his adjustment to civilization. Three credits; winter.

61. **The Church as a Social Agency.**—The function of religious congregations in philanthropy and reform. Types of parish and institutional agencies. Three credits; autumn.

62. **Public Recreation.**—Organization of indoor and outdoor amusement; public morality and the use of leisure. Three credits; winter.

63. **Municipal Sociology.**—A study of the social conditions and problems of modern social life in American cities, and a discussion of the various agencies developed to deal with them. Three credits; spring.

70. **History of Sociology.**—The principal contributions to sociological science, from the standpoint of their background. Three credits; spring.

91. **European and Mediterranean Peoples.**—Racial types and languages of the Old World; origins of historical cultures; the background of American immigrants. Three credits; autumn.
92. Asiat ic and Oceanic Peoples.—Racial types of Eastern Asia and the Pacific Islands. Problems of origins and migrations; history of culture. Three credits; winter. Waterman

93. African and Australasian Peoples.—Distribution of negroid types; primitive culture among African, Australian and Papuan peoples, with emphasis upon their art, mythology and social organization. Three credits; spring. Waterman

103. Problems of Maladjustment.—An examination of the biological, psychological, pathological, and economic factors involved in the various types of social maladjustment. Three credits; autumn.

106. American Social Conditions.—An analytical and descriptive study of social conditions in America today and their relation to social progress. Primarily for teachers. Two credits; winter.

129. The Social Survey.—Methods of planning, conducting, and presenting results of investigations of communities and institutions. Three credits; spring.

141. Communication.—Modes of communication from the standpoint of beginnings; gesture, language and the development of writing. Three credits; autumn. Waterman

142. Primitive Religion.—Beginnings of religious observances among primitive peoples; rise of theological systems. Three credits; winter. Waterman

143. Art and Recreation.—Leisure time, activities of the human race; artistic work, games and pastimes; play among primitive peoples. Three credits; spring. Waterman

155. Modern Philanthropy.—Care of dependents and prevention of destitution; discussion of causes of poverty and methods of relief. Three credits; autumn.

156. Criminology.—A study of the social, economic, and heredity causes of crime; various theories and plans of prison reform; the relations of prisons and criminals to society. Three credits; winter.


160. Programs of Social Reform.—A critical examination of individualism, conservation, philanthropy, social justice, liberalism, unionism, the cooperative movement, the single tax, socialism and syndicalism. Three credits; autumn. Woolston

161. Theories of Social Progress.—A discussion of the factors involved in improving society and an estimate of their efficiency. Three credits; winter. Woolston
162. Social Ideals.—A review of the great conceptions of social purpose and destiny. Three credits; spring. Woolston

171-172-173. Methods of Social Service and Field Work.—The purpose of the course is to train students for social work, by enabling them to observe the methods of local organizations and to do practice work under supervision in conjunction with these agencies. Two afternoon a week will be required in the field. Open to mature students who have had work in sociology. Five credits per quarter. Hours to be arranged.

181. The North American Indian.—A study of the Indian and his mode of life; dwellings, warfare, architecture, ceremonies, and art; The problem of cultural relations. Discussions and reports. Three credits; autumn. Waterman

182. The Indians of Mexico and Central America.—The ancient cities of the Aztec and Mayan region. Architecture, writing, calendar systems, ceremonies, government, poetry, and art of the ancient and modern peoples. Discussions and reports. Three credits; winter. Waterman

183. Methods of Ethnology.—Getting information about primitive life as a trade; phonetic symbols for Indian words; recording myths and information on economic and social customs; the study of native languages and dialect. Prerequisite, course 181 or 182. Three credits; spring. Waterman

187-188-189. Case Work.—Interview work with local organizations. Open to students who have had courses 171-172-173. Eight hours field work; one hour conference. Five credits per quarter.

197-198-199. Seminar in Social Economics.—For advanced students majoring in applied sociology. Two credits per quarter. Laboratory deposit, $2. Five credits per quarter; autumn, specializing in this field. Two credits per quarter. Woolston

204-205-206. Seminar in Ethnography.—Two credits; autumn, winter, spring. Waterman

zoology

Science Hall

Professor Kincaid; Assistant Professors B. V. Smith, Fasten

1-2 Elements of Zoology.—A general review of zoological science, stressing the economic and philosophic aspects of the subject. Laboratory deposit, $2. Five credits per quarter; autumn, winter, repeated winter, spring. Kincaid and Assistants

3. Pre-Medical Zoology.—For students entering upon a medical course. Laboratory deposit, $2. Five credits; autumn. Fasten
4. *Vertebrate Zoology.*—The structure of vertebrates, with emphasis on mammalian organization. For students in medicine and physical education. Prerequisite, course 3 or 1. Laboratory deposit, $2. Five credits; winter.

5. *General Embryology.*—The comparative development history of animals, with emphasis on vertebrate forms. For students in medicine, pharmacy and fisheries, but open to others. Prerequisite, course 1-2 or 3-4. Five credits; spring quarter. Fasten

16. *Evolution.*—A series of lectures upon the more important biological problems related to the general theory of evolution. Two credits; autumn.

17. *Eugenics.*—The principles of evolution in their relation to human welfare. Two credits; spring.

51. *Elementary Entomology.*—The structure, classification and economic relations of insects. Prerequisite, course 1-2 or its equivalent. Laboratory deposit, $2. Five credits; spring. Kincaid

101. *Cytology.*—The anatomical, physical and chemical properties of the animal cell with special reference to the problems of development and inheritance. Prerequisite, course 1-2 or 3-4. Laboratory deposit, $2. Five credits; winter. Fasten

103. *Forest Entomology.*—The classification and economic relations of insects injurious to forests. For students in forestry, but open to others. Laboratory deposit, $2. Three credits; winter. Kincaid

106. *Plankton.*—The life of the sea and fresh water in its relation to the food of fishes. For students in fisheries, but open to others. Prerequisite, course 1-2. Laboratory deposit, $2. Five credits; autumn. Kincaid

107. *Parasitology.*—Study of animal parasites. For students in medicine but open to others. Prerequisite, courses 1-2 or 3-4. Laboratory deposit, $2. Five credits; spring. Fasten

108. *Biology of the Sea.*—Distribution, adaptations and interdependence of the several categories of marine organisms. For students in fisheries, but open to others. Prerequisite, course 1-2. Three credits; spring. Kincaid

154. *Advanced Entomology.*—The morphology and ecology of insects, with emphasis on forms of economic importance. Prerequisite, course 51. Laboratory deposit, $2. Five credits; winter.

155-156-157. *Elementary Problems.*—Students will be assigned minor problems which will be worked upon under the direction of one of the instructors in the department. Prerequisite, twenty hours in zoology or physiology. Three credits; autumn, winter, spring. Kincaid, Smith, Fasten
201-202-203. Research.—Students capable of carrying on independent research will be assigned problems to be worked upon under the direction of one of the instructors. Prerequisite, twenty-five hours of zoology or physiology. Credit to be arranged.

Kincaid, Smith, Fasten

PHYSIOLOGY

7. Elementary Physiology.—A general survey of the functions of the human body with special emphasis on metabolism, the nervous and vascular systems. Primarily for pharmacy students. Laboratory deposit, $2. Five credits; autumn.

Smith

8. Elementary Physiology.—A general survey of the structure and functions of the human body. Special emphasis will be placed on the digestive system and metabolism. A course especially designed for students in home economics, but open to others. Laboratory deposit, $2. Five credits; autumn, winter, spring.

Smith

54-55. General Physiology.—Adapted to meet the needs of students expecting to teach the subject in high school. Required of students majoring in physical education; recommended for students majoring in home economics who desire more extended training than is offered in course 7, and for students in sanitary science. Laboratory deposit, $3. Five credits; autumn, winter.

Smith

56. Principles of General Physiology.—The application of the laws of physics and chemistry to physiological problems. Prerequisites, course 55, Chem. 3 and Physics 3. Laboratory deposit $3. Five credits; spring.

Smith

151-152-153. Advanced Physiology.—Designed to meet the needs of students in medicine. Open to others prepared to carry the work. Prerequisites, Zoology 3, Chemistry 3 and Physics 3. Laboratory deposit, $5. Five credits; autumn, winter, spring.

Smith
SUMMER QUARTER
June 22-August 31, 1920

DIRECTOR
FREDERICK E. BOLTON, Ph. D., University of Washington

Facilities—The summer quarter is an integral part of the university year and its courses coordinate with the other quarters. It thus offers special opportunities for teachers and others whose regular work is suspended during the summer months.

By the four-quarter plan regular students will be able to take their vacations during any quarter of the year, or by attending the four quarters each year they may complete their college course in three years. Regular work will be offered in the Colleges of Liberal Arts, Science, Law, Engineering, Education, Fine Arts, Business Administration, the Graduate School, and in the Pre-medical Course. The Puget Sound Biological Station at Friday Harbor maintains a session of six weeks beginning June 21 and ending July 39. The laboratories, libraries and museum are open and the various departments offer both undergraduate and graduate work equal in quality to that maintained during the rest of the year. In most departments three grades of work are offered: (a) courses for beginners in the subject, (b) courses for advanced undergraduates, and (c) courses for graduate students. In a very large number of cases, heads of departments are in charge of the work. In addition to regular members of the faculty several prominent teachers from outside the University give courses.

For whom intended.—In addition to the regular undergraduate work in the various colleges exceptional opportunities are afforded for the following classes of persons:

1. College and university graduates who wish to specialize in some particular field or to work for advanced degrees.

2. Superintendents and principals who wish to acquaint themselves with recent progress in education or to study special problems.

3. High school teachers who wish to advance in their special lines of work.

4. Supervisors and teachers of music, manual training, domestic science, drawing and other special fields of work, who will find many courses suited to their needs.

5. School teachers who wish to work toward college degrees.

6. Directors of gymnasiums and teachers of physical education and playground work. The university campus offers unusual opportunities for playground demonstration, and special emphasis
will be placed on this important phase of education. The city of Seattle and the public school afford splendid objective illustrations of playground and recreation centers.

7. Undergraduates who for some good reason find it desirable to shorten the period of their college course.

8. Recent high school graduates who expect to enter the University in the fall who wish to get in touch with the University before that time. High school pupils find this a very advantageous plan.


10. County superintendents who desire to study problems of rural school organization and social center and community center work.

11. Candidates for certificates who need special courses in education and psychology or other subjects.

12. Persons who are preparing to become specialists in college and normal school positions.

13. Persons who desire practical field work in botany, geology and zoology in a region possessing unique facilities.

14. Students who wish regular courses in law or special courses in law in preparation for teaching the commercial branches.

_Registration._—Registration for the summer quarter will take place on Tuesday, June 22. Students expecting to be in attendance during the last six weeks only may register on or before Wednesday, July 23. Students should go first to Administration Hall, where notices will be posted giving the order of procedure in registration.

Students desiring to be enrolled in any college or school of the University will be assigned by the registrar to the deans of the respective divisions for assistance in making out their election of studies; those not intending, at this time, to become candidates for graduation will be assigned to the director of the summer quarter.

_Admission._—The courses of the summer quarter are open to all persons eligible for admission to the University as either regular, unclassified or special students. As far as possible, all credentials for prospective students and applications for admission as special students should be in the hands of the registrar before the opening of the session.

_Credits._—Students desiring university credit will be required to pass the examinations given during the closing week of each term. A maximum of nine quarter hours of credit may be obtained during each term.
Persons who expect to be candidates for any degree or the normal diploma at the close of the quarter should make application through the registrar on registration at the beginning of the session.

*Fees.*—The regular tuition fee of ten dollars ($10.00) is required of all students, and admits to all the privileges of the summer quarter, except certain laboratory courses and to special music courses requiring individual instruction. See the statements of these courses for the special fees. No reduction of fees will be made because of late registration or early withdrawal. Open lectures are free to all students regularly registered in the summer quarter and also to the public.

*Masters' Degrees Through Summer Quarters.*—At each succeeding summer quarter a larger number of graduate students are in attendance. Last summer more than a third of the whole number of attendants were graduate students. Many were planning definitely to apply their work toward higher degrees. The University will accept 36 credits earned during at least 30 weeks of residence in summer quarters as a fulfilment of the year of required residence, provided the student does work between the sessions under regulations prescribed by the graduate faculty and the departments concerned.

*Correspondence Courses*—The University has established correspondence courses in many departments. These will be of special advantage to students who have been in attendance at summer quarters and who wish to go forward to the bachelor's degree. The correspondence work can be very advantageously planned as a continuation of the regular summer quarter. For detailed information concerning correspondence courses write to the Extension Service.

*Education*—The summer quarter and the College of Education stand in very close relations to each other. Doubtless a large number who plan to secure a degree, or a normal diploma, through the College of Education will accomplish much in summer quarters. The work of the summer quarter being especially arranged for teachers will make it possible to accomplish this.

*Business Administration*—An interesting curricula of business courses are offered in the summer quarter for students who contemplate going into business. These courses will be along lines of business organization, corporation finance, employment management, and kindred subjects. Teachers of commercial subjects will also find subjects of special importance in preparation for their work.

For bulletin of the summer quarter address the Registrar, University of Washington. For other information address Frederick E. Bolton, Director of the Summer Quarter.
Station and Surroundings.—The Puget Sound Biological Station is situated in a sheltered bay near the town of Friday Harbor, the county seat of San Juan County, with a population of approximately 800. It is between Bellingham and Victoria, about 25 miles from the former and about 20 miles from the latter.

San Juan County consists of an archipelago of something like 100 islands, separated by channels cut by glacial action. The northern islands of the county are composed of sandstone, comparatively easily eroded, and wearing into potholes and peculiarly pock­et walls. In the sandstone are occasional beds of fossils, notably on the Sucia Islands. On Waldron Island and the Sucia Islands the sandstone is being cut for paving blocks for city streets.

Some of the islands are partly limestone, notably the north­end of San Juan and the west side of Orcas. The largest lime­works in Washington is at Roche Harbor, at the northwest corner of San Juan Island. However, comparatively little of the shore line of the archipelago is limestone.

Most of the islands are composed of metamorphic rock, which is very resistant to weathering and therefore changes very little. This is one of the reasons for the remarkable wealth of fauna and flora. Here and there are beaches of glacial material, or of sand, or flats of mud. There are no large streams on the islands, and therefore the water is exceptionally free from river detritus. Through the channels between the islands the tides rush at times with a velocity of seven to ten miles an hour, filling and again draining the Gulf of Georgia. This gulf is a body of water roughly 100x20 miles, and the spring tides are about twelve feet. The chan­nels in the Friday Harbor region are the chief points of entrance and escape for this immense volume of water. Thus the rocky points are swept clean from erosion deposits, the water is con­stantly aerated and changed, and a good habitat for water forms insured. Some of the channels are over 100 fathoms deep, thus affording opportunity for the study of forms of life to a consid­erable depth. Those who have been at the station have again and again attested to the abundance of marine life. A 12-foot tide ex­poses a wide beach, and gives excellent opportunity for the study of shore life.
The site of the station is on a steep, rocky hillside, forested with conifers. The land was donated by Mr. Andrew Newhall, and is about a quarter of a mile from the village. A road runs through the grounds to the village. The village contains about a dozen stores, and any ordinary purchases may be made there.

The University of Washington also holds a lease on 485 acres about one mile from the present site, and expects to move there when suitable buildings have been erected.

Building and Equipment.—The zoological laboratory was built in the spring of 1910. It is about 30x60 feet, two stories and attic. The building is just above high tide on a steep shore. Material can therefore be landed from a small floating dock anchored to the pillars of the laboratory itself. On the first floor are laboratory tables and stock room. The attic is a general storeroom and drying loft. A dark room is fitted up for photography. Both fresh and salt water are piped to all parts of the building.

The botanical laboratory was built as a part of the dining hall in the spring of 1913. It has fresh water piped into it, and there is a dark room adjacent.

Compound microscopes are taken up from the University of Washington; some general glassware is supplied. Certain ordinary glassware, containers, and preservatives may be secured at the stock room. It is the aim to have in the stock room the things ordinarily called for. Unusual things cannot be supplied. Those wishing special apparatus should write the Director. Usually the Station hires a shrimp trawler for one month. Rowboats are on hand for general use.

Supply Departments.—A supply department has been established for the purpose of providing material for class use and for investigators at the station; also for supplying museums and schools with zoological and botanical material for their exhibits or classes. A price list will be furnished on application to the Director of the Station. Those who attend the station may have a reasonable amount of material for their own laboratories put up at very nearly cost. This will permit scientists to put their whole time on class work or investigation. Teachers who wish to make small collections for their own use are not discouraged in their endeavors. Those who are looking forward to collecting large quantities of material should first correspond with the station authorities. Scientists are urged to co-operate with the station in its endeavor to earn part of its running expenses through its supply department.

Library.—The library contains about 500 volumes, of which about 160 are bound volumes of reprints. A limited number of books are shipped to the Station every summer from the University.

Lectures.—General lectures by the station staff or by visitors are given as the occasion arises.
Registration.—Experience has shown that it is wise to register for one full course only. Six weeks is a very short time to give to any course, even though one's whole time be put on the work. Advanced students have found it profitable to begin some line of investigation in the same field in which they are carrying a course.

Credit.—Students giving their whole time to the work may earn one semester-credit or one and one-half quarter-credits per week.

Expenses.—For one person for six weeks the cost is about as follows:

- Station fee: $13.00
- Tent, two in a tent: $4.50
- Board (estimate): $30.00 to $36.00
- Books (estimate): $3.00
- Incidentals (estimate): $4.50

Total: $55.00 to $61.00

The station fee of $13 goes toward paying the running expenses of the station. There is no laboratory fee. For persons occupying research rooms the station fee is $50, instead of $13.

The tents are 10x12 feet, on board platforms with three-foot board wall, making the lowest part about five feet. They are rented during the season for $1.50 per week per tent, including bed springs, mattresses, lamp, broom, camp chairs, buckets, wash basins, and drinking cups. During the time before and after the session the rental is $1 per week. Stoves may be rented for $1.50 for the season. Bedclothes and pillows are not furnished, although they may be bought at the village. Persons coming to the station should bring a sufficient supply of bedding for cold nights. The whole lodging system is merely self-supporting over a term of years.

Meals are served in the dining hall at $5 or $6 per week. The service is merely self-supporting over a term of years, and as nearly co-operative as the conditions permit. The dining hall is about 75 feet above the sea level, and commands a splendid view of channels and islands in the foreground, with Mount Baker lifting its ice-covered peak 12,000 feet high in the distance.

For bulletin of the Puget Sound Biological Station address the Registrar, University of Washington. For other information address T. C. Frye, Director of the Puget Sound Biological Station.
UNIVERSITY EXTENSION SERVICE

OFFICERS OF ADMINISTRATION AND INSTRUCTION
HENRY SUZZALLO, Ph. D. (Columbia), LL. D. (California), President of the University.
JOHN THOMAS CONDON, LL. M. (Northwestern), Dean of Faculties.
EDWIN AUGUSTUS START, A. M. (Harvard), Director of the Extension Service.

ADMINISTRATIVE BOARD

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DEAN BOLTON, Education

DEAN MILLER, Business Administration
PROFESSOR RAITT, Home Economics
CONTROLLER CONDON

THE FACULTY

The Extension faculty is composed of members of the general faculty who give extension courses and of the following instructors on the Extension staff:

BARBARA HANKER BARTLETT, B. S. (Columbia), Assistant Professor of Nursing and Public Health.
ALLETTA MARIA GILLETTE, A. B. (Smith), A. M. (Washington), Instructor in English.
JAMES M. MCGRATH, M. A. (Northwestern), C. P. A. Lecturer in Accounting.
WILLIAM B. HENDRICKS, Lecturer in Foreign Trade.
PAUL UMÖFF, Lecturer in Russian Language
FU LIN, Assistant in Chinese.

OFFICE STAFF

MARY C. GRADY, Office Manager.
COHINNE B. BACCOOK, Secretary in charge of Seattle City Office.
MINNIE L. KRAUS, A. B. (Washington), Secretary for Correspondence Study.
HARRIETTE R. BAILLE, Stenographer.
BLANCHE I. BINGHAM, Stenographer.

OFFICES

The General offices of the Extension Service are on the University campus in a small building devoted exclusively to their use. It is the third building on the right from the Fortyeth street entrance.

A city office is maintained in the Henry Building in the heart of the business district of Seattle.

THE EXTENSION SERVICE

The Extension Service of the University of Washington (known as the Extension Division until 1917) was organized in 1912, as an integral part of the University to promote and administer its work outside the campus. There are two distinct branches of this work:

(1) University Teaching by Correspondence and in Classes for those who cannot attend the University; and

(2) General Community Service, through lectures, publications, institutes, and any practicable means.
Extension teaching is primarily for adults and for those who cannot attend the University. Many of the subjects offered may be taken for credit toward a university degree, but this is a secondary object, the primary one being to make university instruction available to as many persons as possible who could not otherwise obtain it.

This teaching is carried on by correspondence, which is available to anyone, anywhere, at any time; and by classes conducted at different places.

Correspondence courses are offered in the departments of astronomy and navigation, botany, classical languages and literature, (Greek, Latin), economics and business administration, education, English, forestry and lumbering, geology, history, home economics, philosophy, physics, political science, psychology, Romanic languages and literature (French, Italian, Spanish), sociology, and zoology.

Class work is offered in Seattle, and in other cities as far as practicable, in many of these departments and in some others. Both lists are subject to change from time to time, as courses are added or withdrawn.

The greater number of the extension courses parallel the resident university work and may be taken by qualified persons for credit toward a university degree. Some are planned to meet vocational and cultural needs of those who have no university degree in view.

Announcements of the Extension Service are usually published in circulars of information, each one covering the work in a certain field. There is one of general information, covering the details necessary to be known by all extension students, and others for English, economics, and business administration, Romanic languages, and other departments or groups of subjects.

In Seattle the Extension Service maintains a city office and downtown classrooms, where a program of classes in various subjects is annually carried on. This schedule during 1919-20 included general economics, accounting (three full year courses), advertising, business correspondence, business law, employment management, foreign trade, water transportation, French, Italian, Spanish, Chinese, and Russian, philosophy, social ethics, psychology, scoutmasters' training (in cooperation with the council of the Boy Scouts), drawing (from life) and design (in cooperation with the Art Students League). The schedule is modified each year according to circumstances.

Extension classes have been conducted in Aberdeen, Bellingham, Everett, Hoquiam, Olympia, Spokane, Tacoma, and Yakima. On account of time and distance it has not been possible to develop this work on the same basis of permanence and regularity as that in Seattle, but as much is done as possible and any real local demand is generally met.
Fees.—Ordinarily fees are charged for all extension courses, correspondence or class. The fees are sufficient to pay the actual cost of instruction and local expense made necessary by doing special work outside of the regular university organization. The University carries all administration, general overhead and development charges. The cost of courses varies according to its length from six to fifteen dollars.

Graduate Medical Lectureship

In 1916 the Extension Service, with the cooperation of the Washington State Medical Society and the King County Medical Society, instituted a Graduate Medical Lectureship. The King County Medical Society annually appoints a committee which works with the representatives of the Extension Service in planning the course. The lectures are held in the early summer, and occupy five days. They are open to graduate physicians and surgeons. A fee is charged and any surplus over the expenses of the year goes into a special fund to be used as a reserve fund for the maintenance of this lectureship, or for the extension of medical education. The lectureship has proved of great value to the physicians and surgeons of the Pacific Northwest, bringing to them each year some of the best thought of the medical education centres of the country.

There was one lecture in 1916. Since then there have been two each year—one in medicine and one in surgery. The lecturers have been:

1916. Dr. Charles L. Mix, Chicago, Northwestern University.
1917. Dr. Martin H. Fischer, University of Cincinnati.
Dr. Allen B. Kanavel, Chicago, Northwestern University.
1918. Omitted on account of the war.
1919. Dr. Charles Lyman Greene, St. Paul.
Dr. Dean Lewis, Chicago.
Dr. Barton Cooke Hirst, Philadelphia, University of Pennsylvania.

Other Extension Services

The University Extension Service arranges for lectures singly and in courses, conducts conferences, and assists when and as far as practicable in community work. These activities are not formally organized and no definite statement can be made in regard to them. The Director of the Extension Service is always ready to consider any request that may be made, provided it comes within the proper functions of the University.

Publications. The Extension Service issues, in addition to its announcements, many publications from time to time. None have been issued since 1916 on account of war conditions and financial stringency. This phase of the extension work will now be resumed but no definite announcement can be made. A list of past publications still available can be obtained from the Extension Service.
DEGREES

DEGREES CONFERRED JUNE 16, 1910

BACHELOR DEGREES

COLLEGE OF LIBERAL ARTS

Bachelor of Arts

Allen, (Mrs.) Lulu Wright
Allison, Weaver Judson
Anderson, Lydia Celia
Barnes, Grace Randolfin
Becker, Gladys Allen
Beckwith, Beatrice Hortense
Benz, Fritz Rudolph
Blair, Anna Clio (cum laude)
Bolster, Helen
Brewster, Helen Gertrude
Brooks, LeRoy Wagar
Bryan, (Mrs.) Lucille Swigart
Caldwell, Elsie Georgiana
Campbell, Ernest William
Carney, William Harvey
Carroll, Joseph Douglas
Cole, Miriam Elizabeth
Collin, Clarence Joseph
Crrippen, Maida
Curver, Evelyn Louise
Dahlin, Elba (magna cum laude)
Deering, Tam
Dillon, Margaret Winans
Dimock, Dorothy
Docheny, Charlotte Fulton
Driscoll, Marie Elizabeth
Elyford, Florence Mae
Foltz, Laura Azalia
Freud, Max
Friese, Lola Eleanor
Greenleaf, Ruth Stetson
Gwinn, Olive (cum laude)
Harris, Olive Mildred
Hawthorne, Rebecca Allison (cum laude)
Hohberger, William
Hunt, Ruth Gertrude
Jackson, Geraldine
Jacobs, Isabel
Jenne, Grace Manetta
Johnston, Rosa
Jones, (Mrs.) Alice Dowell
Jones, Ella Katherine
Kolmich, Abraham Victor
Kortemeyer, Clara Dorothy
Lachman, Dorothy
Larson, Emma Carolyn
Linder, Muriel
Looney, Josephine Monica
Mack, Katherine Louise
McKee, George Meade
McKnight, John Emmett
McLennan, Margaret Isabel
Marks, Anna Lenore
Marot, (Mrs.) Ada Bouck
Matheson, Katherine Willetta
Maxwell, Edmund Francis
Meissner, Darwin Mason
Merrifield, Florence Virginia
Miller, Glen William
Mitchell, Neva Isabel
Montgomery, Catherine
Moitman, Elizabeth Anne
Musstoch, Mary Camille
Page, Elvie Belle
Parker, Catherine Anna
Payne, Callista Rachel
Peterson, Frank Lynn
Pitt, Mildred Esther
Powell, Janet Elizabeth (cum laude)
Powers, Alvin James
Pritchard, Joseph Gordon
Puffer, Floyd Arthur
Richlet, Hazel Louise
Robe, Dorothy Cecil
Robinson, Laura Marie
Rohden, Elizabeth Helen
Roseleaf, Dorothy
Seely, Anne Shepard
Shepherd, Paul Clark
Short, Esther Lorinda (cum laude)
Shotwell, Catherine Maynard
Squire, Walter Edmund
Thomas, Dorothy Waittill
Ttwoney, Katherine Mackenzie
Ulltland, Astrid Olive (cum laude)
Van Steen, Nina
Wallace, Clara Louise
White, Katherine Eleanor
Wiggins, Mildred
Wilkinson, Madge Watson
Worsham, Mary Lavinia
Wright, Ruth Hamlin
Zacharias, Rose Lydia

COLLEGE OF SCIENCE

Bachelor of Science

Bickford, Ernest Dearle
Brown, Earl Theodore
Burke, Florence Julia
Butcher, Beatrice Elizabeth
Campbell, Esther Mary
Eayart, Grace May
Garhart, (Dr.) Manch Neville
Glover, Helen Latta
Harrington, Helen
Henderson, Phil (cum laude)
Higges, Paul McChellan
Jackson, Edna Cathy
Little, Edward Milton
McDonald, Mayme
Mackey, Cora Lois
Morris, Erna May
Nightingale, William Thomas
Harrison, Erroll Whitman
Hob, Helen (cum laude)
Simmons, Mary

The persons whose names are followed by the superior figures 2 received their degrees in the quarters of 1918-1919 ending in August, December and March, respectively; all others in June, 1910.

(289)
Bachelor of Science in Home Economics

Bell, Doris Lillian
Brooks, Mildred
Colton, Grace Edith
Condon, Dorothy
Corey, Esther Marie
Dodge, Alice
Engler, Dora Dean
Gilman, Bonnie Ruth
Goode, Helen Genevieve
Huller, Bernadine
Harshman, Gertrude
Hillis, Arnetta
Howes, Josie
Hughes, Anne

Bachelor of Science in Home Economics

Kettridge, Anna Marian
Lindbloom, Florence
Martinson, Esther
Mulberry, Marie Elizabeth
Paust, Edna L'Berta
Quast, Florence Anne
Reed, Lucilla May
Tower, Pearl Adelia
Tweed, Lucile
Virtue, Eloise Beach
Waite, Vera Beatrice
Woods, Eva Jessie
Zickler Pauline

Bachelor of Education

Barry, Georgia Catheryne
Buxtor, Kirk Sawyer
Bowden, Henrietta Lois
Coates, Frank Carl
Cleland, Faith
Currie, Vera Maria
Fisher, Roberta Claire
Gilluly, Cora
Gosc, Gladys
Griffin, Phyllis
Hague, Martha Olive
Hindman, Edna
Hyndman, Lucile Alva
Ines, Henry
Kane, (Mrs.) Susan Mary
Kohlmam, Marjorie
Lio, Borghild Constance
Magnusson, Jennie Marie

Bachelor of Education

Magowan, Hazel Mae
Miles, Alice
Oakley, Eldora Viola
Otaka, Ray Keizaburo
Patchin, Wilbur Harmon
Pershing, Helen Gene
Pierson, Ermaine Clark
Sakamoto, Mine
Scheurer, Genevieve
Shalom, Israel Aaron
Stolp, Rose Marie
St. Clair, Esther Anna
Sully, Helen Margaret
Theibert, Evelyn Elizabeth
Tift, Lillian Bryant
Warner, Erna

Bachelor of Fine Arts

France, Georgia Madgill

Bachelor of Fine Arts

Cook, Etha Melvina
Osborne, (Mrs.) Ruth Fry

Bachelor of Fine Arts

Wetzel, Hilda

Bachelor of Science in Chemical Engineering

Charlies, Perry Lloyd
Fukuzawa, Tanizo

Bachelor of Science in Chemical Engineering

Ringstad, Myron Henry

Bachelor of Science in Civil Engineering

Driscoll, Thomas, Jr.
Edwards, Schuyler Bricen
Hitchings, Allen

Bachelor of Science in Civil Engineering

Ladner, James Guy
Moore, Talcott

Bachelor of Science in Electrical Engineering

Almqquist, Paul Bernard
Barbee, William Lee
Edquist, Paul Englebrecht
Larsen, Axel Martin

Bachelor of Science in Electrical Engineering

Loomis, Alvin Jackson
Olson, William Johann
Weber, Walter Herman
Whitman, Mortomer Augustus

Bachelor of Science in Mechanical Engineering

Atchison, Clyde Stanley
Bissett, Ernest Eugene
McLeod, Lester Rounds

Bachelor of Science in Mechanical Engineering

Packer, Francis Avery
Rumwell, Corwin Parks

*Died, June 11, 1919.
DEGREES

COLLEGE OF MINES

Bachelor of Science in Mining Engineering
Bullard, Russell Joseph

Bachelor of Science in Metallurgical Engineering
Thompson, John Howard

Bachelor of Science in Geology and Mining
Johnson, Jess Charles (cum laude)

College of Forestry

Bachelor of Science in Forestry
Brandstrom, Axel John Felix
Durand, William Davies
Eldridge, Ferris Edwin

College of Pharmacy

Bachelor of Science
Ayres, Harry Warner¹
Rawson, Merrill Oliver²

Pharmaceutical Chemist
Ayres, Harry Warner¹

Graduate in Pharmacy
Bennington, Edith

SCHOOL OF LAW

Bachelor of Laws
Baumgartner, Walter Louis
Chamberlin, Henrietta Bloodgood
Ellis, Floyd Earl
Fox, Roy Cecil
Gray, Spencer
Hartman, Albert Gus¹
Hodge, Walter Hartman

Library School

Bachelor of Library Economy
Cordz, Marian

Bachelor of Arts
Bergh, May Alice
Donley, Helen Irene
Erchinger, Hazel Hildegard
Heden, Eleanor
Holman, Norma Burnett¹
Hudson, Dorothy Sewall

College of Business Administration

Bachelor of Business Administration
Bruggerhoff, Marguerite
Gamwell, Barbara Greene
Koller, Helen

SCHOOL OF JOURNALISM

Bachelor of Arts
Hainsworth, Jeanette Florence
Hotelling, Addison Harold
Logan, Florence Leila
Mathieu, Beatrice

Mitchell, Hiram Sherman¹
Reynolds, Ada Thompson
Riehm, Helen

¹ (cum laude)
GRADUATE DEGREES

Mechanical Engineer

John Flodin
B. S. in M. E., University of Washington, 1918
Thesis: A Comparative Analysis of the Isherwood System of Ship Construction

Metallurgical Engineer

Elgin Roscoe Wilcox
B. S., University of Washington, 1915

Master of Arts

Anna Elonora Brakel (Philosophy)
A. B., University of Washington, 1917
Thesis: The Common Ground of Mechanism and Vitalism

Rose Marie Boening (History)
A. B., University of Washington, 1918
Thesis: The History of Irrigation in the State of Washington

Genevieve Elizabeth Caffrey (Education)
B. S., University of Washington, 1916
Thesis: English in the High School from the Viewpoint of the College Student

David Wellington Freeman (Education)
A. B., Drake University, 1903
A. M., Drake University, 1904

Bernard Freyd (Philosophy)
A. B., University of Washington, 1918
Thesis: Problem of Truth in the Light of Modern Logic

Arthur Stanley Glass (Education)
B. Ed., University of Washington, 1916
Thesis: A Concrete Study in Vocational Guidance of Pupils in the Grammar Grades

Robertson Riley Hollingsworth (Education)
A. B., University of Washington, 1915
Thesis: Legal Provisions Relating to School Funds in the Territory of Washington, 1853-1889

David Hurwich (Economics)
B. S., University of Washington, 1917
Thesis: A Consideration of War Finance with Analysis of the American Financial Measures of the First Year of the Great War

Minnie Lorna Johnson (History)
A. B., University of Washington, 1916
Thesis: Arbitrary Political Arrests During the Civil War

Walter Edmund Squire (Psychology)
A. B., University of Washington, 1918
Thesis: A Study of Motor Controls

Ralph Emerson Stone (Education)
A. B., University of Idaho, 1918
Thesis: A Critical Analysis of Fifteen Second Readers

Lewis Cass Tidball (Education)
A. B., University of Wyoming, 1905
Thesis: The Influence of the War on the Schools of the Northwest

Isabel Weir Wallace (Education)
A. B., Simpson College, 1907
Thesis: History of Education in Alaska
DEGREES

William Neil Whitelaw (Political Science)
A. B., Yale University, 1905
LL. B., Kansas City School of Law, 1905
Thesis: Political Reform and Constitutional Amendment in Washington

Ella Winter (German)
A. B., University of Washington, 1910
Thesis: Goethe’s Interest in English Literature as Reflected in His Letters

Master of Science
Emmett Carroll (Psychology)
B. S., University of Washington, 1916
Thesis: The Intelligence Tests Given Enlisted Men in the Thirteenth Naval District

Gordon Luther Cave (Chemistry)
A. B., Bates College, 1918
Thesis: Arc Processes for Nitric Acid; a Fragment of the History of Chemistry

Doctor of Philosophy
Addie Cornwall Eddy (English)
A. B. Simpson College, 1907
M. A., University of Washington, 1915
Thesis: The Evolution of the Eighteenth Century Hymn as Established by Watts and the Wesleys

NORMAL DIPLOMAS

University Life Diploma

Anderson, Lydia Cecilia
Arthun, Mabel Virginia
Bralden, Leo Bernard
Ball, Florence
Barry, Georgia Catheryne
Bartex, Etta Elizabeth
Beckham, Leona Mary
Bennett, Anna Helen Johnson
Bowden, Henrietta Lola
Breazza, Inez Edna Marie
Bruce, Harriett Lucinda
Budden, Agnes May
Bunch, Agnes
Byrd, Edna Mary
Carroll, Joseph Douglas
Costes, Frank Carl
Collins, Opal Helena
Cook, Jessie Gordon
Cox, Lola
Crosby, Frances Nunn
Drake, Ethel
Eustis, Stella Annette
Evanus, Florence Bathie
France, Georgia Madgill
Fisher, Charlotte Lucile
Gannon, William Joseph
Garland, Martha
Grier, Gladys Carney
Harris, Laurin Loreta
Hedges, Birdie
Hofmeister, Lillian Margaret
Hong, Nils Joseph
Hood, Mary Elizabeth McClure

Hooper, Mary Virginia
Hughes, Anne
Hutchinson, Pearl Irene
Ines, Henry
Ivy, Ethel Pearl
Johnson, John Earl
Johnson, Ralph
Johnson, Ruth Frances
Jones, Lola Jane Mower
Keene, Gertrude Beckett
Keppe1, (Mrs.) Susane Mac
Kittrell, Beatrice
Lawson, Fenninah Belle
Leander, Evelyn Rosan
Lind, Ralph Richard
McClellan, Helen Rilla
McCorcle, Mac Diana
McLean, Dolly
McIntyre, Enola Frances
McKay, Iva Virginia
Mantz, Helen Artem
Marston, Mac
Mathews, Minnie Lucille
Moe, Nettie Amelia
Moore, Helen Sauthard
Parker, Alice Lelia
Parker, Catherine Anna
Parolini, Elizabeth
Patchin, Wilbur Harmon
Perine, Esther Stewart
Peteron, Frank William
Platner, Goldie
Platner, Evelyn Idessa
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<td>Selig, Isabel</td>
<td>Wertman, (Mrs.) Eva McKinney</td>
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<td>Shackleford, Charlotte</td>
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<td>Smith, Catharine Wright</td>
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<td>Smith, Liana Panley</td>
<td>Yerger, Bessie Pearl</td>
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<td>Smith, Marie Caroline</td>
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**University Normal Diplomas**

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<tr>
<td>Adams, Lucille Elizabeth</td>
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<td>Carney, William Harvey</td>
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<td>Celand, Faith</td>
<td>Murdoch, Mary Camille</td>
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<td>Cole, Miriam Elizabeth</td>
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<td>Corey, Esther Marie</td>
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<td>Culver, Evelyn Louise</td>
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<td>Dahlin, Ebba</td>
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<td>Ellis, John Boyd</td>
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<td>Elmore, Roma Marie Sartoris</td>
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<td>Fisher, Roberta Clair</td>
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<td>Foltz, Laura Azilia</td>
<td>House, Winifred</td>
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<td>St. Clair, Esther Anna</td>
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<td>Hall, Lucie</td>
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<td>Hang, Martha Oliva</td>
<td>Thelberg, Evelyn Elizabeth</td>
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<td>Hawthorne, Rebecca Allison</td>
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<td>Howes, Zeeda</td>
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<td>Huff, Virginia</td>
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<td>Hunter, Ruth Gertrude</td>
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<td>Jene, Grace Manetta</td>
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<td>Johnson, Rose</td>
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<td>Jones, Alice Dowell</td>
<td>Wilson, Evelyn</td>
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<td>Jones, Ella Katharine</td>
<td>*Whealdon, Maggie Fay</td>
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<td>Kohlman, Marjorie</td>
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<td>Lackman, Dorothy</td>
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<td>Worthington, Grace</td>
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<td>Lie, Borghild Constance</td>
<td>Woods, Eva Jessie</td>
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<td>Lieberz, Virginia Helen</td>
<td>Wright, Ruth Hamilton</td>
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<td>Lindblom, Florence</td>
<td>Zacharias, Rose Lydia</td>
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</tbody>
</table>

* Died, June 11, 1910. 
SCHOLARSHIPS AND PRIZES AWARDED

June 16, 1919

The Judge Alfred Battle Debating Prize of $75.00
Not awarded 1919

The Philo Sherman Bennett Essay Prize of $25.00
Not awarded 1919

THE E. F. Blaine Oratorical Prize of $100.00
Awarded to the University of Oregon

The Judge Kenneth Mackintosh Debating Prize of $75.00
Not awarded 1919

The N. Paolella Gold Medal for Excellence in Italian
Miriam Neely Gardner

The Allen Dale Debating Cup
Not awarded 1919

The Isabella Austin Memorial Scholarship for a Freshman Woman
Amelia Ahlskog

The Edwin A. Jaggard Law Essay Prize of $50.00
Not awarded 1919

Men's Freshman Latin Prize of $50.00
Not awarded 1919

Sophomore Latin Prize of $25.00
Not awarded 1919

The University State Bank of $25.00
Not awarded 1919

The Judge Thomas Burke Prize of $25 for Excellence in French
Dorothy Helen Chesley

The Judge Thomas Burke Prize of $15.00 for Excellence in French
Alice Virginia Franklin

The Burke Prize of the China Club of $25.00
Wilbur Blaine McKibben

The Du Pont Scholarship of $350.00
W. A. Hardy

The Kellogg Prize of $20.00 in Architecture
Not awarded 1919

Junior Military Prize
Cecil Byron Jamieson

The Samuel Rosenberg Scholarship of $200.00 in French
Elizabeth White Mosseau for 1918-19
Marie Antoinette Michas for 1919-20

The Loretta Denay Fellowships
Ebba Dahlin (History)
A. B., University of Washington, 1919
Homer Foster (Political Science and Philosophy)
A. B., Washington State College, 1914

Floyd Whitney Gall (Botany)
A. B., University of Nebraska, 1911; A. M., 1912
Glen Arthur Hughes (English)
A. B., Stanford University, 1916

Curtis Willard Thing (Chemistry)
B. S., Lenox College, 1914; M. S., University of Washington, 1917

(295)
Fellowships in the College of Mines and the Seattle Station United States Bureau of Mines
John Sebastian Leilson (Ceramics)
Clarence LeRoy Olsen (Metallurgy)
Arthur Wichmann (Metallurgy)

The Columbia University Fellowship in Mining, Engineering and Chemistry
Not awarded 1919

The Mars Fellowship
Not awarded 1919

SENIOR SCHOLARS
Class of 1919

<table>
<thead>
<tr>
<th>Name</th>
<th>Major</th>
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<tbody>
<tr>
<td>Blair, Anna Clio</td>
<td>English</td>
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<td>Dahlin, Ebba</td>
<td>History</td>
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<td>Enger, Harold Carl</td>
<td>Business Administration</td>
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<td>Hill, Ethel</td>
<td>German</td>
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University of Washingto

Bailey, Norva E. .................................................. Elma
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Bailey, Park Willia ............................................ La Conner 3
  LD, LA. ...................................................... 4006 1st Av NE
Bailey, Tecilora Abbott ...................................... Seattle
  LD, LA. ...................................................... 5210 16th Av NE-Ken 129
  BA. ......................................................... Ken 189
Bailey, William Locke ........................................ Seattle
  UD, LA. ...................................................... 4541 14th Av NE— Ken 185
Balje, Robert Trezona ......................................... Yakima
  UNE, Bus .................................................... 6014 16th Av NE
Baird, Elizabeth .................................................... Seattle
  UD, LA. ...................................................... 5026 16th Av NE—Ken 2124
Baird, Lloyd TAIMAD ............................................. Seattle
  LD, LA. ...................................................... 1616 E 47th St—Ken 149
Bakala, Victor Frank ........................................... Colfax
  UD, LA. ...................................................... 4222 10th Av NE
Bakeman, Frances Louise ........................................... Seattle
  LD, LA. ...................................................... 6515 10th Av NE—Ken 2741
Baker, Albert Lundy ............................................ Yakima
  UNE, LA. ...................................................... 4503 Univ Blvd—Ken 236
Baker, Dorothy Ada .............................................. Seattle
  LD, LA. ...................................................... 5209 Brooklyn Av—Ken 706
Baker, Mrs. Elizabeth H. ........................................... Seattle
  UNE, LA. ...................................................... 1230 46th Av N
Baker, Morton Charles ........................................... Spokane
  LD, LA. ...................................................... 4522 Graham St—Hil 100M
Baker, Richard Downing Jr. ..................................... Seattle
  LD, CE. ...................................................... 4142 12th Av NE
Baker, Sarah E. .................................................. Seattle
  LD, LA. ...................................................... 2107 N 62nd St
Baker, Warren Benjamin .................................... The Dales, Or
  UNE, LA. ...................................................... 4133 Burke Av—N 322
Bakke, Fridjof William .......................................... Spokane
  LD, LA. ...................................................... 6225 Univ Blvd—Ken 613
Bailey, Daniel ................................................... Philippines
  Sp, Sci. ...................................................... 401 5th Av
Baldwin, Clarence H. ........................................... Elma
  UNE, Bus ..................................................... 1005 E 47th St—Ken 2431
Badwin, David Edward .......................................... Vashon
  UD, LA. ...................................................... 1006 E 45th St—Ken 2171
Bald, Paul ..................................................... Seattle
  LD, LA. ...................................................... 1200 Sylvester Pl—Ken 2423
Ball, Ardis L. .................................................. Seattle
  LD, LA. ...................................................... 4700 University Av—Ken 2384
Ballard, Patricia A. ............................................ Wyoming
  LD, LA. ...................................................... 4718 Univ Blvd—Ken 1892
Ball, Philip Reiford ............................................. Raleigh, N. C.
  Sp, CE. ...................................................... 1100 E 46th St
Ball, Rollyn John ................................................ Seattle
  LD, LA. ...................................................... 1209 Sylvester Pl—Ken 2434
Balland, James McKinley ....................................... Seattle
  Sp, Law. ...................................................... 4116 Woodland Park Av
Ballenger, Douglas T. .......................................... Seattle
  LD, LA. ...................................................... 4007 Galler St—Q 608
Baineur, Betty .................................................. Seattle
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Bain hot, Albert ................................................. Spokane
  LD, LA. ...................................................... 1100 S 45th St
Banks, Helen Doris ............................................... Winthrop
  LD, LA. ...................................................... 4714 Univ Blvd—Ken 2253
Banks, Edward A. .................................................. Seattle
  LD, LA. ...................................................... 5010 16th Av NE—Ken 2220
Banks, Hugh Thomas ............................................ Seattle
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Banawaorth, Charles Gustavo .................................... Foster
  LD, Bus ....................................................... 5015 Univ Blvd—Ken 3169
Bar, William Lawrence .......................................... Seattle
  LD, LA. ...................................................... 2428 E Madison St—B 5001
Barber, Peter J. .................................................. Portland, Or
  UNE, MS. ..................................................... 2120 E 47th St
Barrett, Peyton Jr. ............................................... Newberg
  LD, CA. ...................................................... 622 Bell St
Blanding, Eva Ellen .................................................. Seattle
LD, Sc .................................................. 1737 Belmont Av—E 2466
Blinken, Sumner .................................................. Seattle
LD, Bus .................................................. 5232 18th Av NE
Blau, Louise W .................................................. Booker, Tex
LD, LA .................................................. 5026 18th Av NE—Ken 2827
Blesius, L. J. White Sulphur Springs, Mont
UD, CE .................................................. 1401 Harvard Av—E 740
Blewett, Robert E .................................................. Seattle
Sp, Bus .................................................. 1411 E Sprag St—E 2106
Blickenderfer, Philip ............................................. Willis, N. D
Sp, Bus .................................................. YMCA
Blagg, Alsworth .................................................. Seattle
Unc, LA .................................................. 708 Belmont Pl—Cap 1223
Blomquist, Louis Earl ............................................. Belt, Mont
LD, Bus .................................................. 4740 18th Av NE—Ken 2704
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LD, LA .................................................. 4222 10th Av NE—N 2961
Bloomfield, Irma E ................................................ Nampa, Idaho
LD, Bus .................................................. 4508 10th Av NE—Ken 2765
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Blue, H Leslie .................................................. Ketchikan, Alaska
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Blumenfeld, Herman N ............................................. Seattle
LD, Bus .................................................. 528 19th Av—E 4796
Blumenfeld, Zipora Bertha ....................................... Seattle
Unc, LA .................................................. 528 19th Av—E 4796
Blumenthal, Rose Eloise ......................................... Seattle
LD, LA .................................................. 108 Univ Blvd—E 4550
Bogardus, Almon E ............................................... Seattle
LD, NE .................................................. 4618 19th Av NE
Bogardus, Helen Evelyn ........................................... Seattle
LD, Sci .................................................. 523 14th Av N—Cap 2339
Bogolowsky, Boris N ............................................... Seattle
LD, LA .................................................. 4174 17th Av—E 2103
Behlander, Nadine L ............................................. Portland, Oregon
LD, LA .................................................. 4524 Univ Blvd—Ken 2496
Benn, Rachel .................................................... Seattle
LD, LA .................................................. 4415 Sunnyside Av—N 418
Belderston, Constance B ......................................... Portland, Oregon
LD, LA .................................................. 4508 18th Av NE
Bel, John Clinton .................................................. Tacoma
LD, Bus .................................................. 5212 18th Av NE—Ken 887
Bolinger, John Clayton ........................................... Methow
Unc, Law .................................................. 4532 18th Av NE—Ken 2827
Bolinger, Morris M ............................................. Methow
LD, LA .................................................. 4532 18th Av NE—Ken 2827
Bollam, Darrel Charles ........................................... Portland, Oregon
LD, LA .................................................. 4508 18th Av W
Bolles, Barbara M ................................................ Wellesley, Massachusetts
Grad .................................................. 4554 16th Av NE
Bollinger, James .................................................. Dixon, California
LD, Bus .................................................. 4140 E 41st St—N 909
Bolling, Dean S .................................................. Seattle
LD, LA .................................................. 5420 90th Av SW
Belman, James ................................................... Seattle
LD, ED .................................................. 1400 E 41st St—N 909
Belton, Edwin ................................................... Seattle
LD, MB .................................................. 4514 10th Av NE—Ken 904
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LD, NE .................................................. 4503 12th Av NE
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Grad .................................................. Hotel Stevens
Benn, Harold J .................................................. Seattle
LD, LA .................................................. 1164
Bonham, Madge .................................................. Seattle
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Bonelli, Jennex Mildred .......................................... Tacoma
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Booth, Earl Le Roy ............................................... Burlington
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Bordeaux, Wilfred ............................................... Seattle
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LD, LA .................................................. 2200 33d St S—Bea 1099
Borrow, William Edward ......................................... Seattle
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Burrows, Laura A. ..............................................Seattle
LD, Bus. ..................................................4323 12th Av NE—Ken 1087
Burrows, Eleanor W. .............................................Seattle
Unc, Ed. ..................................................4523 12th Av NE
Burrows, Frances G. .............................................Chehalis
LD, CE ..................................................5012 10th Av NE—Ken 3227
Burrows, William Jr. ............................................Chehalis
LD, Sc. ..................................................5046 10th Av NE—Ken 3227
Burrows, Thurlow McCune .....................................Spokane
LD, Sc. ..................................................4546 15th Av NE—Ken 3565
Burrscll, Blanche Gertrude .....................................Seattle
LD, Ed. ..................................................5098 11th Av NE—Ken 1500
Burrscll, Frances I. .............................................Seattle
LD, LA ..................................................5098 11th Av NE—Ken 1500
Busse, Paul Leroy ................................................Seattle
LD, Bus. ..................................................1018 5th Av N
Busse, Frederick ................................................Seattle
LD, BA ..................................................704 14th Av N—Cap 1569
Burt, Clare E. ................................................Boise, Ida
LD, LA ..................................................4518 Univ Blvd—Ken 3218
Busch, Lauren James ............................................Meadowdale
Sp, ME ..................................................5507 12th Av NE—Ken 3965
Busch, Evelyn Augusta ........................................Seattle
LD, Sc. ..................................................710 24th Av N
Busch, Dana N. ................................................Renton
LD, Ed. ..................................................4714 Univ Blvd—Ken 2253
Busch, Helen Taylor .............................................Seattle
LD ..................................................132 Dorffel Dr—E 4410
Busch, Joyce ................................................Puget Sound
LD, LA ..................................................4503 Univ Blvd—Ken 236
Buschli, Charles Theodore ....................................Seattle
Sp, EE ..................................................5512 Greenwood Av—Renton
Busse, Arthur Emil ............................................Seattle
LD, ChE ..................................................411 Warren Av—QA 3134
Busser, John A. .............................................Bellingham
LD, Bus. ..................................................1180 14th Ave
Butcher, Fred ................................................Seattle
LD, Bus. ..................................................1800 14th Ave
Butler, Ken Fox ................................................Seattle
LD, LA ..................................................5086 12th Av N
Butler, Alice Berenice .........................................Seattle
LD, FA ..................................................1130 19th Av N—E 2401
Butler, Arthur .................................................Seattle
LD, Min ..................................................4552 18th Av NE—Ken 2827
Butler, J Rea ................................................Burton
LD, Bus. ..................................................4503 Univ Blvd—Ken 236
Butler, Jo Ann ................................................Seattle
LD, CB ..................................................2050 Belvidere Av
Butt, Edward Merchant ........................................Seattle
LD, Sc. ..................................................140 E 56th St—Ken 212
Butt, Ferdinand H. ............................................Tacoma
Unc, ME ..................................................140 E 56th St—Ken 212
Butterworth, Gilbert B. ......................................Seattle
LD ..................................................1021 1st Av—M 040
Byars, Alfred Theodore .......................................Goldendale
LD, MB ..................................................5038 Univ Blvd—Ken 496
Byers, Katherina .............................................Seattle
LD, Sc. ..................................................1420 10th Av—E 576
Byers, Mayall Sumner ........................................Seattle
LD, ChE ..................................................2100 E Gaker—E 2401
Byrd, Mabel Janet ..............................................Portland, Or
LD, LA ..................................................1180 24th Av—E 573
Byrne, John Jr ...............................................Spokane
LD, Min ..................................................4524 10th Av NE—Ken 570
Byrne, Marion ...............................................Spokane
LD, Bus. ..................................................5047 18th Av NE—Ken 2483

Cage, Mary ...............................................Canyon, Tex
UD, LA ..................................................Lewis Hall, Campus—N 162
Carpentier, Ida ...............................................Portland, Or
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Cahill, Bertha ...............................................Spokane
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Cain, Ray C. .................................................Wenatchee
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Calder, Leister Edward .......................................Montesano
Unc, For ..................................................5914 12th Av NE—Ken 411
Caldwell, Darrell V. ........................................Seattle
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Callan, Alma ................................................Seattle
LD ..................................................5607 14th Av N—E 262
Calhoun, Charles Elliot ....................................Tacoma
Sp, LA ..................................................4215 Brooklyn Av—N 1067
Calhoun, Emmett Leonard ....................................Seattle
LD, Sc. ..................................................4505 18th Av NE—Ken 333
Calkins, Howard T. ............................................Sunnyside
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Calkins, Jane Janice .........................................Bremerton
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Calwell, James .................................................Coffman
LD, CB ..................................................5825 11th Av NE—N 1230
Callahan, Lloyd Franklin ....................................Burlington
UNC ..................................................5212 18th Av NE—Ken 887
Calm, Henry Sheldon ...........................................Abilene
LD, LA ..................................................1016 E 47th St—Ken 149
Callow, May ................................................Seattle
LD, Sc. ..................................................5208 Ravenna Av—Ken 4169
Calt, Helen Ruth ..............................................Wapato
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Cammanck, Alice Allin ........................................Seattle
Sp, LA ..................................................592 234 Av—E 5019
Camp, Dorothy ................................................Seattle
LD, Sc. ..................................................Sia Bell St—Eli 4800-G
Campbell, Addison .............................................Boise
LD, ChE ..................................................88th & 15th Av—Ken 740
Campbell, Alphonso ...........................................Seattle
Unc, Sc. ..................................................1322 Taylor Av—QA 175
Campbell, David Stiles .......................................Spokane
LD, EE ..................................................4616 21st Av NE—Ken 490
Campbell, Earl Folgate ........................................Omak
LD, Bus. ..................................................4616 21st Av NE—Ken 400
Campbell, Edward Lyman ....................................Butte, Mont
LD, Bus. ..................................................4249 10th Av NE—N 3215
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LD, Sc. ..................................................4505 18th Av NE—Ken 353
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Campbell, Alice Lilian ........................................Seattle
LD, LA ..................................................1817 E 50th St—Ken 1084
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LD, LA ..................................................5076 Rainier Av—Rai 123M
Campbell, Wilfred Lorne ......................................Wapato
LD, EE ..................................................1027erry Av
Campbell, Mary Helen ........................................Seattle
LD, LA ..................................................1403 17th Av—E 4618
Campbell, Preston Dunnett ..................................Mantlo Beach
LD, Bus. ..................................................5009 Alaskan Way—N 31A
Campbell, Ray Cowan ...........................................Great Falls, Mont
Unc Bus ..................................................5038 Univ Blvd—Ken 496
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Dahlen, Vesta .................. Seattle
LD, LA. .................. 2008 Shoreland Dr—Bea 2402
Dahlen, Caroline .................. Seattle 
Grad .................. 46 E Benton St—Cap 2018
Dalley, Erlin P .................. Everett
1st, LA. .................. 1712 Ravenna Bird
Dalley, H Mildred .................. Seattle
LD, LA. .................. 2811 Queen Anne Av—QA 483
Dalley, Ruth Ellen .................. Everett 
LD, Bus. .................. 4514 18th Av NE—Ken 158
Dalley, Allan K .................. Chateau, Mont
LD, Bus. .................. 5225 14th Av NE
Dalley, Katherine .................. Seattle 
LD, LA. .................. 1207 E Boston St—Cap 2454
Dalley, Ruth Willet .................. Seattle 
LD, LA. .................. 4540 Univ Blvd—Ken 1062
Dalton, Edwin Horndon .................. Olympia
LD, Bus. .................. 2120 E 47th St—Ken 1170
Dalton, John Clarke .................. Yakima
LD, Bus. .................. 
Dalton, Ralph .................. Spokane
Sp, Sc .................. 618 20th Av—E 5248
Daly, Milton Joseph .................. Ketchikan, Alaska 
LD, EE. .................. 1616 E 47th St—Ken 149
Daly, William J Jr .................. Port Townsend
LD, LA. .................. Lander Hall, Campus—N 60
Dammann, Marjorie Jane .................. Parkland
LD, LA. .................. Lewis Hall, Campus—N 192
Dand, John Mungo .................. Seattle
LD, Bus. .................. 5040 18th Av NE—Ken 3547
Dant, Eyer Jn .................. Payup
LD, Sci. .................. 5501 20th Av NE—Ken 1572
Dantle, Raymond Eugene .................. Seattle
LD, CE. .................. 1416 E 47th St
Dantle, Elisa Thedora .................. Tacoma
LD, UC. .................. 5020 15th Av NE
Dantle, Lillian Catherine, Milwaukee, Wis 
Sp, Ed. .................. 4422 4th Av NE—N 3111
Dantle, Russell O .................. Spokane
LD, Bus. .................. 4704 18th Av NE—Ken 541
Danner, Earl Young .................. Seattle
LD, Ed. .................. 1516 E 80th St—Ken 1252
Dare, Earl .................. Seattle
LD, Bus. .................. 4506 Univ Blvd—Ken 201
Dar, Carleton Willits .................. Vancouver, Wash
LD, MB. .................. 2012 E 45th St—Ken 2845
Darling, Irene Frances .................. South Bend
LD, LA. .................. 5020 15th Av NE—Ken 1087
Dau, Harlow L .................. Malgus, Ida 
UD, Ed. .................. 2006 E 47th St—Ken 3476
Daughtrey, Anna Mott .................. Seattle
LD, Ed. .................. 4815 Orcas St—Bal 1085 W
Dauhoff, Victor .................. Portland, Or 
UD, CE. .................. Terry Hall, Campus—N 60
David, Emerson E .................. Seattle
Unc, Bus. .................. 1246 16th Av N
David, Oscar D .................. Seattle 
L, Jour. .................. 106 Eastlake Av—EI1 1458W
Davidson, Beth .................. Seattle
UD, Sc. .................. 403 W Comstock—QA 247
Davidson, Jean .................. Seattle
UD, LA. .................. 403 W Comstock St—QA 327
Davidson, Thomas Nelson .................. Seattle 
LD, LA. .................. 2223 13th Av—Cap 1922
Davies, Enid Elaine .................. Spokane
LD, LA. .................. 5214 Univ Blvd—Ken 844
Davies, Harold Cory .................. Newcastle 
Unc, Min. .................. 2727 E 54th St—Ken 768
Davies, Lucille C .................. Portland
LD, Or. .................. 40th Av—Port Orchard
Davies, Myron Lloyd .................. Portland 
LD, Bus. .................. 115 9th Av—Ken 987
Davies, Violet .................. Tacoma
LD, Sc. .................. 4210 Bagley Av—N 2288
Davis, Arver John .................. Lyman
LD, For. .................. Lander Hall, Campus—N 60
Davis, Benjam. Franklin .................. Seattle
LD, EE. .................. 4747 14th Av NE—Ken 3736
Davis, Beryl Walsh .................. Seattle 
LD, Bus. .................. 4704 18th Av NE—Ken 3736
Davis, Caleb Forbes .................. Seattle
LD, LA. .................. 8608 Schubert Pl
Davis, Cecilia M .................. Seattle 
UD, LA. .................. 1106 17th Av N—E 6225
Davis, Dorothy Carrol.................. Seattle
LD, Sc. .................. 3516 10th Av NE—Ken 2347
Davis, Dorothy C .................. Seattle 
UD, Sc. .................. 5516 10th Av NE—Ken 2347
Davis, Cora Jean .................. Olympia
LD, LA. .................. 5225 Univ Blvd—Ken 1717
Davis, Dorothy B .................. Seattle 
LD, LA. .................. 120 N 46th St—N 1513
Davis, Dwight E .................. Port Orchard 
LD, Min. .................. 4504 10th Av NE—Ken 3417
Davis, Emma A .................. Seattle 
Sp, EE. .................. 2706 37th Av SW
Davis, Ethel .................. Seattle 
Unc, LA. .................. 1500 E Gailer St—D 1718
Davis, Garlet Morrell .................. Wapato
Unc, Bus. .................. 5269 Univ Blvd
Davis, Grace E .................. Tacoma
LD, Sc. .................. 4703 18th Av NE—Ken 2826
Davis, Harold Alonzo .................. Seattle 
LD, Sc. .................. 1906 E 45th St—Cap 185
Davis, Lilah H .................. Seattle 
LD, LA. .................. 4502 20th Av NE—Ken 685
Davis, Lois Lilian .................. Seattle 
LD, PA. .................. 5516 15th Av NE—Ken 2347
Davis, Marshall Stephen .................. Seattle
LD, Bus. .................. 4503 Univ Blvd—Ken 236
Davis, Mary Aileen .................. Bellingham 
LD, Sc. .................. 4728 18th Av NE—Ken 2766
Davis, Paul Bryan .................. Endicott
T.D. EE. .................. 4550 18th Av NE—Ken 5072
Davis, Ruth M .................. Bellingham 
LD, Phr. .................. 4728 18th Av NE—Ken 297
Davis, Tomine O .................. Kennevik 
LD, Bus. .................. Lewis Hall, Campus—N 162
Davis, Elmer Edgar .................. Boise, Ida 
LD, Bus. .................. 4307 11th Av NE—N 4475
Davis, Hazel Evelyn .................. Sedro-Woolley 
Unc, Sc. .................. 3204 14th Av NE
Daw, Ernest M .................. Westminster, B C 
LD, MB. .................. 5020 12th Av NE—Ken 2044
Dawes, Leslie Edward .................. Hoquiam 
Sp, Bus. .................. Lander Hall, Campus—N 60
Day, Edwin John .................. Yakima 
T.D. Phr. .................. 4323 8th Av NE—Ken 1642
Day, James F .................. Victoria, B C 
Unc, LA. .................. 6012 10th Av NE—Ken 2277
Deaderick, Kelly Dent .................. Halfway, Or 
LD, LA. .................. 
Dean, Edward .................. Olympia 
LD, EE. .................. 4235 10th Av NE
Dean, James Stickler .................. Seattle 
LD, Phr. .................. 4402 Brooklyn Av—N 1714
Dean, Josephine A .................. Seattle 
LD, LA. .................. 4703 18th Av NE
Dean, Floyd Merlin .................. Bellingham 
LD, CHS. .................. 4500 8th Av NE—N 780
Dean, William Paul .................. Seattle 
LD, Thru. .................. 4022 Brooklyn Av—N 1714
Deardorff, Genevieve .................. Portland, Or 
Sp, Ed. .................. 2126 Sheldon St—NE 272
Dearie, Albert M .................. Everett 
LD, Bus. .................. 4429 10th Av NE—N 2515
DeBard, Bernice L .................. Colton 
LD, Ed. .................. 
De Belen, Melcher .................. Philippines 
Unc, Sc. .................. 1521 3d Av
De Can, Ina .................. Seattle 
UD, Ed. .................. 1416 E 41st St—N 5811
Dobson, Chris G ........................ Seattle
Grad ......................................................
Dobson, Thomas Sutherland ............ Renton
Dobson, Walter W ......................... Bremerton
Dodd, Hamlet Porch .......................... Wapato
UD, LA .......................... 1600 8th St—Ken 2431
Dodd, Harry Le Roy .......................... Seattle
DE .......................... 5914 14th Av NE—Ken 719
Dodd, Joseph ................................. Seattle
DE .......................... 6801 14th Av NE—Ken 719
Dodge, Mnxine .............................. Seattle
Sp, Ed ........................................... 4023 12th Av NE
Dodge, Estella Grace ........................ Portland, Or
LD, For .......................... .012 E 42d St
Dodge, Harold Tracy ...................... Seattle
LD, MB .......................... 4266 Linden Av—N 947
Dodge, Maxine ............................... Anacortes
LD, Bus .................................. 4524 Univ Blvd—Ken 2408
Dodge, Margaret ............................ Renton
LD, Sp, Bldg .......................... 512 17th Av
Dodd, Leona ................................. Seattle
Dor, Baker, Or
LD, Sp ........................................... 4215 11th Av
Dohey, Harriet Josephine ................. Seattle
LD, LA .......................... 5210 18th Av—E 42
Dollenebacher, Esther Alice ............ Selah
LD, Sc .................................. 6211 Univ Blvd
Dolph, Adelaide Valentine ................. Vashon
LD, Sp, Cl .................................. Clark Hall, Campus—N 282
Domingo, Ernesto ............................ Elms
LD, Bus .................................. 4533 9th Av—NE 1408
Donohue, Mrs Merle ........................ San Diego, Cal
UD, FA .................................. Weir Apts—N 4642
Donnell, Donnie B ............................ Seattle
LD, ChE .................................. 2010 Day St—Ben 1822
Doneen, Lawrence ........................... Seattle
LD, Min .......................... 5025 12th Av NE
Donegan, Richard ........................... Seattle
LD, FA .......................... 4710 Univ Blvd—Ken 1857
Donovan, William McKinley .............. Seattle
LD, EE .................................. 4215 18th Av NE
Dootson, Jay Edward ...................... Everett
LD, Bus .......................... 5023 8th Av NE—Ken 2381
Dorrnan, Claude Bussell ................. Burlington
LD, Sc .................................. Terry Hall, Campus—N 260
Doro, Esther Agnes ........................... Seattle
LD, Ed .................................. 214 Summit Av N—Cap 3040
Dorones, Delia Ellen ........................ Seattle
LD, Sc .................................. 5014 4th Av NE—Ken 1438
Dorfler, Earl George ...................... Seattle
Unc, LA .................................. 2321 4th Av—R81 820W
Dorsey, Harold Power ..................... Seattle
LD, EE .................................. 1720 Broadway—E 5278
Dose, Julia Louise ............................ Seattle
LD, Bus .......................... 2818 8th Av S
Doat, Fred William ........................... Seattle
Sp, Bus .................................. 5427 Kirkwood Pl—N 1165
Doy, Charlotte .............................. Chehalis
LD, Bus .................................. 2012 E 5th St—Ken 2465
Doty, Wayne Lanning ..................... Seattle
LD, LA .................................. 1010 Sylvester Place—Ken 2187
Douglas, Donald Emery .................... Seattle
LD, Bus .......................... 1771 4th Av—Ken 1438
Douglas, Lucille ............................. Seattle
LD, FA .......................... 1724 E 56th St—Ken 1360
Downer, Norval .............................. Tacoma
UD, CE .................................. 5913 14th Av NE
Douglass, Wesley H ......................... Seattle
Unc, MB .................................. 214 W Howe St
Douhitt, Dorothy Robert ................. Seattle
LD, LA .................................. 507 N 40th St—N 2904
Doutrict, Stephen ........................... Spokane
LD, ChE .................................. 1100 E 45th St
Dover, Emily ............................... Bickleton
UD, LA .................................. 2d Av & Columbia
Dover, Leon D ................................. Seattle
LD, Bus .......................... 1014 24th Av—E 1234
Dover, William Barney ..................... Seattle
LD, Bus .......................... 1014 25th Av—E 1234
Dow, Neal E ................................. 0317 18th Av NE
Dowd, Orton F .............................. Kent
LD, Eng .......................... 4511 16th Av
Downie, Linna Adel ........................ Seattle
LD, Bus .......................... 4535 18th Av NE—Ken 1420
Downing, Fred Thomas ........................ Seattle
UD, ME .................................. 5920 Brooklyn Av
Doyle, Edna May ............................. Seattle
LD, Sci .................................. 3110 17th Av S
Doyle, Florence Edwin ..................... Seattle
Unc, Sc. .................................. 606 Harvard N—Cap 1312
Doyle, James Cyril ............................ Everett
LD, Sci .................................. 5511 17th Av NE
Doyle, Leona Marguerite .................. Seattle
LD, Bus .......................... 2110 17th Av S
Drake, Edward F ............................ Tacoma
Unc, EE .................................. 5321 13th Av NE
Drake, Helen Hazel ........................... Portland, Or
LD, Ed .................................. 1115 E 52d St—Ken 290
Drake, Mildred Edy ........................... Portland, Or
LD, Ed .................................. 4115 E 56th St—Ken 260
Drang, Albert Edward ...................... Seattle
Unc, Bus .......................... 3514 Dennismore Av—N 3829
Draper, George Albert ........................ Seattle
Unc, MB .................................. 810 27th Av—E 6811
Dreesr, Ralph F ............................... Seattle
UD, For .................................. 4522 18th Av NE
Drew, Donnell L .............................. Seattle
LD, Bus .......................... 126 14th Av N—E 410
Drew, Newton .............................. Portland, Or
LD, Bus .......................... 4016 21st Av NE—Ken 400
Dreyer, George .............................. Portland, Or
UD, Bus .......................... 1720 12th Av NE
Duchiner, Ernest R ........................... Seattle
Sp, FA .................................. 5781 Kirkwood Place
Dudley, Lila Adele ............................ Mullan, Ida
UD, Sci .......................... 5007 10th Av NE—Ken 2861
Duerer, Charles Otto ....................... Tacoma
LD, EE .................................. 4549 18th Av NE
Dufell, Esther F ............................... Tacoma
Unc, Sci .......................... 4714 Univ Blvd—Ken 2253
Dufield, Dorothy Alice ........................ Seattle
Univ, OR .................................. 5435 29th Av
Dun, Ray M ................................. Everett
LD, Bus .......................... 1843 8th Av
Dumniway, Robert Edward ................. Portland, Or
LD, ME .................................. 4522 18th Av NE—Ken 3651
Dunlap, Eugene F. .......................... Laconner
LD, Bus. .................................. 4006 1st Av NE
Dunlap, George .................................. Everett
LD, Bus. .................................. 600 9th Av E
Grad .............................................. 1407 E 45th St—Ken 1507
Dunlap, Beatrice Bernice ....................... Waterville
UD, Bus. ................................. Clark Hall, Campus—N 262
Dunlap, Cecil .................................. Portland, Or
Unc, Bus. .................................. 4540 11th Av NE
Dunlap, Charles Stevens ........................ Seattle
LD, Bus. .................................. 3030 Done Terrace—Ken 396
Dunlap, Dorothy .................................. Ft. Collins, Col
Unc, Sci. .................................. 4130 12th Av N—E 7555
Dunlap, Edward Albert ........................ Seattle
LD, Bus. .................................. 6295 Uwchland Av—N 1441
Dunlap, Frank Clyde .............................. Seattle
LD, LA .................................. 412 17th Av N—E 7555
Dunlap, Helen M. .............................. Waterville
LD, Sci. .................................. Cle Elum
Dunlap, James Edwards .......................... Cle Elum
LD, Sci. .................................. 5211 16th Av NE—Ken 5624
Dunlap, John Joseph ............................. Seattle
LD, LA .................................. 4601 16th Av N—Ken 490
Dunlap, Margaret Carol ........................ Seattle
LD, Ed .................................. 2350 14th Av S
Dunn, Ruth ................................. So. Seattle
LD, Ed. .................................. 4553 16th Av NE—Ken 1429
Dunbey, Helen Cecelia ......................... Walla Walla
LD, LA .................................. 4300 Univ Blvd—Ken 983
Dunfey, David.................................. Idaho, Id.
LD, Bus. .................................. 1906 E 45th St—Ken 2711
Dunlop, Eldred ................................. Tacoma
LD, EE. .................................. 4205 11th Av NE
Dunstan, Laura .................................. Clifton
LD, Sci. .................................. 4530 Univ Blvd—Ken 983
Dutcher, Henry Allen ........................... Portland, Or
LD, Bus. .................................. 4564 16th Av NE—Ken 2312
Dutcher, Helen .................................. Seattle
LD, LA .................................. .925 Terrace—E 4744
Dutton, Gladys ................................. Seattle
LD, Sci. .................................. 6225 Uwchland Av—N 1441
Dwyer, Emmet V ............................... Creede, Col
Unc, Bus. .................................. 1908 E 45th St
Dwyer, Monica Margaret ........................ Rosalia
LD, Sci. .................................. Lewis Hall, Campus—N 125
Dyer, Charles Yorke ............................ San De Faca
Unc, ME .................................. 6218 12th Av NE
Dyer, George Franklin ........................... Seattle
UD, ME. .................................. 8540 Admiral Way—W 5733
Dyer, Robert Lawton ............................ Seattle
LD, ME. .................................. 4520 10th Av NE
Dyeform, Robert .................................. Seattle
LD, Sci. .................................. 6301 Ravenna Av
Dysart, Ada A .................................. Seattle
LD, LA .................................. 611 Pioneer Ridge—M 2074
Dysart, Lloyd Butler ........................... Seattle
LA .................................. 4011 Central
3d .................................. 1618 E 47th St—Ken 149
Eades, Glenn N ewel ........................... Payton
LD, ME. .................................. 4704 18th Av NE—Ken 541
Eades, Herbert William ......................... Bremerton
Sp, For. .................................. 4239 11th Av NE—N 1694
Eagar, Frances Marian .......................... Bremerton
LD, Ed. .................................. 4555 18th Av NE—Ken 1429
Eagleson, Elizabeth ............................. Seattle
UD, Sci. .................................. 6008 10th Av NE—Ken 14
Eagleson, Margaret Monica ..................... Walla Walla
LD, LA. .................................. 4520 18th Av NE—Ken 1344
Earle, Pearl .................................. Seattle
Sp, Sci. .................................. 113 16th Av N—B 7883
Earnest, Robert, Roy ............................. Bothell
Dunlap, Charles .................................. Bothell
Easterbrooke, Wilford George .................... Ft. Warden
UD, ChB. .................................. 4505 18th Av NE—Ken 333
Eastland, Walton Emmett ......................... Seattle
LD, LA. .................................. 6406 6th Lake Way
Eastman, Austin V .............................. Seattle
LD, EE .................................. 1506 28th Av W—QA 296
Ebeling, Walter Wilford ........................ Burlington
LD, Sci. .................................. 4652 10th Av NE—Ken 2646
Eblin, Edward .................................. Seattle
LD, LA. .................................. 4908 Othello St—Rai 4857
Eckart, Helen ................................. Seattle
LD, LA. .................................. 1525 2d Av W—QA 1735
Eckert, Roland William ......................... Seattle
LD, Bus. .................................. 1525 2d Av W—QA 1735
Eckelmann, Caroline Cogswell ................... Seattle
Grad .................................. .8442 47th Av NE—Ken 037
Eckhart, Robert Balser .......................... Seattle
LD, Bus. .................................. 4908 Othello St—Rai 4857
Eckerman, Anscal Cyrus ........................ Seattle
LD, LA. .................................. 1210 N 49th St—N 747
Eckerman, Ray L. .............................. Seattle
LD, Bus. .................................. 1210 N 49th St—N 747
Eckman, Rosalena Stella ........................ Yakima
LD, Sci. .................................. 4380 Univ Blvd—Ken 083
Edet, Phoebe P .................................. Seattle
LD, Ed .................................. 6022 21st Av NE—Ken 485
Edades, Victoria .............................. Philippines
LD, PA. .................................. 4322 18th Av NE—Ken 2051
Edberg, Weldon Emory ........................... Seattle
LD, Bus. .................................. 5736 Univ Blvd—Ken 3400
Edgerton, Ernest Benjamin ....................... Seattle
LD, LA. .................................. 4607 5th Av NE
Eden, Claude Alfred ............................. Seattle
LD, Sci. .................................. 4342 Brooklyn Av
Edson, Herbert .................................. Seattle
LD, LA. .................................. 10123 N 4704
Edson, William Obad ............................ Bellingham
LD, LA. .................................. 4342 Brooklyn Av
Edwards, Archie C. ............................. Seattle
LD, CE .................................. 5009 11th Av NE—Ken 1715
Edwards, Arthur Clince ........................... Seattle
Unc, LA. .................................. 2332 Eastlake Av—Cap 2707
Edwards, B Elva ............................... Seattle
Unc, LA. .................................. 4742 10th Av NE—Ken 30
Edwards, Charles Grant ........................ Seattle
LD, Bus. .................................. 5009 11th Av NE—Ken 1718
Edwards, George Washington ..................... Seattle
LD, MB. .................................. 5009 11th Av NE—Ken 1718
Edwards, Robert R. ................................ Seattle
Unc, Sci. .................................. 4470 Whitman Av—N 8831
Edwards, Pauline ................................... Seattle
Unc, LA. .................................. 4782 28th Av NE
Edwards, Thelma Lillian ........................ Seattle
LD, LA. .................................. 5026 20th Av NE—Ken 1709
Eidj, John W. ................................. Seattle
LD, Min. .................................. 117 24th Av—Bus 1411
Egan, Douglas ................................. Seattle
Unc, Bus. .................................. 7936 Wilson Av—Rai 16031
Ehlm, Helen .................................. Seattle
Unc, Phor. .................................. 525 N 84th St
EglIedt, C. L. ................................. Seattle
LD, CE .................................. UD, CE 7835 25th Av NW—Bai 1466
Ehrman, William .............................. Seattle
LD, LA. .................................. 5009 11th Av NE—Ken 1718
Elde, Esther Eleonora ........................... Seattle
LD, Bus. .................................. 4016 21st Av SW
Elk, Myamoto ................................. Seattle
Sp, Sci. .................................. 4016 21st Av SW—Bus 1411
Elkenberry, Willi Hoffman ......................... Seattle
Unc, LA. .................................. 7307 View Lane—W 900W
Eldredge, Clara ............................... Seattle
Eisenhower, Earl S.
LD, Sc., 4505 16th Av NE—Ken 729

Eisenhower, Earl Dewey.
Tacoma
LD, Sc., 6625 16th Av NE—Ken 1087

Eitel, George David.
Seattle
LD, Sc., 4017 W Holgate—W 214R

Elder, Ida
LD, Sc., 5025 16th Av NE—Ken 276

Elder, Valerie Irene.
Coeur d'Alene, Idaho
LD, Sc., 3217 1/2 E 46th St

Elfand, Gertrude Louise.
Seattle
LD, Sc., 1057 Summit Av N—Cap 2400

Elford, Marion A.
Seattle
LD, Sc., 1057 Summit Av N—Cap 2400

Elgin, E. O.
Okanagan
LD, Bus., 6218 Univ Blvd—Ken 2212

Elliot, Carlotta Baker.
Seattle
LD, Jur., 4703 18th Av NE—Ken 2826

Elliot, Clarence T.
Seattle
LD, LA., 6018 56th Av S

Elliot, John Delphus.
Outlook
LD, Bus., 4540 16th Av NE—Ken 475

Ellis, Carl.
Seattle
LD, LA., 6018 56th Av S

Ellis, Oliver Carlisle.
Seattle
LD, ME., • 337 E 57th St—N 3360

Ellis, Stanley M.
Seattle
LD, LA., 115 E 57th Av—Ken 3483

Ellinger, Louise E.
Seattle
LD, LA., 3121 E 68th St—Bal 763 J

Ellis, Clairey Jane Henry.
Seattle
LD, PA., 4038 12th Av NE

Ellis, Flora B.
Seattle
LD, LA., 6018 56th Av S—Ken 95

Ellis, James L.
Tacoma
LD, LA.

Ellis, John C.
Seattle
LD, LA., 132 14th Av N—E 0154

Ellison, Herbert William.
Aberdeen
LD, PA., 4307 11th Av NE

Ellison, Marion F.
Tacoma
Unc, Bus., 5529 10th Av NE—Ken 2082

Ellis, Marion Vaughn.
Bellingham
LD, PA., 1844 E 2nd St—Ken 2745

Ellis, F. Paul Seattle
LD, LA., 4520 21st Av NE—Ken 2900

Emery, Arthur Guy.
Aeone
LD, LA., 3944 11th Av N

Elton, Lydia.
The Dalles, Oregon
LD, Bus., 5214 Univ Blvd—Ken 844

Elridge, Charles Earle.
Seattle
LD, LA., 2226 13th Av Cap 5250

Elridge, Anita Miller.
Seattle
Unc, LA., 4026 11th Av NE—N 3336

Ellen, Sarah Eleanor.
Aberdeen
LD, Bus., 4317 Woodlawn Av

Elwell, Marion Muriel.
Seattle
LD, PA., 5528 42d Av SW—W 750W

Ewel, Andrew.
Seattle
LD, LA., 4317 Woodlawn Av

Elwood, John Carl.
Seattle
LD, FA., 4317 Woodlawn Av

Ewin, James R.
Seattle
LD, LA., 5512 15th Av NE—Ken 2407

Ely, John Carl.
Seattle
LD, FA., 4317 Woodlawn Av

Edmonds & galaxy
LD, Sc., 4505 16th Av NE—Ken 729

Edwin, Walter S.
Seattle
Sc., 4505 16th Av NE—Ken 729

Edmonson, Harold Wilcox.
Owasso
LD, LA., 4554 16th Av NE

Emond, Margaret
Seattle
LD, LA., 5512 15th Av NE—Ken 2407

Elsam, Lura.
Seattle
LD, Bus., 4511 Brooklyn Av—Ken 2854

Elofson, Aune Sigrid.
Seattle
Grad., 4311 Brooklyn Av—Ken 2854

Emery, Clara
Unc, LA., 1144 Federal Av

Emery, De Wolfe.
Seattle
Unc, LA., 1144 Federal Av—Cap 2340

Encarnation, Fidel.
Philippines
LD, CE., 1404 E 41st St

Encarnation, Mariano.
Philippines
Sp., Ph., 1806 E 40th St

Engberg, Homer.
Seattle
LD, LA., 4527 12th Av NE

Eger, Olive May.
Tacoma
LD, LA., 4508 15th Av NE—Ken 2368

Engelhorn, Math Sabine.
Portland, Oregon
LD, LA., 4710 Univ Blvd—Ken 1857

Engleken, Rudolph.
Seattle
Spokane
LD, LA., 4525 13th Av NE—Ken 469

English, Alice.
Seattle
LD, LA., 4710 Univ Blvd—B 6385

English, Clifton.
Seattle
Sc., Per., 3214 Boren Av—Main 2270

Englund, Adolph.
Edmunclaw
LD, Bus., 4126 Brooklyn Av—N 2322

Englund, Carla.
Seattle
LD, Bus., 4126 Brooklyn Av—N 2322

Engstrom, Adolph Jr.
Seattle
LD, Bus., 4126 Brooklyn Av—N 2322

Engstrom, Fred R.
Wrangell, Alaska
LD, Bus., 332 Boynton Av

Engstrom, Irving.
Seattle
LD, Bus., 4506 12th Av NE

Euns, Owen G.
Seattle
LD, LA., 1618 53d Av

Ewy, Talitha Eldora.
Seattle
LD, LA., 2131 E 68th St—Bal 763 J

Epperson, Maurice Gladys.
Seattle
LD, LA., 603 33d St—B 1206

Erderving, Rebecca Olive.
Edmonds
LD, Bus., 6038 11th Av NE—Ken 85

Erickson, Carl Wesley.
Seattle
LD, Bus., 5812 Woodlawn Av—Ken 817

Erickson, Genevieve Lalla.
Seattle
LD, LA., 7515 14th Av NW—Bal 3239

Erickson, Helen Augusta.
Seattle
LD, LA., 4260 Aurora Av—N 1791

Erickson, Melvin.
Bellingham
LD, LA., 4000 14th Av NE—N 9

Erickson, Sylvia Patricia.
Astoria, Oregon
LD, LA., 5216 18th Av NE—Ken 3212

Erickson, John Paul.
Seattle
LD, Bus., 013 E Lynn—Cap 2050

Ericson, Howard Carl.
Tacoma
LD, LA., 3244 11th Av N

Erol, Gladys Marie.
Seattle
LD, FA., 223 West McGraw St—QA 2121

Ericksen, Frederick A.
Vashon
LD, LA., 2022 56th St—Cap 3550

Ernst, Clarence Reinhold.
Seattle
LD, Bus., 301 Harrison St—QA 3345

Erwin, Margaret.
Spokane
LD, LA., 2012 E 45th St—Ken 2345

Erwin, Susan Cleaves.
Seattle
LD, LA., 4504 18th Av NE—Ken 149

Erteld, Mallie M.
Seattle
LD, LA., 4111 15th Av NE

Eskphoo, Mariano.
Philippines
LD, Sc., 61815 Wells St

Esselbach, Emma M.
Seattle
Sc., 1220 7th Av—Per 2303

Ester, Mary J.
Seattle
Unc, LA., Pennington Apts—N 2028

Ewel, Charles.
Seattle
LD, LA., 5214 42d Av SW—W 750W

Ethelok, Margaret.
Seattle
LD, LA., 5214 42d Av SW—W 750W

Ethelok, Margaret.
Seattle
LD, LA., 5214 42d Av SW—W 750W

Etherton, Thomas J.
Seattle
LD, LA., 1144 Federal Av

Evans, Catharine Louise.
Canby, Oregon
LD, LA., 5212 E 45th St—Ken 2345
<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
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<tbody>
<tr>
<td>Everett</td>
<td>5068 12th Av NE</td>
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<tr>
<td>Brandon</td>
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<tr>
<td>Bruns, Thomas Phillips</td>
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<td>4553 7th Av NE—N 2353</td>
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<td>521 Belmont Av N</td>
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<td>Portland, Or</td>
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<td>Fagan, Frances</td>
<td>710 King St</td>
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<td>Monroe</td>
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<td>5104 46th Av S—Rai 780</td>
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<td>Farnsworth, Karol</td>
<td>4014 California Ct</td>
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<td>Fagin, Lewis Hall</td>
<td>1102 Campbell Rd</td>
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<td>Fick, John</td>
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Register of Students

Francis, Harry B. .......................... Tacoma
Unc. Sci. .................................. 5208 Brooklyn Av
Franck, Thomas George .................. Spokane
LD, Bus. .................................. 4508 Univ Blvd—Ken 209
Frankland, Charles F. .................... Seattle
LD, Bus. .................................. 4530 14th Av NE—Ken 655
Franklin, Alice Caitlin ................... Seattle
LD, Bus. .................................. 2618 N Broadway—Cap 3630
Franklin, Shadrach Rector .......... Seattle
LD, Bus. .................................. 2618 N Broadway—Cap 3630
Fransen, Walter C. ........................ Seattle
UD, CE ................................... 1727 Boylston Av—B 3559
Fraser, Edmund Shepard ................. Ontario, Or
LD, Bus. .................................. 4504 18th Av NE—Ken 647
Frayn, Richard ............................. Seattle
LD, Bus. .................................. 2355 Franklin Av—Cap 2638
Frazier, George Gordon .................... Seattle
LD, MB .................................... 1714 800 1st Av
Frazier, Irma C. ............................. Tacoma
Unc. LA .................................. 4502 20th Av NE—Ken 685
Frazier, Lewis Raymond ................... Pocatello, Ida
UD, Bus. .................................. 5212 18th Av NE—Ken 267
Fredlund, Reynold ......................... Seattle
LD, EE ..................................... 1612 Summit Av—E 9245
Friederick, Dewey ......................... Maxee City
Friedrich, Albert F. ....................... Seattle
LD, Bus. .................................. 1763 Sanders Pl—Bea 1274
Friedlander, Elizabeth ................. Seattle
LD, Bus. .................................. 1909 10th Av NE—N 1234
Free, Alonzo Kinaston ..................... Tacoma
Unc. ME .................................. 4523 18th Av NE—Ken 3661
Freedman, Harry A. ....................... Seattle
LD, Bus. .................................. 4550 18th Av NE—Ken 3072
Freeman, Vivian Claire ................... Seattle
LD, LA .................................... 2810 W Park Dr—E 3800
Freund, Guang . ............................ Tacoma
UD, Che., Chem Library—N 2950—Lo 30
Frederich, Harold I. ....................... Spokane
LD, Bus. .................................. 4537 12th Av NE—Ken 1390
Frein, Alice Virginia ...................... Seattle
LD, LA .................................... 4317 16th Av NE—Ken 2068
Frem, Agnes ................................ Seattle
LD, Bus. .................................. 5517 Univ Blvd
Frem, Horace Henderson .................... Seattle
LD, Bus. .................................. 5517 Univ Blvd
French, Beryl ................................. 1520 Jackson Ave—Bea 2189
French, Graham Malcolm .................. Seattle
LD, LA .................................... 2317 1/2 N 45th St—N 171
French, Jane E. ............................. Spokane
Unc. For .................................. 5205 Brooklyn Av
French, Matelle Caroline .................. Seattle
LD, Bus. .................................. 3118 Fairview Av—Cap 2230
French, Phil Eugene ....................... Seattle
UD, FA .................................. 4532 10th Av NE—Ken 2640
Frew, Victor Donald ....................... Seattle
LD, Che .................................... 1614 E Cherry St—E 4004
Frey, Bertha Irene ......................... Seattle
UD, FA .................................. 1810 34th Av—E 935
Freyd, Greta ................................ Seattle
LD, FA .................................... 1722 Market St—Bal 1027
Freyd, Max .................................. Seattle
Grad ........................................ 1810 34th Av—E 925
Friedberg, Louis William ............... Portland, Or
LD, Che .................................... 4523 18th Av NE—Ken 2081
Fried, Nettie ................................ Seattle
Unc. FA .................................. 4342 Brooklyn Av
Friessen, Aaron ............................. Tacoma
Unc. Sci . .................................. 6200 10th Av
Friedman, Samuel ............................. Seattle
LD, Bus. .................................. 118 21st Av—Bea 4020
Friedmann, Howard ....................... Seattle
LD, AC .................................. cor 10th Av NE and 100th St
Fries, Frank Henry ........................ Seattle
UD, Bus. .................................. 1900 E 45th St—Ken 2171
Frich, ETHEENI MAR7HA .................... Seattle
LD, LA .................................... 1101 E Boston St—Cap 3430
Fry, Don W .................................. Anacortes
LD, Bus. .................................. 4508 Univ Blvd—Ken 201
Fry, Gladys Zetha ......................... Wenatchee
Ld, Bus. .................................. 4508 Univ Blvd—Ken 200
Fray, Dorothy Irene ....................... Seattle
Unc. FA .................................. 3117 Summit Av N—Cap 2785
Frye, Consuelo Loyd ....................... Seattle
Unc. Bus .................................. 4010 20th Av S—Rai 505J
Frye, Eliza Marie ......................... Seattle
UD, Sci. .................................. 4711 12th Av NE
Fryer, Jeannette Edith ................... Bremerton
UD, LA .................................... 4703 18th Av NE—Ken 2826
Fryer, Carl Elwood Fryer .............. Seattle
Sp, CE ..................................... 3747 Minor Av—E 2853
Fryette, V. Myrtle ......................... Ridgefield
LD, Ed. ................................... 1722 40th Av—E 1970
Fuir, Malville .............................. Everett
1st, Law ................................. 1905 E 45th St—Ken 505
Fuller, Carl Newton ...................... Seattle
Unc. CS .................................. 3811 11th Av NE
Fuller, Myrtil Margaret ................. Lewiston, Ida
UD, LA .................................... 4530 Univ Blvd—Ken 206
Fuller, Verna Kathryn .................... Spokane
LD, Ed. .................................. 109 E 62d St—Ken 3449
Fulmer, Walter Barry ..................... Portland, Or
Unc. LA .................................. 1138 Reserve Av
Fulmer, Dorothy ......................... Fort Angeles
Unc. Sci. .................................. 2390 N 58th St—Ken 1017
Fulton, Anna Eugenia ..................... Seattle
UND ........................................ 4410 6th Av NE—N 778
Fulton, Grace ................................ Asotin
LD, LA .................................... 4143 11th Av NE—N 410
Fulton, William Edward ................... Seattle
UD, Sci. .................................. 4647 10th Av NE
Fulton, Lois Mildred ..................... Asotin
LD, LA .................................... 4143 11th Av NE—N 410
Fulvene, James L. ........................... Seattle
LD, Sci. .................................. 4616 21st Av NE—Ken 400
Funkush, Frank Kinch .................... Portland, Or
LD, BE ..................................... 4735 Main St
Funkhouser, Jack ......................... Seattle
LD, LA .................................... Clark Hall, Campus—N 262
Furber, George C .......................... Seattle
UND ........................................ 4718 18th Av NE—Ken 808
Furman, Oliver Chester ................... Seattle
LD, Che ..................................... 4506 Univ Blvd—Ken 201
Gaethke, George Michael ............... Butte, Mont
Unc. Sci. .................................. 5032 21st Av NE—Ken 2660
Gaehring, John B. ........................... Tacoma
Unc. Sci. .................................. Washington Apts
Gail, Floyd W. .............................. Moscow, Idaho
Grad ....................................... 0310 10th Av NE
Galbraith, Harriet ......................... Burnaby, B C
Sp ScI. .................................... 4755 4th Av NE—N 2046
Galbraith, Mary Grace ..................... Burnaby, B C
LD, ScI .................................... 4755 4th Av NE—N 2046
Galeno, Eugen F. ........................... Seattle
LD, Che ................................... 703 6th Av N—Q 2870
Gallagher, James Oliver ................. Seattle
LD, Bus. .................................. 4738 Univ Blvd—Ken 787
Galligan, Glendon E. ...................... Everett
LD, Sci. .................................. 4506 Univ Blvd—Ken 201
Gamble, Laura ............................... Keno
Sp ScI. .................................... 6250 16th Av NE—Ken 2061
Gamble, Thomas J .......................... Tacoma
Grad ....................................... 4231 18th Av NE
Gann, Irvin William Otte ................ Waterdown, Wts
UD, For .................................. 4537 11th Av NE—Ken 3000
Ganwell, Gardner McClellan ............ Hoquiam
UD, For .................................. 6052 21st Av NE
Gander, A. ................................. diskingham
LD, Bus. .................................. 5235 Univ Blvd—Ken 618
Gandara, James Joseph ................... Seattle
Unc. Sci. .................................. 5593 8th Av—Ken 712
Gardiner, Inez O. ............................ Seattle
LD, Bus. .................................. 4718 Univ Blvd—Ken 1882
Gardner, Jack. Fort Madison, Iowa
Gardner, Miriam N. Seattle
Gardiner, Raymond. Goldendale
Garrett, Grace Davis. Seattle
Garrett, Max F. Coos City
Garr, Geraldine. Seattle
Gary, Hulda May. Menlo
Gates, Richard Allen. Seattle
Gates, Agness F. (Mrs.)
Gates, Beryl. Canas
Gates, Richard Allen. Tacoma
Gates, Cal. Pijn
Gates, Constance Mary. Spokane
Hagerman, Louise Wanger. Seattle
Gellerman, Louis. Brooklyn
Gellerman, Wm. Seattle
Geoghegan, J. Herbert. Seattle
George, Roy Edmund. Wallace, Idaho
Geter, Ruth A. Jerome, Idaho
Gemeine, Louise. Seattle
Genguth, Ruth. Mt Vernon
Gerry, Mary Alice. Vashon
Gerry, Lillian Gertrude. Vashon
Gibbs, B. 62d St.-Ken 1269
Gibson, Edna. Bldg 500 St.-Ken 2049
Gibson, Edna. Bldg 500 St.-Ken 1269
Gibson, Elia. Bldg 500 St.-Ken 1269
Gibson, Franklin. Mead
Gibson, Fern. Bldg 500 St.-Ken 1269
Gibson, Cora Eleanor. Seattle
Gibson, Fred E. Westminster
Gibson, Merrill Garrison. Spokane
Gibson, Robert Henry. Portland, Oregon
Gidney, Ruth Elizabeth. Seattle
Giles, Virginia. Portland, Oregon
Gillespie, Lorin A. Bremerton
Gilbert, Ethel. Seattle
Gilbert, Gladys. Seattle
Gilbert, Anna Annetta. Seattle
Gilbert, Margaret. Yakima
Gilbert, Ruth Margaret. Seattle
Gilbert, Warren. Oklahoma
Gillett, Frank Richard. Seattle
Gillett, Leonora. Seattle
Gillett, Louis. Seattle
Gillett, Marshall Walter. Seattle
Gilley, Ruth Overton. Seattle
Gillingham, Karess Bellingham
Gillingham, William L. Seattle
Gills, Constance Mary. Seattle
Gills, Robert. Seattle
Gilmour, Leonid. Seattle
Gilmour, William Earl. Spokane
Gillies, John. Seattle
Gibson, Blaine. U.S. Navy
Gibson, Cora Eleanor. Seattle
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Hardy, William Agee ............. Seattle
UD, Chb. 3015 W Lander St—W 1100 W
Hargreaves, Carey ............. Seattle
LD, Min. 8412 6th Av N—N 1210
Hart, Horatio, Samal ............. Russia
LD, CE. 3804 10th Av NE—N 1088
Harshbarger, J. C. ......... Seattle
LD, Sci. 500 12th Av N—Cap 1060
Harm, Frank Donald ......... Centralia
LD, Sci. 5018 10th Av NE
Harman, Helen E. ......... New Port Angeles
LD, PA. 4732 21st Av NE—Ken 119
Harmon, Marion Frances ......... Port Angeles
LD, LA. 6506 10th Av NE—Ken 1307
Harman, Irene Clara ......... LD, PA.
Harned, Zillah ............. Seattle
LD, Bus. 5036 Univ Blvd—Ken 490
Harold, Eugene Leslie ......... Seattle
LD, Bus. 104 Harvard Av N—Cap 943
Harold, Thelma .......... Seattle
LD, Eva. 104 Harvard Av N—Cap 943
Harper, Elbert .......... Chehalis
LD, Bus. 4616 21st Av NE—Ken 480
Harper, Le Roy ............. Seattle
LD, Sci. 2153 30th Av SE—Blew St—N 906
Harrill, Hortenso F. ......... Spokane
LD, LA. 1208 Denny Way
Harrill, J. Burtte, Mont
Unc, Bus. 4702 8th Av NE—Ken 3207
Harrington, Florence .......... Butte, Mont
LD, LA. 4702 9th Av NE—Ken 3207
Harrington, Fred Baldwin, Ida
Sp, Bus
Harris, Benjamin Edward ......... Spokane
LD, LA. 1306 E 45th St—Ken 2171
Harrill, Ida, Bemounth, Ida
LD, Sci. 4704 18th Av NE—Ken 541
Harris, Catherine .......... Everett
LD, PA. 4019 15th Av NE—N 1205
Harris, Donald Silver .......... Portland, Or
UD, LA. 624 1st Av NW—Bal 3814
Harris, Edward William ......... Ft Benton, Mont
LD, Bus. 5036 Univ Blvd—Ken 490
Harris, Florence Sendilla ........ Seattle
LD, LA. 1312 Mead St—Sld 134
Harris, Frederick O. ......... Seattle
LD, LA. 4083 W 18th Av S
Harris, Cornelius Hinman ......... Seattle
LD, LA. 4737 4th Av NE—N 2324
Harris, Mary Prince ......... Seattle
LD, LA. 4732 21st Av NE—Ken 724
Harris, Parker Elmore ......... Seattle
LD, Sci. 4725 11th Av NE
Harris, Ralph H. ............. Seattle
LD, LA. 4737 4th Av NE—N 2324
Harris, Robert G. ......... Spokane
LD, LA. 5015 Univ Blvd—Ken 8109
Harris, Sarah E. ............. Seattle
LD, LA. 4543 Univ Blvd—Ken 659
Harrison, Everett Falconer ......... Seattle
LD, LA. 5042 Univ Blvd—Ken 1025
Hash, Alfred Elmer .......... Yakima
LD, LA. 5038 Univ Blvd—Ken 406
Harshberger, Frank McCoy ......... Seattle
LD, Sci. 415 W 29th Av QA—2957
Harshbarger, Robert Perine ........ Seattle
LD, Chb. 4005 18th Av NE—Ken 383
Harrill, Timothy ................ Parkland
LD Min. 16th Av NE—Lander Hall, Campus
Hart, Artie Lee G. ............. Seattle
LD, LA. 121 13th Av N—E 3162
Hart, Donald ............. Seattle
LD, Bus. 815 E 57th St
Hart, Henry McK. ......... Darrington
LD, LA. 4308 12th Av N
Hart, Irving Warren ......... Belfour, Ida
LD, For. 4305 15th Av NE—Ken 720
Hart, Lou Ella ............. Olympia
LD, LA. 4651 Univ Blvd—Ken 601
Hartigan, Raymond .......... Seattle
LD, Chb. 1407 4th Av N
Hartman, George Howard ......... Selah
LD, Bus. 4709 Brooklyn Av—Ken 2858
Harrison, Robert Perine .......... Seattle
LD, Sci. 1618 Bell probe—E 6551
Marvey, Beatrice ......... Seattle
Unc, Ed. 3836 Findlay St
LD, Bus
Harvey, Helen .......... Walla Walla
LD, LA. 4524 Univ Blvd—Ken 2496
Harvey, John Hamilton ......... Seattle
LD, Bus. 1416 E 41st St
Hassett, Sada .......... Seattle
LD, LA. 1610 E 47th St—Ken 149
Haskell, Donald Forbes ......... Tacoma
LD, Chb. 4549 10th Av NE—Ken 475
Hattheway, Ernest Raymond ......... Seattle
LD, Sci. 126 15th Av N—E 2660
Hatton, Ruth S. ............. Seattle
LD, LA. 2030 Warren Av—24548
Hatlen, Cleatlro .......... Everett
LD, EE. 4205 15th Av NE—Ken 720
Hauk, Hazel Marie ......... Seattle
LD, Sci. 712 Terry Av—E 11 3805
Haukai, Arthur .......... Seattle
LD, LA. 5826 McKinley PI—Ken 529
Hawkins, Harry Harlan ......... Seattle
LD, CE. 4506 Univ Blvd—Ken 291
Hawkins, Robert McMillan ......... Seattle
LD, Bus. 1610 E 47th St—Ken 149
Hawkins, Walter .......... Mt Vernon
LD, EE. 113 Broadway
Hawley, Clarence .......... Seattle
LD, LA. 4083 W 18th Av S
Hawley, Dwight Spencer ......... Seattle
LD, Bus. 2846 W 64th St—Bal 1138
Hawley, Edith Bibb ................ Seattle
LD, Grad. 904 E 47th W—Ken 747
Hawley, Lyle Tracy ......... Seattle
LD, Min. 2032 W 59th St
Hawley, Sydney James ......... Seattle
LD, Sci. 1200 Harvard Av—E 3943
Haworth, Elizabeth ......... Seattle
LD, Sci. 3701 Corills Av—N 5077
Hay, Bruce Mulr ......... Spokane
LD, Bus. 1923 W Broadway—Cap 3588
Hay, Larry ............. Sunnyside
LD, Bus. 2410 W 92nd St—Bal 233
Hay, Marjorie ............. Seattle
LD, Sci. 7011 Sycamore Av—Bal 2493
Hayden, Henry Tweed Jr. ......... Pt Townsend
LD, LA. 5023 Univ Blvd—Ken 540
Hayden, Maxwell C. ........... Tacoma
LD, Sci. 4530 14th Av NE—Ken 555
Hay, Ray H. ......... Sunnyside
LD, Sci. 14th Av NE—N 15th
Haye, Chester William ......... Spokane
LD, EE. 118 Terry Hall, Camm—N 69
Hays, Gordon ............. Tacoma
LD, Bus. 5023 8th Av NE
Hays, Gus .......... Kellog, Ida
LD, Bus. 5326 Univ Blvd—Ken 618
Haymer, Margarite .......... Seattle
Unc Sci. 2718 22d Av S—Bec 137
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*Notes: DO, DOCTOR; LD, LAW; V, VETERINARIAN; S, SCIENTIST; E, ENGINEER; M, MEDICAL; BUS, BUSINESS.*
Knox, Robert W. ............... Anacosta, Mont
LD, CB. .................. 3449 Florence Ct
Knudesen, Einar Mangunsp. . Seattle
LD, Bus. .................. 4719 2d Av NE--N 3517
Knudsen, Gertrude .......... Seattle
LD, LA. ...................... 7025 25th Av NE--Bal 2084
Knudsen, Roy Green ........ Grovard, Albert
LD, Bus. .................. 4504 10th Av NE--Ken 3072
Knuppe, Lyman M. ......... Fairbanks, Alaska
Knappe, Min. ................ 2004 E Union St
Knuppenberg, Irvna Carol. . Seattle
LD, Bus. .................. 4511 15th Av NE--Ken 3710
Kneel, Karl F. ................. Seattle
LD, Bus. .................. 516 Union Blvd
Kraai, Louis Jr. ............... Alaska
LD, Bus. .................. 4743 18th Av NE--Ken 967
Kuebler, Dorothy Ada .. Seattle
LD, ScI. ................... 3504 Frink Blvd--Bsz 2054
Kuehn, W Sherwood .......... Helena, Mont
LD, ScI. ................... 4704 18th Av NE
Kuehnhausen, Victor ........ Lewis
LD, Min. ................... 4740 14th Av
Kuhns, Jesse De Witt Jr .... Chris
LD, Bus. .................. 4220 10th Av NE
Kuhns, Jesse B. ................. Georgia
LD, Bus. .................. 4782 18th Av NE
Kunz, Sam W. ................. Seattle
LD, ScI. ................... 4513 14th Av NE
Kunz, Leon R. ................ Seattle
LD, Bus. .................. 4704 18th Av NE
Kunze, Helen .................. Stanwood
LA, Bus. .................. 4719 15th Av NE--Ken 2604
Kumblad, William .......... Auburn
LD, Bus. .................. 612 E 43d St
Kumblad, William F. ....... Auburn
LD, EE. .................... 5212 15th Av NE--Ken 2055
Kutsch, Olbr. .......... Seattle
Grad. ....................... Homer Apts
Kuz, Sam W. ................. Seattle
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Kohn, James C. ................. Oregon
LD, Bus. .................. 4101 Main W Av--N 104
Kromer, J. .................... 3449 Ed
LD, Bus. .................. 5026 Unlv
Kreisler, Margaret ............. 3449 Ed
LD, Bus. .................. 7410 University
Kreisler, George Edward .... Seattle
LD, EE. ................... 418 W McGraw St--QA 1708
Kreider, Berline Rosamond ... Portland, Or
LD, LA. .................... 5220 19th Av NE--Ken 2082
Kreiger, Joseph Edwin ....... Spokane
LD, Bus. .................. 4504 10th Av NE--Ken 647
Krieger, Maddie Grad. ....... Seattle
LD, LA. ..................... 6238 Woodwynn Av--Ken 752
Kromer, Sydney Harrey ... Boise Idaho
LD, Bus. .................. 4549 15th Av NE--Ken 4710
Kronenburg, Frank .......... Mt Angel
LD, FA. ................... 4235 10th Av NE--N 1095
Kronfield, Harry ............... Seattle
UD, ChE. .................. 212 31st Av--N 1195
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UD, ScI. ................... 4511 15th Av NE--Ken 3710
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Lynch, Rose ......... Seattle
LD, Sci. ........ 5404 Meridian Av—N 2344
Lynch, Walter Jordon ......... Seattle
Unc, EE. .......... 165 McGraw St—QA 1131
Lynd, William Elmer ......... Puyallup, Ida
Sp, Law. .......... 525 30th Av
McAuluy, Don B., Mont
Unc, EE. .......... YMCA—M 5208
Lyn, Henry Arthur ......... Seattle
LA, LD. .......... 3700 41st Av SW
Lyons, Harry Albert ......... Tacoma
Unc, ChE. .......... Terry Hall, Campus—N 60

McAbee, Earl Whatmore ......... Seattle
Unc, LA. .......... 1110 W 61st St—Bal 2191
McArthur, Maxine Elliot ......... Seattle
LA, LD. .......... 517 15th Av N—Cap 1225
McArthur, George Henry ......... Seattle
Grad. .......... 725 12th Av
MacAuluy, Gordon Andrew ......... Seattle
LD, Bus. ........ 902 30th Av N—E 6556
MC, Yakiha
ME, LD. .......... 4704 18th Av NE—Ken 841
MacAuluy, Melva ......... Seattle
Sci. .......... 900 30th Av—E 6556
Mce Bee, Alfred .......... Coeur d'Alene, Ida
LD, LA. .......... 1161 B 47th St—Ken 149
Mce Bee, Hazel Leola ......... Seattle
LA. .......... 1320 E 99th St
Mce Bee, Helen .......... Coeur d'Alene, Ida
LA, LD. .......... 4551 Univ Blvd—Ken 501
McBride, William Craig Jr. ......... Seattle
LD. .......... 4554 16th Av NE—Ken 2690
Mc Cabo, Clair ......... Seattle
Unc, Bus. ........ 2120 E 47th St—Ken 1176
McCarr, Ben .......... Port Angeles
LD, Sci. .......... 1410 Boren Av—M 4201
McCra, Grace Raison ......... Spokane
LD, Sci. .......... 2908 B Union St—E 342
McCullum, Highfield ......... Seattle
LD, LA. .......... 1532 W 60th St—Bal 1135
McCann, Neal J. ......... Tacoma
LD, Sci. .......... 4131 4th Av NE
McCarty, Robert George ......... Seattle
LA, LD. .......... 500 30th Av—Burke Av
Mc Callum, Hight ......... Spokane
Grad. .......... 920 18th Av—E 2080
McCarthy, Joseph L. ......... Wallace, Ida
Unc, Bus. ........ 4305 15th Av NE—Ken 729
McCarthy, Justin ......... Spokane
Grad. .......... 1409 5th Av
McCarthy, Mary Helen ......... Butte, Mont
LA, LD. .......... 1511 E Mercer St—E 5015
Mc Cauley, Gladys Evelyn ......... Spokane
LD, FA. .......... 5026 16th Av NE—Ken 1687
McCasland, Elizabeth ......... Seattle
LD, LA. .......... 4548 Univ Blvd—Ken 26
McGee, Felicity Bertie ......... Seattle
UD, Ed. .......... 4537 Univ Blvd—Ken 20
McGlynn, A Leslie ......... Vancouver
Sci. .......... 520 20th Av NE—Ken 1698
McGlen, Hortense ......... Seattle
UD. .......... 4708 18th Av NE—Ken 2500
McClain, John ......... Seattle
UD. .......... 4722 18th Av NE
McClung, James Cart ......... Seattle
LD, CE. .......... 4587 11th Av NE—Ken 8000
McClung, Lucille Evelyn ......... Portland, Or
LD, LA. .......... 4547 19th Av NE—Ken 23
McDougall, Elizabeth ......... Seattle
LD, ME. .......... 4537 11th Av NE—Ken 8000
McClung, Ryland Eugene ......... Portland, Or
UD, LA. .......... 4524 10th Av NE—Ken 199
McClure, Schofield ......... Seattle
Unc, Bus. ........ 4511 Interlake Av—N 94
McClure, C Willard ......... Yakima
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McClure, Worth ......... Seattle
Grad. .......... 4531 10th Av NE—Ken 149
McColy, Everett Leonard ......... Sumner
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McColoch, Elizabeth Zane ......... Seattle
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McCollough, Dale Lawrence ......... Seattle
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McComb, George Edgar ......... Vancouver, B C
Unc, Min. .......... Fort Hall, Campus—Sp
McConkey, J Franklin ......... Lost Creek, W Va
LD, For. .......... 4513 12th Av NE—Ken 8682
McConnell, Francis Kirkwood C
LD, ChE. .......... 4551 16th Av NE—Ken 8273
Mc Cord, William Bennett ......... Seattle
Unc, Law. .......... 1802 17th Av—E 4520
Mc Cockie, Angus ......... Sumner
UD, LA. .......... 4517 Clark Hall, Campus—N 262
Mc Clink, Lewis J. ......... Mankie, Ohio
Sp, For. .......... 1205 E 45th St
Mc Clink, William Francis ......... Duval
LD, PE. .......... 4322 6th Av NE
McCoy, Fred Burton ......... Seattle
LD, For. ........ 5002 15th Av NE
McCoy, Newton Francis ......... Portland, Or
UD, ME. .......... 5035 19th Av NE—Ken 859
McCoy, John Grinnell ......... Marina, Calif
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McCrank, Willis Flowers ......... Seattle
LD, EE. .......... 0961 30th Av NE
McCrea, Mary Helen ......... Spokane
LA, LD. .......... 4714 Univ Blvd—Ken 2253
McCrea, S William ......... Spokane
LD, CE. .......... 4532 16th Av NE—Ken 293
McCredy, Irving Spencer ......... Snohomish
LD, Bus. .......... 4505 18th Av NE—Ken 833
McCredy, Harold F. ......... Seattle
UD, LA. .......... 4519 1st Av NE—N 1725
McCreery, Edda Lucille ......... Seattle
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McCreery, Hugh Edmon ......... Spokane
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McCreery, Robert Milton ......... Colfax
LD, Bus. .......... 4120 E 47th St—Ken 1170
MC, Westfield Howard ......... Seattle
LD, Bus. ........ 5009 21st Av NE—Ken 859
MC, Zelma Claire ......... Colfax
DA, PA. .......... 1083 15th St—Ken 1467
MC, Moreau, Frank J. ......... Seattle
LD, SC. .......... 1613 Ravenna Blvd—Ken 2258
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Miecke, Paul Frederick .............. Mattoon
LD, LA. 3004 8th Av NE—N 945
Mifflin, Wesley John .............. Seattle
LD, LA. 1607 E Republican St—Cap 3025
Miller, Clara Beulah, Most
LD, LA. 912 W 40th St
Miles, J Hunter .............. Chehalis
LD, For. 1010 E 47th St—Ken 149
Miller, Alfred Amasa .............. Seattle
LD, EE. 1722 Harvard Av—E 2574
Miller, Alfred Lawrence .............. Seattle
LD, Ch, Blakesley, Most
Miller, Catherine Manola .............. Aberdeen
Unc, FA.
Miller, John Charles .............. Seattle
LD, Bus. 4113 Eastern Av
Miller, George Cleo .............. Seattle
LD, EE. 1808 E 66th St
Miller, Cora Isabel .............. Portland, Or
LD, LA. 2004 E 52nd St—Ken 92
Miller, Charles Edward .............. Portland, Or
LD, LA. 5511 12th Av
Miller, Estelle Marie .............. Seattle
LD, LA. 524 Bluest St—N 1275
Miller, Esther Jean .............. Portland, Or
LD, LA. 815 38th Av—E 1379
Miller, Esther M. .............. Seattle
Unc, Sci. 5014 16th Av NE
Miller, Ethel Palmer .............. Cle Elum
LD, Bus. 4522 10th Av NE—Ken 1018
Miller, Eugene .............. Seattle
LD, Bus. 5250 18th Av NE
Miller, Gladys Emily .............. Yakima
LD, Bus. . Clark Hall, Campus—N 292
Miller, Helen Marie .............. Seattle
LD, Ed. 1000 Naomi Pl—Ken 1122
Miller, Herman Erich .............. Spokane
LD, Bus. 4540 18th Av NE—Ken 3972
Miller, Hope Elizabeth .............. Seattle
LD, LA. 5250 18th Av NE
Miller, John Kerr Jr. .............. Seattle
LD, MS. 4522 18th Av NE—Ken 3981
Miller, Katharine Frances .............. Seattle
LD, LA. 2012 E 40th St—Ken 2645
Miller, Lois Josephine, Jerome, Ida
LD, Bus. 5226 15th Av NE—Ken 1809
Miller, Margaret E. .............. Tacoma
LD, Bus. 4400 20th Av NE—Ken 685
Miller, Martha .............. Seattle
LD, Ed. 5226 16th Av NE—Ken 1809
Miller, Max C. .............. Everett
LD, Bus. 4400 20th Av NE—Ken 1748
Miller, Raymond Sylvester .............. Tacoma
LD, Bus. 4528 20th Av NE—Ken 1301
Miller, Robert Earl .............. Faukland
LD, MS. 4521 21st Av NE—Ken 3309
Miller, Roy Charles .............. Wooster, Ohio
LD, LA. 5708 18th Av NE—Ken 190
Mills, Alice Alice .............. Tober, Neb
LD, LA. 5711 W Lee St—QA 1380
Miller, Vera Winona .............. Seattle
LD, LA. 624 Bluest St—N 1275
Mills, Zelma Elizabeth .............. Goldendale
LD, LA. 510 E 47th St
Miller, Walter Edward .............. Seattle
LD, Bus. 510 E 47th St
Millman, Loren Balcombe .............. Seattle
LD, LA. 5247 18th Av NE—Ken 610
Miller, Pauline ...Seattle
LD, LA. 110 E 52nd St
Millspa, Neva Oliva .............. White Salmon
Unc, LA. 5200 18th Av NE—Ken 448
Milne, James Donald .............. Seattle
Unc, EE. 4724 16th Av NE
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LD, LA. 4719 16th Av NE—Ken 3415
Milton, Fletcher Roberta .............. Ellensburg
LD, LA. 4030 11th Av NE
Milton, Lucy .............. Seattle
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Mims, Margaret .............. Coeur d' Alene
LD, LA. 4740 14th Av NE—Ken 1406
Minahan, Campbell Colley .............. Seattle
LD, Sci. 723 17th Av N—E 4061
Minckler, Robert Lee .............. Whitefish, Mont
LD, Bus. 4756 Brooklyn Av NE—Ken 3072
Mines, Harry Walker .............. Seattle
LD, Law. 4500 Univ Blvd—Ken 291
Mintch, John McMillan .............. Seattle
LD, LA. 1612 13th Av—E 5007
Minnis, Rose L .............. Seattle
Sp, Ed. 1031 4th Av W
Minor, Ralph Kaylor .............. Lyoness
LD, EE. 114 E Lander Hall, Campus—N 90
Minshall, Robert .............. Tacoma
LD, MD. 4742 11th Av NE
Mitchell, Blanche Kathryn .............. Seattle
LD, LA. 4547 University Blvd—Ken 291
Mitchell, John Henry .............. Parkville, B C
Sp, For. 4549 15th Av NE
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LD, Jour. 4506 Univ Blvd—Ken 291
Mitchell, Mary .............. Seattle
LD, LA. 5204 14th Av NE
Mitchell, Ruby .............. Seattle
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Mitchell, William M. .............. Spokane
LD, Ch. 4500 Univ Blvd—Ken 291
Mitchum, Ots Julian .............. Rockford
LD, EE. 4080 Eastern Av—N 4009
Mitteberger, Marion C. .............. Seattle
LD, LA. 5208 E Howell St—E 6238
Miyazato, Elgo .............. Seattle
LD, Sci. 4537 4th Av N—E 6111
Moberg, Alice Janet, Mt Vernon
LD, LA. 1502 16th Av N—E 1549
Mock, James G. .............. Port Angeles
Unc, Bus. 2004 52nd St E
Modestt, Loren Ellis .............. Kalispell, Mont
LD, Bus. 4540 18th Av NE—Ken 3972
Moen, O James .............. Bellingham
LD, LA. 5736 Univ Blvd—Ken 2400
Moffet, Thomas .............. Seattle
LD, Bus. 4547 University Blvd—Ken 1018
Morgan, Camilla J. .............. Seattle
LD, LA. 1118 Madison St—E 815206 W
Moor, Esther .............. Seattle
LD, LA. 623 24th Av S—E 4600
Molstad, Harold A. .............. Mt Vernon
LD, LA. 4524 19th Av NE—Ken 570
Moldstad, H Corrine .............. Seattle
LD, LA. 5244 Univ Blvd—Ken 2496
Molson, Alma Florence .............. Portland, Or
LD, LA. 6318 11th Av—Ken 3324
Molls, Morris James .............. Seattle
LD, LA. 2202 25th Av N—E 5009
Moll, Celeste .............. Arlington
LD, LA. 4547 University Blvd—Ken 1018
Moll, Cyril Arthur .............. South Bend
LD, For. 4504 16th Av NE—Ken 647
Mollot, Brakne .............. Parkville, B C
LD, For. 1512 18th Av—E 8087
Moncrief, Lester .............. Indianapolis, Ind
Unc, For. 5211 18th Av NE—Ken 3024
Monest, W .........................................................
LD, LA. 4724 16th Av NE—Ken 6087
Monroe, George Henry .............. Ferndale
LD, LA. 1508 E 60th St—Ken 47
Murchison, Mary
Luns, Karri
Murtin, Margaret
Murcheson, Phil
Seattle
Murphy, Waidred
Murray, Ballard
Roy
Mykland, Albert
Everett
Naugle, Fern
Seattle
UW, Ed.

Munson, Richard
Monrad
Seattle
Unc, Bus.
4616 21st Av NE—Ken 490
Murchison, Mary M.
Tacoma
LD, Sci.
840 16th Av N
Murcheson, M. K.
Grad
740 10th Av N—B 4000
Murfin, Marie G.
Seattle
LD, Sci.
317 16th Av—E 6594
Murphy, Edward R.
Portland, Or
LD, Sci.
Lander Hall, Campus—N 60
Murphy, Edward J.
Seattle
Unc, Sci.
123 46th Av N—B 2921
Murphy, George William
Spokane
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4550 18th Av NE—Ken 3072
Murphy, George Daniel
Seattle
Sp, Bus.
1215 6th Av N—QA 2572
Murphy, Harold Morris
Arlington
LD, Bus.
4530 18th Av NE—Ken 3072
Murphy, Harold
Seattle
LD, Bus.
4530 18th Av NE—Ken 3072
Murphy, Hannon Carpenter
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Or, U.
2120 E 47th St—Ken 1170
Murphy, Judith Elizabeth
Kirkland
LD, Sci.
Rt 2 Kirkland
Murphy, Matthew Franklin
Portland, Or
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Lander Hall, Campus—N 60
Murphy, Mildred Pauline
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1104 James St—M 4710
Murray, Catherine Dorothy
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LD, FA.
120 21st Av—Sea 2743
Murray, Charles
Tacoma
LD, Sci.
1906 E 45th St—Ken 983
Murray, Maurice
Roy
LD, Bus.
4604 16th Av NE—Ken 647
Murray, Millard
Roy
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4504 16th Av NE—Ken 647
Murray, M. Pomeroy
Roy
LD, Bus.
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Maykena, Henry H.
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—Ken 1544
Myer, Thelma A.
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4710 Brooklyn Av—Ken 3706
Myers, Dicie Mildred
Sumas
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5302 6th Av NE
Myers, Donald Pope
Seattle
LD, Bus.
1604 36th Av—B 5940
Myers, Elmer Walter
Vashon
LD, Cha.
4181 14th Av NE
Myers, Glen
Everett
LD, Bus.
4505 18th Av NE
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Seattle
LD, Bus.
4610 14th Av NE—Ken 901
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Seattle
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2063 4th Av N
Myers, Margaret Esther
Sumas
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6502 8th Av NE
Myers, Thomas Franklin
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4780 Brooklyn Av
Myers, Waidred
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Mykland, Albert A.
Grad
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Nadeau, George F.
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530 15th Av—E 2291
Naftzger, Margaret
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LD, Bus.
716 E 47th St—Ken 2855
Nagler, Russell A.
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4600 14th Av NE—N 60
Nash, John Kelly
Friday Harbor
Unc, Bus.
Lander Hall, Campus—N 60
Nathan, Kenneth Robert
Seattle
LD, ME.
4101 Brooklyn Av
Naugle, Fern
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UW, Ed.

Navidad, Jose
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4785 11th Av—E 2201
Neale, Bernece
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1805 Ravens Blvd
Neal, W. Edwin
Boise, Id.
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2608 Mayfair Av—QA 235
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14213 Leary Av—Ken 610
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6525 15th Av NE—Ken 276
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LD ................................. Ymca—M 5208
Rattigan, Thomas ................... Seattle
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Rausch, Bernardine Pauline .... Pomeroy
LD, Bus ............................. 403 46th St—Ken 491
Ravelli, Henri F ........................ Seattle
Unc, EE ............................. 1357 33d Av S
Ray, Charles B ...................... Yakima
LD, Bus ............................. 2012 E 45th St—Ken 2845
Raymond, Roy A .................... Seattle
LD, Bus ............................. 5320 Keystone Pl
Raymundo, Luceno ................... Seattle
LD, Ed .............................. 1404 E 41st St
Reberc, Maurice O .................. Seattle
Unc, Bus ........................... Box 11, B Seattle
Reagan, John Ashworth ............. Seattle
Unc, Bus ............................. 3324 18th Av S—Bex 278
Reagan, Roger Hyde ................. Seattle
LD ................................. 303 19th Av N—Cap 1541
Recart, Horacio Jr ............................ Chile
Grad .................................. 5089 16th Av NE—Ken 500
Redfield, Ben ......................... Spokane
LD .................................. 4274 18th Av NE—Ken 541
Redmon, Dorothy B ................. Yakima
LD, FA ............................. 4548 Univ Blvd—Ken 23
Redmond, Harold Vincent ........... Seattle
LD, Min ............................. 1098 Grand Blvd
Redpath, Harry S .................... Helena, Mont
LD, LA .............................. 5038 14th Av NE
Redway, Frederick A................. Tacoma
LD, Sci ............................. 5003 18th Av NE—Ken 1002
Reed, Alfred William ............... South Bend
LD, Fisheries ........................ 1616 E 47th St—Ken 149
Reed, Eva Taylor ..................... Spokane
LD, Bus ............................. 4548 18th Av NE—Ken 659
Reed, James Judson ................ Kennewick
LD ................................. 1305 E 48th St—Ken 1018
Reed, Jennie Mabel .................. Tacoma
UD, Ed .............................
Reed, Lucile Ida ..................... Spokane
LD, FA ............................. 4003 16th Av NE—Ken 1429
Reed, Mae ........................... Seattle
Sp, Bus ............................. 9731 62nd Av S
Reed, Raymond F ..................... Seattle
LD, OB ............................. 6001 Univ Blvd—Ken 3169
Reeves, Marie Adele ................. South Bend
LD ................................. 4617 Brooklyn Av
Reeves, Harold Jaye ................. Seattle
LD, FA ............................. 1249 20th Av N—N 4020
Reeves, Mary K ...................... Seattle
LD, PI ............................. 5053 Kenwood Pl
Regan, Chester A .................... Seattle
LD, Sci ............................. 806 N 59th St—Bal 2103
Regan, Frank Timothy .............. Boise, Ida
LD, Bus ............................. 4526 University—Ken 615
Rhein, Hays ......................... Chehalis
LD, Ed ............................. 4616 21st Av NE—Ken 490
Rehm, Sidney Juliet ................ Chehalis
Unc, Ed ............................. 4700 19th Av NE
Reichert, Carlton George ......... Seattle
LD, Bus ............................. 622 4th St—Bex 2073
Reid, Elizabeth Jean ............... Tacoma
LD, LA ............................. 4714 19th Av NE
Reid, Florence Emma ............... Govan, B 1
Unc, Bus ............................. Clark Hall, Campus—N 60
Reihart, Ernest Valdenauer ...... Seattle
LD, Bus ............................. 2030 82nd Av B
Relf, Henry Clark .................... Tacoma
Sp, Bus ............................. 4503 Univ Blvd—Ken 246
Renlington, Arthur Ernest ..... Mott, N D
LD, EE ............................. Terry Hall, Campus—N 60
Reny, Miriam ......................... Seattle
LD, LA ............................. Lewis Hall, Campus—N 102
Rensberg, Helen ..................... Seattle
LD, OB ............................. 6184 26th Av NE—Ken 1760
Rensel, Raymond W .................. Winthrop
Sp, Bus ............................. 4740 14th Av NE—Ken 1498
Renfro, Harold Edward ............. Seattle
LD, EE ............................. 5210 S—Cap 73
Renken, Mildred E .................. Olympia
Unc, Bus ............................. 4551 Univ Blvd
Renner, Frederic G .................. Wenatchee
LD, For ............................. Univ Blw—Seattle
Renner, Wesley Frederick ......... Seattle
Grad .............................. 1846 Ravanah Blvd—Ken 80
Ren, Bernadette ..................... Portland
LD, Bus ............................. 2003 E 47th St—Ken 185
Reyn, John ........................ Seattle
Unc, Sci ............................. 410 Harvard Av N
Ress, Eugene Donald ............... Seattle
LD, CE ............................. 4539 11th Av NE
Reuter, Alcivia M ................... Seattle
UD, Sci ............................. 1409 81st Av
Reville, Mary Louise ............... Seattle
LD, Sci ............................. 4719 21st Av NE—Ken 2210
Reyes, Gregorio M .................. Philippines
LD, LA ............................. Gen Del
Reyes, Venancio ..................... Philippines
Unc, MB ............................. 1404 B 41st St
Reynolds, Burton Mark ............. Seattle
LD, Min ............................. 4310 Linden Av—N 3283
Reynolds, Elliott .................... Seattle
LD, LA ............................. 2447 N Broadway—Cap 3844
Reynolds, Jack Williamson ......... Seattle
LD, LA ............................. 4512 4th Av NE
Reynolds, Elmer ..................... Anaconda, Mont
UD, Jour ............................. 5011 19th Av NE
Reynolds, Sewall Leroy ............. Tacoma
LD, EE ............................. 5015 16th Av NE—Ken 63
Rhoades, Fordyce Warner ......... Seattle
Unc, Ed ............................. 9237 Rainier Av
Rhodes, Fred Harold Jr ........... Seattle
LD, ME ............................. 60th Brevoort—Cap 2049
Rhodes, Ruth E ...................... Havre, Mont
LD, Sci ............................. 4303 11th Av NE
Rhodes, William Francis ......... Bellingham
Sp, Eb ............................. 3232 Walnut St
Rice, Casper ......................... Seattle
LD, Bus ............................. 5015 10th Av S—Bex 3802
Rice, Chistina Williamson ......... Seattle
LD, Bus ............................. 5002 Seneca St—E11 1217
Rice, Edith Allegra ................ Riverside, Cal
UD, LA ............................. 2414 S—Ken 106
Rice, Fortilla Irene .................. Bellingham
LD, Bus ............................. 1523 S—St—Ken 1012
Rice, George Russell ............... Tacoma
LD, EE ............................. 4526 University—Ken 615
Rice, Margaret Dorothy ......... Prosser
LD, LA ............................. 4746 19th Av NE—Ken 401.
Bust, Carmela Ruth — Yakima
L.D., Eall, Campus-N 302
Rutherford, Carl Archibald — Tacoma
L.D., C.E. — 4532 19th Av NE-Ken 2646
Rutherford, Rex G. — Tacoma
L.D., 1001 Ay N25-Ken 2849
Rutledge, Rollin A. — Seattle
L.D., E.E. — 3106 Ferdinand St-Ral 191W
Ryan, Francis Milton — Seattle
L.D., Grad — 1417 49th Av W-PA 4703
Ryan, Pherson Harry — Clear Lake
L.D., Bus. — 4523 Burke Av—N 700
Ryan, Robert Therese — Twin Falls, Idaho
L.D., F.A. — 1857 64th St N-N 2889
Ryan, John Charles — Seattle
L.D., Sci. — 4520 21st Av NE-Ken 2600
Ryan, Harold Francis — Long Beach, California
B.Ed., Law — 4520 21st Av NE-Ken 2600
Ryan, Clayton Hopkins — Hoquiam
L.D. — 6031 Univ Blvd
Ryan, Eileen Charlotte — Dayton
L.D., A.A. — 4543 Univ Blvd
Rygg, John — Arlington
L.D., 6602 Palestine Av—Bal 1012
Rynning, Emma Janette — Tacoma
L.D., Ed. — 4303 11th Av NE-N 3457
Sabin, Rose Elizabeth — Anacortes
Unc, F.A. — 5220 19th Av NE
Sage, Robert E. — Burke, Idaho
L.D. — 4501 7th Av NE
Sakuma, Yashuharu — Portland, Oregon
Unc, B.E. — 4110 12th Av NE-N 3707
Sale, George Ambrose — South Bend
L.D., Grad — 1416 E 47th St-Ken 149
Sallebury, Helen Elizabeth — Sprague
L.D., Bus. — 4524 Univ Blvd—Ken 2406
Sand, Harriet Fells — Spokane
L.D., F.A. — 4530 Univ Blvd—Ken 983
Sallee, Hubert Bland — Olympia
Univ, B.S. — 4223 19th Av NE
Sanchez, Estanislao — Philippines
Sp., Bus. — 4511 Brooklyn Av
Sander, Harold Crawford — Norway
L.D. — 4740 14th Av NE
Sander, Arthur Gustav — Seattle
L.D., Grad — 4414 14th Av NE
Sander, Carlton Augustus — Seattle
L.D., Bus. — 5110 Wallingford Av—N 2120
Sanders, William Clarke — Seattle
L.D., Grad — 4414 14th Av NE
Sanderson, Donald Mildred — Seattle
L.D., F.A. — 5500 14th Av NE—Ken 3461
Sanders, David Scott — Spokane
L.D., Min. — 4408 18th Av NE—Ken 290
Sanderson, Josephine — Harve, Montana
L.D., F.A. — 5214 17th Av
Sanders, Ruth — Seattle
L.D., LA. — 2602 5th Av N
Sanders, Theodore Ernest — Ephrata
L.D., Bus. — 4608 Sunnyside Av
Sandstrom, Esther Evony — Hillsdale, Oregon
L.D., Ed. — 1804 E 50th St—Ken 802
Sanfurch, Phoebe Mae — Friday Harbor
L.D., Grad — Clark Hall, Campus—N 202
Sandvigen, Emma — Seattle
Unc, Bus. — Highland Drive
Sanford, Josephine — Franklin
L.D., Grad — Clark Hall, Campus—N 202
Sanglard, Victor Filipino — Seattle
Sp., LA. — Terry Hotel—Eli 1030
Sanger, Ried George — Clarkston
L.D., Bus. — 5512 18th Av NE—Ken 887
Sanidad, Prospero — Philippines
Sp., B.S. — 306
Sanzela, Neil John — Ilwaco
L.D. — 5015 Univ Blvd—Ken 8169
Saperstein, Arthur B. — Buffalo, New York
L.D., Grad — 1034 14th Av NE—Ken 2849
Sartoris, George Bartholomew — Enumclaw
L.D., Sci. — 4017 12th Av NE
Sartoris, Madeline Sartoris — Enumclaw
L.D., Sci. — 3000 Univ Blvd—Ken 1607
Sawyer, Lois Jocelyn — Seattle
L.D., LA. — Seattle, BFD, 8
Sather, Carl Martin — Seattle
L.D., LA. — 5020 15th Av NE—Ken 1687
Sater, Herman C. — Seattle
L.D., Bus. — 424 1/2 1st Av W
Sato, Nobuyuki — Seattle
L.D. — 1588 25th Av—E 1286
Sawers, Jack Conley — Seattle
L.D., Bus. — E 1925
Sawdson, Dorothy Susie — Portland, Oregon
L.D., LA. — 4551 18th Av NE—Ken 263
Sawdey, Hermance O. — Seattle
L.D., LA. — 1602 Franklin Av—Cap 2903
Schafer, Leonard J. — Seattle
L.D., Sci. — 3719 4th Av—Eli 1603M
Schafer, Marie — Seattle
L.D. — 4708 18th Av NE—Ken 2528
Scharf, Freeman Carlyle — Kelalspel, Mont
L.D., Bus. — 7036 10th Av NE—Ken 3165
Schei, Adolph George — Seattle
L.D., Ch.E. — Walk 5, Madison Park
Scheyer, Fred Louis — Puitalup
L.D., Bus. — 4531 Univ Blvd—Ken 2649
Schippmann, Hermann Adolph — Germany
L.D., F.A. — 3814 Aurora Av—N 1125
Schmidt, Byron — Seattle
L.D., Bus. — 5016 10th Av NE—Ken 3165
Schmitz, Carl — Seattle
L.D., E. — 4520 18th Av NE—Ken 2649
Schneid, Floyd Wilfred — Seattle
L.D., For. — 4502 12th Av NE
Schoue, Pickering Ruth — Seattle
L.D., Bus. — 4531 12th Av NE—Ken 2808
Schnall, Joseph S. — Tillamook, Oregon
L.D., Sci. — 615 1st Av—Seattle
Schnauz, Edison G. — Walla Walla
L.D., Sci. — 320 W Gater St—QA 4685
Schnelle, Charles Henry — Boise, Idaho
L.D., Sci. — 6217 12th Av NE—Ken 2808
Schoen, Evelyn H. — Hilo, Hawaii
L.D., Sci. — 4540 Univ Blvd
Schoen, Lilian R. — Seattle
Sp., F.A. — 2510 6th Av—Eli 1168W
Schoffar, Marie Bertha — Elma
L.D., Bus. — 5521 16th Av NE
Schofield, Stewart Guy — Seattle
L.D., Min. — 1106 7th Av—N—QA 573
Schofield, Marguerite — Seattle
L.D., LA. — 6311 25th Av NE
Schofield, William — Seattle
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Skow, Grace Robin... Tacoma
LD, FA... 4547 10th Av NE-Ken 23
Skibenens, Alphonse Jennings... Spokane
LD, Sc... 4538 20th Av NE-Ken 2061
Skudder, Charles Henry... Tacoma
LD, Bus... 2012 E 45th St-Ken 2645
Skinner, Charles Henry... Coeur d' Alene
Sp, Bus... 4748 Brooklyn Av
Skinner, Elzy... Seattle
LD, LA... 2008 24th Av N-E 6842
Skogl, Joe L... Seattle
LD, FA... 1519 Yale Av-SIU 5607
Slade, Douglas H... Lynden
LD, Bus... 4610 21st Av NE
Slade, Elizabeth Means... Hood River, Or
LD, LA... 4703 16th Av NE-Ken 1080
Slater, Mary Dorothy... Raymond
LD, Ed... 4748 21st Av NE
Slater, Ve... Ferndale
LD, LA... 5051 15th Av NE-Ken 3050
Slavson, Margaret A... Portland, Or
LD, FA... 2012 E 45th St-Ken 2645
Smith, Anna Cicely... Spokane
LD, LA... 4711 18 Av NE-Ken 2828
Smith, Ethel Carl... Tacoma
LD, LA... 5031 15th Av NE-Ken 3050
Smith, Ethel Beryl... Vancouver, Wash
LD, LA... 4648 Univ Blvd-Ken 909
Smith, George Edward Jr... Seattle
UD, Min... 2120 E 47th-Ken 1179
Smith, George Minus Jr... Seattle
LD, LA... 1234 Lander Hall, Campus-N 80
Smith, Gladys... Seattle
LD, LA... 1126 38th Av-E 2258
Smith, Glenard Dexter... Seattle
Sp, Bus... YMCA-K 6208
Smith, Guy W... Seattle
UD, Bus... 5047 18th Av NE-Ken 2483
Smith, Harry E... Reedsport, Or
UD, Bus... 4840 11th Av NE-Ken 818
Smith, William Harold... Seattle
LD, LA... 1062 Boyer Av-E 1070
Smith, Miss Herndon... Seattle
LD, LA... Clark Hall, Campus-Tacoma
Smith, Irving... Seattle
UD, Law... 1503 34th Av So
Smith, Lawrence Kelvin... Seattle
LD, Bus... 1708 45th Av SW
Smith, Leona... Seattle
LD, Sci... 5047 18th Av NE-Ken 2483
Smith, Margaret Watson... Boise, Ida
Sp, LA... 6041 22nd Av NE
Smith, Marian Alice... Tacoma
LD, Sci... Lewis Hall, Campus-N 102
Smith, Max... Yakima
LD, LA... Clark Hall, Campus-N 262
Smith, Mercer Homer... Spokane
LD, Bus... 5088 Univ Blvd-Ken 495
Smith, Olive E... Boise, Ida
Sp, FA...
Smith, Otto... Great Falls, Mont
LD, Bus... 5015 Univ Blvd
Smith, Pearl... Seattle
Unc, Bus... 1404 E Harrison St-Cap 1151
Smith, Phebe Louise... Seattle
LD, Bus... 5015 Univ Blvd
Smith, Priscilla Margaret... Spokane
LD, LA... 4714 Univ Blvd-Ken 2235
Smith, Precott... Greeley, Col
LD, Bus... 6041 12th Av NE-Ho 3058
Smith, Ralph Leslie... Miller River
Unc, Sci... 5045 11th Av NE
Smith, Ralph Myron... Livingston, Mont
LD, Bus... 4524 19th Av NE-Ken 1076
Smith, Ralph Ryan... Seattle
UD, Bus... 2120 E 47th-Ken 1179
Smith, Richard Martin... Seattle
UD, Bus... 1404 E Harrison St-Cap 1151
Smith, Richard Merrill... Washougal
UD, For... 1306 E 45th St-Ken 2088
Smith, Robert Gervis... Seattle
LD, ME... 4716 9th Av NE-Ken 3395
Smith, Sherwood H... Seattle
LD, Bus... 1908 E 45th St-Ken 2171
Smith, Sidney N... Tacoma
LD, Bus... 1908 E 45th St-Ken 2171
Smith, Spencer B... Tacoma
LD, LA... 700 E Pike St
Smith, Stanford Valentine... Eatonville
Unc, Law... 5085 18th Av NE-Ken 1103
Smith, Stan Lee... Seattle
LD, LA... 1122 26th Av-E 4762
Smith, Terrell John... Seattle
LD, ME... 122 Woodlawn Circle
Smith, Trenton John... Spokane
LD, CH... 1350 University-E 5888
Smith, trumpet V... Seattle
Unc, Bus... 222 16th Av N-E 6754
Smith, Eileen I... Kalskell, Mont
LD, FA... 5214 Univ Blvd-Ken 844
Smith, Elfreda Allen... Seattle
UD, LA... 4510 22nd Av NE
Smith, Emma.... Tacoma
LD, LA... 4510 22nd Av NE
Smith, Ethel Beryl... Vancouver, Wash
LD, LA... 4648 Univ Blvd-Ken 909
Smith, George Edward Jr... Seattle
UD, Min... 2120 E 47th-Ken 1179
Smith, George Minus Jr... Seattle
LD, LA... 1234 Lander Hall, Campus-N 80
Smith, Gladys... Seattle
LD, LA... 1126 38th Av-E 2258
Smith, Glenard Dexter... Seattle
Sp, Bus... YMCA-K 6208
Smith, Guy W... Seattle
UD, Bus... 5047 18th Av NE-Ken 2483
Smith, Harry E... Reedsport, Or
UD, Bus... 4840 11th Av NE-Ken 818
Smith, William Harold... Seattle
LD, LA... 1062 Boyer Av-E 1070
Smith, Miss Herndon... Seattle
LD, LA... Clark Hall, Campus-Tacoma
Smith, Irving... Seattle
UD, Law... 1503 34th Av So
Smith, Lawrence Kelvin... Seattle
LD, Bus... 1708 45th Av SW
Smith, Leona... Seattle
LD, Sci... 5047 18th Av NE-Ken 2483
Smith, Margaret Watson... Boise, Ida
Sp, LA... 6041 22nd Av NE
Smith, Marian Alice... Tacoma
LD, Sci... Lewis Hall, Campus-N 102
Smith, Max... Yakima
LD, LA... Clark Hall, Campus-N 262
Smith, Mercer Homer... Spokane
LD, Bus... 5088 Univ Blvd-Ken 495
Smith, Olive E... Boise, Ida
Sp, FA...
Smith, Otto... Great Falls, Mont
LD, Bus... 5015 Univ Blvd
Smith, Pearl... Seattle
Unc, Bus... 1404 E Harrison St-Cap 1151
Smith, Phebe Louise... Seattle
LD, Bus... 5015 Univ Blvd
Smith, Priscilla Margaret... Spokane
LD, LA... 4714 Univ Blvd-Ken 2235
Smith, Precott... Greeley, Col
LD, Bus... 6041 12th Av NE-Ho 3058
Smith, Ralph Leslie... Miller River
Unc, Sci... 5045 11th Av NE
Smith, Ralph Myron... Livingston, Mont
LD, Bus... 4524 19th Av NE-Ken 1076
Smith, Ralph Ryan... Seattle
UD, Bus... 2120 E 47th-Ken 1179
Smith, Richard Martin... Seattle
UD, Bus... 1404 E Harrison St-Cap 1151
Smith, Richard Merrill... Washougal
UD, For... 1306 E 45th St-Ken 2088
Smith, Robert Gervis... Seattle
LD, ME... 4716 9th Av NE-Ken 3395
Smith, Sherwood H... Seattle
LD, Bus... 1908 E 45th St-Ken 2171
Smith, Sidney N... Tacoma
LD, Bus... 1908 E 45th St-Ken 2171
Smith, Spencer B... Tacoma
LD, LA... 700 E Pike St
Smith, Stanford Valentine... Eatonville
Unc, Law... 5085 18th Av NE-Ken 1103
Smith, Stan Lee... Seattle
LD, LA... 1122 26th Av-E 4762
Smith, Terrell John... Seattle
LD, ME... 122 Woodlawn Circle
Smith, Trenton John... Spokane
LD, CH... 1350 University-E 5888
Smith, trumpet V... Seattle
Unc, Bus... 222 16th Av N-E 6754
Telmadge, Walter Heath
LD, ME ....... 5417 18th Av NE
Temeles, Florecento ..... Filipinillos
Sp, For. .......... 4508 8th Av NE—N 215
Tanabe, Borge B ... Japan
LD, ChE ....... 4110 12th Av NE—N 3797
Taner, Maxd Lara ..... Seattle
LD, FA ....... 4720 42nd Av S—Rat 463W
Taylor, Donald Hugh ..... Seattle
LD, Bus. .......... 4505 18th Av NE—Ken 338
Taylor, Ellen ..... Spokane
LD, CA. .... Le Hoy ..... Ken—N 2952
Taylor, Faith Elizabeth ..... Langley
LD, LA. .... Clark Hall, Campus—N 202
Taylor, Frank Howard ..... Seattle
LD, EE. .... 4757 42nd Av S—Rat 468W
Taylor, George S ..... Presser
LD, Bus. .......... 4550 18th Av NE
Taylor, Grace S ..... Seattle
LD, USA .... 911 N 47th St—N 1624
Taylor, Harriet Mary ..... Seattle
LD, Sci. .... 8004 6th Av NW—Bal 1833
Taylor, James Lynn ..... Seattle
LD, LA. .... 1205 E 45th St—Ken 1018
Taylor, Jeanette ..... Seattle
LD, Bus. ....... 503 29th Av S—Ben 4922
Taylor, Joyce E ..... Seattle
LD, Pbr. ..... 1515 6th Av W
Taylor, Lloyd ..... Seattle
LD, Bus. .......... 2727 Fairview Av
Taylor, Margaret Sophia ..... Seattle
LD, LA. .... 0004 6th Av NW—Bal 1828
Taylor, William F J ..... Tacoma
LD, Bus. ....... 616 E Pine St
Taylor, William Need Jr. ..... Darrington
LD, For. .... 4520 31st Av NE—Ken 2800
Teall, Hazel Connel ..... Walla Walla
LD, USA .... 4720 11th Av
Ted, Clifford L ..... Seattle
LD, CE. .... 4142 12th Av NE
Tedada, Emma Maria ..... Philippines
LD, LA. .... 4622 18th Av NE
Tellier, Belle ..... Seattle
Sp, Ed. .... 44 14th Av—Cap 2350
Temple, Mary S ..... Tacoma
Sp, LA. .... Lewis Hall, Campus—N 162
Tennies, Gertrude Madeline ..... Seattle
LD, LA. .... 1608 E 62nd St
Terrell, Agnes N ..... Billings, Mont
LD, LA. .... 1110 16th Av—N 7587
Terrell, Grace G ..... Seattle
LD, Bus. ....... Loyal Heights—Bal 272
Terr, Buela ..... Bothell
LD, LA. .... 1608 E 62nd St
Terr, Susan Alfredd, Mich
Unc, Law. .... 5041 12th Av NE—Ken 441
Terry, David Russell Jr. ..... Seattle
LD, Da. Av—Ken 2081
Terry, James ..... Seattle
LD, USA .... 4527 18th Av NE—Ken 2061
Thelen, Arthur Leonard ..... Seattle
LD, LA. .... 1306 E 48th St—Ken 2171
Thiel, Cordelia Madeline ..... Seattle
Unc, Law. .... 4825 Austin St—Rat 6313
Thull, Curtis W ..... Seattle
Grad. .... 4541 14th Av NE—Ken 158
Thomassen, Leroy Nelson ..... Seattle
LD, Min. .... 5211 18th Av NE—Ken 987
Thomas, Emaude, Chl, Kent
LD, Sci. .... 5211 18th Av NE
Thomas, Bertram ..... Seattle
LD, Sci. .... 5012 10th Av NE
Thomas, Donald Pat, Hugh ..... Portland, Seattle
LD, FA. .... 4620 21st Av NE—Ken 2000
Thomas, Gertrude Marion ..... Cosmopolis
LD, Sci. .... 4508 16th Av NE—Ken 2678
Thomas, Homer Evan ..... Cornopolis, PA
LD, LA. .... 4754 16th Av NE
Thomas, Irving Wheat ..... Seattle
LD, LA. .... 4520 21st Av NE—Ken 2000
Thomas, John Baldwin ..... Seattle
LD, Bus. ....... 1912 E 63rd St—Ken 1770
Unc, Sci. .... 1319 Kilbourne St
Thomas, Ruth ..... Port Blakley
LD, LA. .... 1912 E 63rd St—Ken 1770
Thompson, Allen Emmett ..... Seattle
LD, For. .... 1211 E Madison St—E 239
Thompson, Catherine ..... Pendleton, Or
LD, LA. .... 4504 16th Av NE—Ken 146
Thompson, F Clare ..... Tacoma
LD, Bus. ....... 1912 E 63rd St—Ken 1770
Thompson, Effie Hazel ..... Yakima
UD, LA. .... 4747 16th Av NE—Ken 1704
Thompson, Elizabeth G ..... Seattle
UD, Sci. .... 1408 E 42nd St N 48
Thompson, Ella ..... Seattle
Unc, FA. .... 653 Banner Pl—Ken 1358
Thompson, F Esther ..... Sloux Falls, S Dak
LD, Bus. ....... 6742 Sycamore Ave
Thompson, Ethel Marion ..... Everett
Unc, Bus. .... 4710 Univ Blvd—Ken 1975
Thompson, Georgia Frank ..... Lewiston, ID
Unc, Bus. .... 4518 16th Av NE—Ken 2093
Thompson, Helen ..... Pendleton, Or
LD, LA. .... 4504 18th Av NE—Ken 146
Thompson, Jane ..... Tacoma
LD, LA. .... 4524 Univ Blvd—Ken 2246
Thompson, Lois Dorothy ..... Seattle
Unc, LA. .... 4504 18th Av NE—Ken 146
Thompson, Myron S ..... Seattle
Sp, Sci. .... 4532 14th Av NE
Thompson, Susan F. ..... Everett
LD, EE. .... 5248 16th Av NE
Thompson, Richard Aldwin ..... Seattle
UD, Bus. .... 5261 12th Av NE
Thompson, Willis Hale ..... Centralia
Unc, Bus. .... 3255 Univ Blvd—Ken 018
Thompson, Thelma ..... Pendleton, Or
LD, LA. .... 4518 16th Av NE—Ken 146
Thompson, Gladys ..... Everett
LD, LA. .... 6329 16th Av NE
Thomson, (Mrs) Bertha M ..... Seattle
Sp, FA. .... 5410 6th Av NE—Ken 2081
Thomson, Frances Clifton ..... Seattle
LD, Jour. ...... 2454 Harvard Av N—Cap 1476
Thomson, Reginald Homer Jr. ..... Seattle
LD, Bus. .... 2454 Harvard Av N—Cap 1476
Thoren, Amy Johanna A ..... Seattle
LD, Ed. ..... Lewis Hall, Campus—N 162
Thorson, W.E. ..... Seattle
LD, ChE. .... 410 Minor AT
Thomke, Charles Jesse ..... Seattle
LD, FA. .... 4841 Pilot Rd—Renton
Thorn, William ..... Abbotford, B C
LD, ME. .... 4754 16th Av NE—Ken 2678
Thornton, Hazel Jo. ..... Yakima
WEATON, Alma Jane, South Bend
Wheaton, Marion E. Bellingham
Wheeler, Jane, Tacoma
Wheller, Estelle, Seattle
Watson, Harold, Seattle
Watson, William, Seattle
Watt, L. M. Seattle
Watt, Paul, Yakima
Webster, Aletta, Seattle
Webster, Grace Elizabeth, Seattle
Wells, Hazel, Tacoma
Wells, Virginia, Seattle
Wells, Hazel, Tacoma
Wells, Virginia Ribble, Portland, Ore.

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Wheaton, Almina Jane, South Bend
L. D. , A. 4847 Univ Blvd—Ken 1004
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Wheeler, Jane, Tacoma
L. D., A. 4308 Univ Blvd—Ken 290
Wheller, Estelle, Seattle
L. D., A. 4548 Univ Blvd—Ken 29
Watson, Anna Elizabeth, Seattle
L. D., A. 406 11th Ave N
Watson, Dorothy Elizabeth, Aberdeen
L. D., A. 3037 Franklin Ave
Watson, Alvin Dwight, Seattle
L. D., A. 315 19th Ave N—E 2904
Watson, Harold, Seattle
L. D., E. 380 18th Ave N—E 5800
Watson, Jean Ferguson, Seattle
L. D., A. 4840 Univ Blvd—Ken 1092
Watson, Ruth Elizabeth, Seattle
L. D., A. 4101 Brooklyn Ave
Watson, Vivian L., Seattle
L. D., A. 4140 E 41st St—N 2611
Watson, Williams H., Charleston
Sp., Scd. 4340 15th Ave NE—Ken 3608
Watson, William W., Seattle
L. D., D. 520 13th Ave N—Cap 389
Watt, Elsie, Seattle
L. D., Bus. 4811 9th Ave NE
Watt, James Graham, Seattle
L. D., Scd. 4811 9th Ave NE
Watt, Harold Barton, Yakima
L. D., D. 5009 18th Ave NE
Watt, Mabel, Seattle
L. D., Scd. 4311 9th Ave NE
Watts, Joseph Vern, McCammon, Idaho
Sp., Ed. 1920 13th Ave—E 7800
Watts, R. Maud, Bellingham
L. D., Scd. 5250 18th Ave NE
Way, Lela Ethel, Seattle
L. D., Scd. 4810 KFD 2—Box 86
Weage, Avery Dudley, Seattle
L. D., Ed. 4830 11th Ave NE
Weage, Esther Ann, Seattle
L. D., Ed. 4830 11th Ave NE
Weage, Mary De Ella, Seattle
L. D., Scd. 4830 11th Ave NE
Weaver, Grace Elizabeth, Seattle
L. D., Scd. 5034 18th Ave NE—Ken 2900
Webb, Bernice Lovell, Lewiston, Idaho
L. D., A. 4583 10th Ave NE—Ken 083
Webb, Adrilce Dewey, Seattle
L. D., A. 4704 18th Ave NE—Ken 541
Weber, H. W., Seattle
L. D., A. 5408 16th Ave NE
Webster, Alletta Ruth, Vancouver, Wash
L. D., A. 4508 16th Ave NE
Webster, John C., Portland
L. D., A. 1010 E 47th St
Wehara, Hisao Runkin, Seattle
L. D., Scd. 102 12th Ave So
Weidner, Edward, Seattle
L. D., Scd. 4215 Brooklyn Ave
Welden, Hazel Helen, Seattle
L. D., A. 4215 Brooklyn Ave
Weigel, Marjorie Townsend, Yakima
L. D., Bus. 4503 Univ Blvd—Ken 220
Welch, Elizabeth C., Yakima
L. D., A. 4510 Univ Blvd—Ken 3216
Welland, Marjorie Lorraine, Oakville
L. D., FA. 5214 Univ Blvd—Ken 481
Welmar, Helen Marie, Tilton
L. D., A. 2523 9th Ave NE—Ken 253
Weinstein, Harry Harris, Portland, Ore.
L. D., Bus. 4547 Univ Blvd—Ken 253
Welsh, Adolph, Seattle
L. D., Scd. 4144 10th Ave NE—N 2800
Welsh, Gertrude Jacquetta, Seattle
L. D., Scd. 4144 10th Ave NE—N 2800
Weir, John M., Tacoma
L. D., BE. 2051 18th Ave S—Bu 3193
Weissbom, Bernard, Seattle
L. D., Bus. 1897 N 51st St—N 877
Wellborn, Marguerite, Seattle
L. D., A. 500 W Prospect St
Wells, Hazel, Seattle
L. D., Bus. 5103 Meridian Ave—N 150
Wells, Edmund Ruxford, Tacoma
L. D., Ch. 4735 21st Ave NE
Wells, Virginia Ribble, Portland, Ore.
L. D., A. 4540 Univ Blvd—Ken 1002
Welsh, Burke John, South Bend
L. D., A. 1916 E 41st St—Ken 149
Welsh, Gertrude Katharine, Aberdeen
L. D., A. 4203 8th Ave NE
Welsh, Richard, Mt Verno
L. D., A. 4930 25th Ave NE—Ken 2900
Welty, Consuelle, Seattle
L. D., Bus. 5028 10th Ave NE
Wendland, Eileen, Seattle
L. D., A. 4805 47th Ave NE
Wenner, Harriet Ann, Okanogan
L. D., A. 4740 21st Ave NE
Wentworth, Lula Ann, Seattle
L. D., Educ. 4622 E 72nd St
Wentworth, Lovering Ray, Seattle
L. D., NE. 4750 Tahoma Ave—N 119
Werby, Helen John, Medicine Hat
L. D., A. 210 3d Ave N—Q 2767
Werner, Harriet Ann, Okanogan
L. D., A. 4738 21st Ave NE
Werncler, Oscar B., Lithfield, Miss
L. D., A. 5108 9th Ave
West, Beth, Sumas
L. D., Ed. 4833 21st Ave NE
West, Ceci Howland, Seattle
L. D., Scd. 4830 21st Ave NE
West, Constance Mary, Seattle
L. D., Scd. 5009 32nd St S
West, Garnet Mary, Portland, Oregon
Sp., L. A.
West, Mildred V., Seattle
L. D., A. 1530 E 62nd St—Ken 069
Westbrook, Ethel Lewis, Seattle
L. D., A. 4850 11th Ave NE
Weston, Alva Towle, Portland, Oregon
L. D., A. 4832 18th Ave NE—Ken 2837
Weston, Merle Millicent, Sacramento, Calif
L. D., Scd. 1532 Terry Ave—M 4238
Weston, Nellie C., Seattle
L. D., Scd. 4718 Univ Blvd—Ken 1882
Weston, John Roland, Logtown, Miss
L. D., A. 1010 E 47th St
Westlund, Edwin, Seattle
L. D., A. 4540 11th Ave NE—Ken 083
Weber, Harold James, Seattle
L. D., A. 4512 19th Ave NE—Ken 2449
Weinstein, Leo, Russia
L. D., Ed. 3804 10th Ave NE—N 1088
Weyman, Charles Charles, Monitor
L. D., A. 4523 18th Ave NE—Ken 3681
Weyman, Ruth, Seattle
L. D., Scd. 6271 Clark Hall, Campus—N 2780
Whalen, Carl D., Seattle
L. D., Bus. 5037 15th Ave NE
Whalen, Frances Carlile, Chehalis
L. D., Bus. 4547 Univ Blvd—Ken 253
Wharton, Florence, Yakima
L. D., Educ. 4547 Univ Blvd
Wharton, Jonathan, Seattle
L. D., Co. 4319 3d Ave
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<tr>
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<td>Williams, Ada L</td>
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Youngquist, Ruben Clifford..........Goldendale
LD, EE..........................4016 21st Av NE
Yucca, Shishilo........................Japane
Grad..........................4110 12th Av NE—N 3707

Zuur, Clarence William..............Seattle
LD, LA..........................Lander Hall, Campus—N 00
Zambrillo, Elenor C....................Philippines
Unc, Sci................................1404 E 41st St
Zambolin, Carl........................Olympia
LD, Bus..........................1611 E 47th St—Ken 149
Zee, Chung............................China
Unc, Bus..........................4528 Brooklyn Av—Ken 27
Zehring, Raymond W....................Seattle
LD, EH..........................5812 15th Av NE—Ken 3407
Zeigler, Harry H........................Seattle
LD, Min................................715 6th Av
Zeis, Duncan.........................Seattle
Unc, Bus..........................4619 Woodland Pk Av—N 3620
Zelaski, J Zef................................Poland
3d, Law..........................5881 11th Av NE—N 8638
Zener, Carlos Ralph...................White Salmon
LD, Bus..........................4522 18th Av NE—Ken 3651

Zener, Francis Bertram...............White Salmon
LD, Sci..........................5038 Uair Blvd—Ken 496
Zicklick, Lyall Wesley.................Wahkon, Mien
LD, Min..........................603 Seaboard Bldg—M 7677
Zell, Frederick Leonard..............Pt Townsend
LD, CE..........................Lander Hall, Campus—N 00
Zimmerman, Chloe Anice..............Spalupa, Okla
UD, LA..........................4723 18th Av NE—Ken 2706
Zimmerman, Mary L....................Seattle
LD, LA..........................4710 Thackebery Place
Zimmerman, Orville R................Gresham, Or
LD, Bus..........................4807 11th Av NE—N 3475
Zinn, Zola..............................Seattle
Unc, Sci..............................Seattle
Zloucek, Marlon Anthony..............Seattle
Unc, Bus..........................114 Eastlake Av—E11 3388W
Zobrist, Herbert Edwin.................Acme
LD, ChE..........................1117 Boylston Av N—Cap 1704
Zoberbler, Emma K....................Seattle
Sp, FA..............................330 Malden Av
Zwizga, Harold James.................Republic
LD, Bus..........................4222 Brooklyn Av—N 233
Zwicky, Everett Edward..............Kaslo, B C
UD, ME............................4230 8th Av NE
Abel, Donald George  Montesano
Anderson, Robert Bryan  Montesano
Anderson, Lucien Fred  Seattle
Anderson, Ada Charlotte  Seattle
Anderson, Mrs. Alfred Marcus  Seattle
Anderson, Mrs. Fannie Almeda  Seattle
Anderson, Mrs. Lucille B.  Seattle
Absher, Albert  Portland, Or
Unc, Sci. 4722 16th Av NE—Ken 284
Absher, Carrie Hunt  Portland, Or
Unc, Ed. 4725 16th Av NE—Ken 294
Adelson, Abraham Mitchell  Seattle
Unc, EE 1600 Main St
Aellen, Elisa Berthe  Seattle
Grad 4508 16th Av NE—Ken 2768
Aerni, Lydia P.  Oregon City, Or
Univ, Sci 5007 16th Av NE
Artih, Annie Leelia  Seattle
Univ, Bus. 5329 10th Av NE—Ken 3682
Atkinson, Mary Edna  Salt Lake City, Utah
Grad 4305 12th Av NE
Albee, Archie  Seattle
LD, LA 24 W 57th St
Albers, Alvina Margaret  Northfield, Minn
Grad 4020 12th Av NE
Alberston, Herma  Blackfoot, Idaho
LD, LA 4547 10th Av NE—Ken 23
Alexander, Florence Margaret  Chehalis
LD, Sci. 4134 12th Av NE—N 335
Allen, Beatrice  Seattle
LD, Sci. 7433 46th Av So—Bal 523 M
Allen, Charles Edward  Seattle
LD, EE 4522 18th Av NE—Ken 8681
Allen, Louise Barrett  Seattle
Sp, Sc 4015 2nd Av NE—Ken 3510
Allen, Mabel Derry  Vancouver, B C
UD, Sci. 4311 Brooklyn Av
Allen, Mabelle  Pendleton, Or
Unc, LA 4724 21st Av NE—Ken 28
Allen, Mildred Alice  Seattle
UD, Ed. 1626 13th Av N—Cap 1009
Alkire, Pearl Hannah  Seattle
Sp, Pharm 1900 Harvard Pl—Cap 3839
Alper, Morris  Seattle
LD, ME 2011 Washington St
Alward, Mary Eleanor  Chehalis
Univ, Law 5 Clark Hall, Campus—N 202
Anderson, Edward Garrett  Ellensburg
UD, Ed. 3975 11th Av
Anderson, Frances B.  Seattle
LD, Sci. 3400 25th So
Anderson, Estella W.  Seattle
LD, Ed. 8387 10th Av NW—Bal 2360
Anderson, Ada Charlotte  Seattle
Grad 2448 Day St—Bal 2840
Anderson, Celia Albertine  Bellingham
Sp, Med. 4242 6th Av
Anderson, Doris Evelyn  Everett
Unc, Sci. 4535 16th Av NE—Ken 124
Anderson Evelyn Martha  Seattle
LD, Sci. 1724 W 64th St—Bal 3031
Anderson, Estelle  Colton, Or
LD, LA 4540 17th Av NE—Ken 3218
Anderson, Mrs. Isabelle Joyner  Seattle
Grad 4920 Kenyon St
Anderson, Mrs Low Eastwood  Seattle
LD, Sci. Lewis Hall, Campus—N 103
Anderson, Lucien Fred  Portland, Or
Sp, LA 505 T.M.C.A.—M 5208
Anderson, Mrs. Low Eastwood  Seattle
Sp, LA. 712 E 43d St
<table>
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<th>Last Name</th>
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**Notes:**
- All names and addresses are listed for various locations such as Seattle, Portland, and other cities throughout Washington and Oregon.
- The list includes a variety of occupations and states such as Washington, Oregon, and California.
- Specific addresses are provided, indicating home or professional locations.
- The list appears to be a cross-referenced directory of individuals, possibly for an academic or professional purpose.

This list seems to be an organized directory of individuals, likely used for contact or mailing purposes during the early 20th century.
Brown, Sarah               Yakima
LD, Bus.                   Yakima
Brown, Vaughan             Bellingham
2nd Law                    Bellingham
1416 E 41st St
Bruce, Helen R.             Seattle
LD, LA.                    1407 E 49th St—Ken 1007
Bremnerghoff, Anna Marie   Seattle
Grad.                      5225 10th AV NE—Ken 406
Budd, Charles               Skykomish
Unc, LA.                    4118 10th AV NE—N 3427
Budden, Frank Wilfrid      Seattle
LD, ES.                     Hotel Stetson
Burgdorf, Mary              Kenndydale
LD, Sci.
Burns, Isabel Anastasia    Eau Galle, Wis
Sp, LD, LA                  4817 10th AV NE
Burke Frederick Tchenor    Portland, Or
LD, Sci.                    4746 20th AV NE
Burns, Jessie               Seattle
Unc, Ed.                    3215 3rd AV W
Burns, Omar Allen           Seattle
Grad.                      335 W Nickerson St
Burnside, Mary             Winniston, Id
UD, LA.                    4648 17th AV NE—Ken 2934
Burr, Margaret             Pullman
LD, Sci.                    10th AV NE—Cap 1000
Burrough, Edward L.         Seattle
LD, ES.                     4005 Thackeray Place—N 548
Bursell, Leonard Davis     Tonasket
Unc, Ed.                    9219 14th AV NE
Bursell, Blanche Gertrude  Seattle
LD, Sci.                    5008 11th AV NE
Burton, Curtis             Pullman
LD, ES.                     4713 14th AV NE—Ken 2108
Bush, Florence Wright      Burlington
UD, Ed.                     4714 17th AV NE—Ken 2353
Buzard, Edwin Joseph       Spokane
Sp, Bus.                     Belsa, Idn
Byron, Margaret             Belsa, Idn
LD, Sci.                    8141 1/2 9th AV

Cady, Osmam                Pullman
Grad.                      305 W 52nd St
Cairduff, John             Pullman
Sp, CE.                     608 Marion St—M 4081
Callahan, Lenore Arba      Pullman
Sp, FA.                     1529 Boylston Ave—E 1143
Calkins, Myrtle            Seattle
LD, Sci.                    1529 Boylston Ave—Cap 722
Callahan, Lloyd Franklin   Casselton, N Dak
Sp, LA.                     815 13th AV NE
Cellan, Ruth               Seattle
LD, Bus.                    5030 14th AV NE
Campbell, Mary             Pullman
LD, LA.                    4728 17th AV NE—Ken 2716
Campbell, Veronese         Seattle
LD, Ed.                     1522 Taylor Ave—QA 773
Carroll, Frances           Pomeroy
UD, LA.                    4524 16th AV NE—Ken 150
Carlander, Omaud Rudolph   Seattle
LD, PH.                     1029 E 88th St—Ken 8084
Carlin, Adele              Colville
LD, LA.                    4866 18th AV NE—Ken 1493
Carroll, Joseph D.          Seattle
Grad.                      4624 17th AV NE—Ken 7201
Carpenor, Mary Jane        Seattle
LD, FA.                     1015 Havenna Blvd
Carpenter, Varien          Yakima
Unc, LA.                    1701 17th AV NE—Ken 3216
Carpenter, Mrs Vivian Morello-Rochamah
LD, LA.                    4724 9th AV NE—Ken 2019
Carper, William Victor     Seattle
LD, ES.                     150 Marine Av N
Carr, Nell                 Spokane
Unc, Ed.                    1804 E 50th St
Carige, Rose Mary          Seattle
Sp, Ed.                     2340 Minor St N
Carrithers, Lillie A.      Centralla
UD, Ed.                     Clark Hall, Campus—N 262
Carter, R. W.               Bellingham
Grad.                      Clark Hall, Campus—N 262
Cartwright, Dorothy        Seattle
LD, LA.                    4542 7th AV NE
Cartwright, Mabel Elvira   Salt Lake City, U
Unc, Ed.                    4305 16th AV NE
Cartwright, Ruth Caroline  Salt Lake City, U
Grad.                      4305 16th AV NE
Case, Austin Ford          Seattle
LD, LA.                    5904 16th AV NE—Ken 320
Case, Randy Stanaway       Seattle
2nd Law                    5904 16th AV NE—Ken 320
Caswell, Robert Watkins    Seattle
LD, ME.                    1107 E Denny Way—E 3001
Cattell, James             Seattle
UD, ES.                     4015 Meridian AV
Cathy, Cornelle            Bellingham
Unc, LA.                    4546 17th AV NE—Ken 320
Chamberlain, Dorothy Rebekah.Grove City, Pa
Grad.                      Chamberlain, Dorothy Rebekah.Grove City, Pa
Chapman, Grace             Seattle
Grad.                      1305 E 41st St—Ken 2160
Chapman, Meryl              Pullman
Grad.                      4741 2nd AV NE
Charroin, Eustatia         Pullman
LD, Sci.                    1305 E 41st St
Charroin, Florence A.      Seattle
LD, Sci.                    1305 E 41st St
Chiba Yau马克chi.          Japan
Grad.                      300 4th AV—M 3480
Christensen, Agnes B G.    Parkland
LD, LA.                    Lewis Hall, Campus—N 182
Christensen Clar Mabel      Parkland
LD, LA.                    4728 17th AV NE—Ken 2716
Christopher, Harris C.     Olympia
Grad.                      4827 Woodlawn AV
Clark, Blanche Caddie      Portland, Or
Unc, Educ.                  4010 10th AV NE
Clark, Celia Lucille       Mt Vernon
LD, LA.                    1619 E 47th St—Ken 149
Clark, Deorlia Gwendolyn   Bremerton
Unc, Sci.                   4551 Univ Blvd—Ken 501
Clark, Geraldine Delacour  Bremerton
LD, PH.                     4551 Univ Blvd—Ken 501
Clark, Lottie May          Pratt, Kansas
Unc, Sci.                   4728 18th AV NE
Clark, Nancy               Pullman
LD, LA.                    2120 47th AV NE—Ken 1176
Clausen, Emma Christina    The Dalles, Or
UD, Ed.                     4751 Univ Blvd
Cline, Dorothy Dean        Kahlotus
UD, LA.                    1006 45th AV—Ken 983
Clifhoro, Russell Linnville Yakima
LD, CHE.                    Ace Club—Barracks Sq—N 55
Clutton, Samm William Frederick
Great Falls, Mont
LD, FA.                     4746 16th AV NE
Cobb, Tina Marie           Richomch Beach
UD, LA.                    4746 16th AV NE
Cochel, Frances Genera     Bellingham
LD, Sci.                    4746 16th AV NE
Cochran, Zenna Elizabeth   Finley
Grad.                      Clark Hall, Campus—N 262
Cochran, Zenna Elizabeth   Finley
Grad.                      Clark Hall, Campus—N 262
Cochran, Henry Park        Pullman
LD, FA.                     643 YMCA—M 3208
Coe, Curtis Evome           McMillinville, Or
Unc, Sci.                   YMCA Campus
Coe, Curtis Evome           McMillinville, Or
LD, LA.                    4555 16th AV NE—Ken 320
Cofflin, Mabel M.          Seattle
LD, LA.                    410 Seneca St—M 3727
Cohoes, Orlando             Spokane
LD, LA.                    5243 10th AV NE—Ken 3400
Hallingby, Olive Laura........ Portland, Or Sp, LA, ..... 2012 E 45th St.
Halsey, Caroline .............. Burlington, Iowa. U, IA, 4508 Av NE—Ken 2121
Hamilton, Rachel Elizabeth.... Echo, Or Grad, 1200 17th Av N—E 3225
Hammond, Syd J.............. Seattle, Wash. U, WA, 4522 18th Av NE—Ken 2527
Hamreng, Martha............. Hydaburg, Alaska U, LA, 4554 18th Av NE—Ken 119
Hanson, Ethel Alberta......... Seattle Grad, 4747 18th Av NE—Ken 480
Hansen, Helen................ Seattle Grad, 4747 18th Av NE—Ken 2489
Hartman, Samuel.............. Odessa, Russia U, CE, 3804 10th Av NE—N 1088
Harman, Helen Amber........ Port Angeles, Wash. LD, WA, 4752 21st Av NE—Ken 20
Harmon, Mrs Louise Williams... Great, Cal Grad
Harrington, Irene C........... Caldwell, Idaho. U, ID, 6724 Univ Blvd—Ken 2098
Harris, Sarah Eleanor........ Seattle U, WA, 221 18th Av N—E 6022
Harris, Nelle F............... Seattle U, WA, 4746 18th Av NE—Ken 401
Harrison, Mary................ Madison, Wis. U, WI, 5430 17th Av NE
Hartge, Mrs Lena A........... Seattle Grad, 5245 14th Av N
Hartman, Robert N............ Seattle Grad
Hartshorn, Gordon Clare....... Seattle U, WA, 4551 17th Av NE—Ken 208
d Harvey, Edwin C............. Sedro-Woolley, Wash. U, WA, 4233 Meridian Av
Harvey, Charles Henry....... London, Eng. Sp, GB, 715 20th St—Ben 2345
Harvy, John Hamilton........ Seattle U, WA, No 306 1416 E 41st St
Harvis, Barbara.............. Seattle U, WA, 413 Malden Av—Cap 1046
Haug, Andrew J................ Seattle U, WA, EE, 5312 18th Av NE—Ken 3407
Hawn, Irene................... Buckley, Wash. U, WA, 4504 18th Av NE
Hawley, Dwight B............. Seattle U, WA, HA, W 64th—1211 1133
Hawley, Edna Tibbits (Mrs N C)..... Seattle Grad, 5023 8th Av W—QA 3873
Heath, Noel................... Berlin, Pa U, PA, 4522 17th Av NE—Ken 650
Heath, Harry French.......... Seattle Grad, 5218 Univ Blvd—Ken 3189
Hedges, Birdie............... Seattle Grad
Heflerman, Grace Elizabeth... Seattle U, WA, 4504 18th Av NE—Ken 146
Heglund, Bert................ Seattle U, WA, HEG 7th Av NE—Ken 904
Henderson, Evelyn............. Seattle U, WA, 4551 Greenwood Av—Bal 2890
Hendrick, Mrs Golda........... Seattle U, WA, 1900 E 45th St—Ken 983
Heford, Marjorie............. Fletcher Bay, Alaska U, AK, 4510 1st Av
Hermann, Frank A............. Butte, Montana U, MT, 1201 B 10th St
Hernandez, Joseph R........... Manilla, P I U, LA, 4500 18th Av NE—Ken 333
Hertel, Lucile Edith......... Everett U, WA, 4244 7th Av NE—N 1158
Herring, John P.............. Seattle Grad, 1410 N 51st St—N 779
Heywood, Carrie Agnes........ Kittitas U, WA, 5022 1st Av NE—Ken 2006
Hilger, Pearl.......... Yakima U, WA, 2012 E 45th St
Hibbard, Myra................. Seattle U, WA, 4085 18th Av NE—Ken 20
Hild, Leon A................. Cap 2792
Higbie, Nable Iona........... Girard, Kansas U, KS, 1601 Franklin Av—Cap 2107
Hill, Ethel Joan .............. Seattle U, WA, 5808 15th Av NE—Ken 3522
Hill, Cyril Dean............. Seattle U, WA, 5220 11th Av W—QA 554
Hill, Ellen................... Seattle Grad, 4521 10th Av NE—N 913
Hill, Gien Gordon............. Roche Harbor U, AK, 4508 18th Av NE—Ken 1275
Hillman, Charles Lee....... Yakima U, WA, 5020 12th Av NE—Ken 2044
Hiser, Clara Fae............. Spokane U, WA, 4045 11th Av N
Hodges, James Frederick..... Seattle U, WA, 1729 39th Av—E 2315
Hoff, H A.................... Seattle Grad, 2834 Boylston Av—Cap 3441
Hoffman Kathryn E............ Ellensburg U, WA, 4045 Brooklyn Av
Holbrook, William Paul..... Seattle U, WA, 4010 10th Av NE
Holcomb, Emma............... Bothell U, WA, 4045 Brooklyn Av
Holcomb, William Paul....... Seattle U, WA, 123 6th Av N
Holiday, viria Susannah...... Seattle U, WA, 4565 18th Av NE
Home, Mary Virginia.......... Seattle U, WA, 63rd & 20th Av NE
Hopper, Virginia............. Winslow U, WA, 4504 18th Av NE—Ken 148
Hoover, Ralph................. Hoquiam U, WA, 4505 18th Av NE—Ken 333
Hopkins, Doris Paulina....... Seattle U, WA, 1601 E Lynn—M 3075
Hopkins, Olive Fay........... Kirkland U, WA, 1414 4th Av NE
Horning, William Daniel..... Tacoma U, WA, 4045 18th Av NE—Ken 333
Horton, Nell Eva............... Seattle U, WA, 2890 2nd Av—S 3700
Hovland, Arnold............ Seattle U, WA, 2048 1st Av—N 202
Hurd, George S............. Seattle 2nd Law
Hurd, Lewis F................ Seattle U, WA, 2890 2nd Av—S 3700
Kenney, Joel M. Portland, Or
LD, CE...1110 James St--M 2090
Kelah, Mildred M. Seattle
Unc, LA...421 W Galert--Qa 1138
Kiligore, Mrs Florence Kelly. Seattle
Grad...UA St 253 M
King, Dorothy...Puyallup
LD, Sci...4554 8th Av NE--N 4075
King, Herbert Baxter. Kerri dalde B O
Grad...4218 Univ Blvd
King, William Arthur. Seattle
Unc, Ed...6010 18th Av NE--Ken 792
Kinnear, Alice Rowe. Seattle
LD, F.A. .RFD-5
Kipp, Letha Julia. Seattle
Unc, Ed...4329 2nd Av NE
Kline, Dorothy. Seattle
UD, Ed...4535 16th Av NE--Ken 1429
Klein, Walter Albert. Tacoma
UD, EE...4604 10th Av NE--Ken 847
Kline, Belle May. Seattle
Sp, Ed...YWCA--M 7291
Klopf, Henrietta. Seattle
Grad...610 Madison, St
Knight, William Morris. Seattle
Sp, LA...010 Madison, St
Knight, Stella Hall. Seattle
Grad...1614 Harvard--Ed 8706
Knudsen, Elmer M. Seattle
LD, Bus...4119 2nd Av NE--N 3917
Kohoutak, Elzbieta. Seattle
LD, Bus...214 8th Av S--El1 4070
Kohler, Anna Helen. Seattle
LD, Ed...Clark Hall, Campus--N 222
Koehl, Carrie. Whittier, Iowa
LD, LA...5080 Univ Blvd
Kraft, Elizabeth Toni Gertrude. Spokane
Grad...4705 10th Av NE--Ken 99
Kramer, Karl Werner. Seattle
LD, ME. 3807 12th Av NE
Kraus, Arthur William. Auburn
LD, Bus...2412 18th Av NE--Ken 897
Kraut, Samuel Borisovitch. Vlina, Russia
UD, EE...3804 10th Av NE--N 1688
Kremer, Leon. Seattle
LD, Ed...1900 4th Av N--QA 2346
Kreutz, Florence. Oakland
Unc, Ed...
Kriem, Georgia. Seattle
SP, SCI...1702 Palm Av--W 937 J
Kropp, Bernard Joseph. Albany, Or
UN, Sci...
Kruze, Mildred Marguerite. Portland, Or
LD, LA...5006 16th Av NE--Ken 2066
Kreutz, John. Lacey
LD, Sci...2815 6th Av--El1 4068
Kuettel, Eudina. White Rock, S Dak
UD, Ed...4532 18th Av NE
Kutz, Olive. Pomona, Cal
Grad...4554 10th Av NE--Ken 2012
Kyd, Margaret Stewart. Seattle
UD, LA...3297 56th Av S

Leacock, Helena Gertrude. Tacoma
Grad...4530 10th Av NE
Laumann, Thora Gertrude. Seattle
Grad...6800 16th Av NE
Lake, Adelaide Valceta. Eugene, Or
UD, LA...3100 3rd Av W
Lake, Doris. Iowa City, Iowa
Grad...4554 16th Av NE--Ken 3212
Lang, Ada. Seattle
LD, Ed...1947 N Broadway--12504
Langenbach, John Joseph. Malone
3rd Law...5218 Univ Blvd--Ken 8169
Langford, Marie. Spokane
Sp, Sci...417 B 61st St

Larsen, Hannah Madelyn. Port Townsend
LD, Sci...4548 Univ Blvd
Larsen, John Francis. Waterville, Calif
LD, Ed...4220 12th Av NE
Larsen, Lilian Sybil. Port Townsend
UD, Ed...4545 Univ Blvd
Larsin, Josephine. Seattle
LD, Ed...2312 N 60th St
Larssen, Kristen. Seattle
UD, Sci...5228 29th Av NE--Ken 1244
Latham, Mary Myrtle. Seattle
Sp, Col...1582 10th Av W--QA 3124
Lattimer, Earl Hastings. Seattle
LD, EE...4503 17th Av NE--Ken 330
Lawrence, Grace. Seattle
UD, Ed...1910 10th Av W--QA A 654
Lea, Helen Isadore. Bureka, Mont
LD, Ed...5708 18th Av NE--Ken 180
Lee, Leslie Ward. Seattle
Grad...5030 Univ Blvd
UD, Lib...Public Library--M 2468
Leggett, Henry J. Burton
Grad...4524 Corlis Av--N 698
Lehman, Ralph. Aberdeen
Unc, LA...4785 Univ Blvd--Ken 787
Lejeune, John Frederic. Seattle
LD, Sci...3448 W Nickerson St
Lenmon, John Francis. Watseville, Calif
UD, Ed...3731 14th Av NE--N 3074
Lents, Katherine Jane. Marietta, Ohio
Grad...4554 16th Av NE--Ken 1212
Lettuc, Miss Leslie. Mullen, Idaho
Sp, SCI...Clarke Hall, Campus--N 262
Lichty, Ralph John. Spokane
Unc, Ed...515 21st Av NE
Liddell, John William. Olympia
Sp, ME...4555 Cal Av
Lightheart, Henry A. Friday Harbor
Unc, EE...1427 45th Av N
Lightheart, Margaret Christiana. Friday Harbor
Unc, Ed...1427 45th Av N
Lindblad, Nelle. Bellingham
Sp, Ed...1924 Terry Av--El1 4929
Lindblom, Roy Eric. Seattle
LD, EE...528 2nd Av W--QA 3115
Lindburg, Russell Stanford Seattle
LD, Bus...4508 17th Av NE--Ken 236
Lindsay, Annie McDonald. Corvallis, Or
Grad...1547 Ravenna Blvd--Ken 1267
Lindsay, Elizabith. Seattle
Sp, SCI...4552 19th Av NE--Ken 1062
Lindsay, Theodore Clark. Sp, Ed...Bybes Hotel--Main 5636
Little, Edward Milton. Seattle
Grad...310 Crockett St--QA 2347
Lloyd, Andrew Denton. Seattle
Sp, SCI...2412 Nob Hill Av--QA 4708
Lofeldt, Gabriel. Seattle
Grad...4504 7th Av NE--Ken 730
Logan, Ettille. Portland, Or
UD, Ed...4706 17th Av NE--Ken 702
Logan, Helen. Boise, Idaho
LD, Ed...4380 Univ Blvd--Ken 498
Logan, Katherine Cofin. Boise, Idaho
LD, LA...4580 17th Av NE
Long, Augustus. Seattle
UD, LA...5812 Lucile St--Rai 908
Lonke, Lilian Jeniann. Mt. Vernon
UD, SCI...3100 UW Hall--Hawkins 210
Loomis, Minerva Udell. Portland, Or
UD, LA...4126 Brooklyn Av--N 30
Lotich, James Richard. Seattle
LD, CD. 1232 Broadway--1140
Lortie, Rebecca Rose. Seattle
UD, SCI...722 10th Av--B 723
Losse, Elsa. Seattle
LD, LA...4224 9th Av NE--N 1611
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<td>1111 Washington St</td>
<td>Seattle</td>
<td>WA</td>
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<td>Messinger, L.</td>
<td>380 University of Wash</td>
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<td>4010 E 49th St</td>
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<td>112 W 49th St</td>
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<td>Nelson, Mrs Helen</td>
<td>1232 42nd Av</td>
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<td>1745 Summit Av-W 7757</td>
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<td>Nicoll, Phillip</td>
<td>4708 18th Av NE</td>
<td>Portland</td>
<td>OR</td>
<td>97204</td>
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<td>Noonan, Viola A</td>
<td>535 18th Av NE</td>
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<td>Norris, Harriet</td>
<td>4702 18th Av NE</td>
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<td>Norwood, Annie</td>
<td>5000 22nd Av N-E 8598</td>
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<td>Nylander, Towne Joseph</td>
<td>1514 Boeing Av-E 1813</td>
<td>Seattle</td>
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Raney, Grace, 74-76 E 14th St—Ken 149

Rasumussen, George V., 1184 1/2 Eastlake Av—Seattle

Rasmussen, Virginia, 6711 17th Av NE—Ken 364

Raven, Clara Iz, Everett

Records, Lola Evelyn, Boise, Idaho

Sp, Ed. 2012 E 45th St—Redmond, Washington

Redford, Walter, Steptoe

Unc, Ed. 1798 40th Av—E 72 R

Redmond, Harold V., 1508 Grand Blvd

Reed, Clyde L., Ferndale

Reed, Jennie Mabel, Tacoma

Reed, Ed, 4704 18th Av NE—Ken 110

Rendleke, George, Seattle

Unc, Sci. 708 Bellevue Av—Cap 876

Renslow, Herman, Seattle

Sp, Ed. 6454 10th Av NE—Wey 475

Rhodes, Neil Linn, Welser, Idaho

Sp, LA

Richards, Harold H., Tacoma

LD, LA, 2412 Boyleston Av N—Cap 3780

Richards, Walter Nelson, LA

Sp, LA, 414 W Galer St—QA 2078

Richards, George, Seattle

LD, CE, 5243 10th Av NE—Ken 3460

Richardson, Margaret, Spokane

LD, LA, 4508 10th Av NE—Ken 2703

Richardson, Mary Hansen, Portage

LD, LA, 3700 E 44th St

Richmond, Agnes N., Renton

Unc, Law, 522 E 7th St—Ken 2204

Riegel, Roberta Myrtle, Omak

Grad, 2012 E 45th St—Ken 2645

Rinehart, Renet Wood, Wheatland, Wyoming

LD, LA

Rind, Rodla, Seattle

LD, Sci. 1702 1st Av N—A 1710

Riser, Mrs. A B., Chehalis, Or

Grad

Ritchie, Helen Mae, Prosser

LD, LA, 5171 17th Av NE—Ken 501

Roach, Zelma, Seattle

LD, LA, 522 E 7th St—Ken 2204

Roberts, Helen, Seattle

Grad, 4062 10th Av NE—3542

Robbins, Morris Allen, Seattle

Ent Law, 1810 E Fir St

Robinson, Mabel, Olympia

Unc, Bus, 926 E Marion St—E 6498

Robertson, Katherine C., Seattle

Grad, 4233 9th Av NE—Bee 38

Robinson, Beatie May, Portland, Oregon

LD, LA

Clark Hall, Campus—N 262

Robinson, Fred O., Seattle

Unc, ME, 604 E Denny Way

Robinson, Veryl, Seattle

Grad, 4549 Brooklyn Av—Ken 1043

Roeder, Lettie L., Castle Rock

LD, Ed, 5211 16th Av NE—Ken 3024

Rogers, Edna Echo, Yakima

Sp, Bus, 4212 14th Av NE—N 745

Rossenthal, Roy Gilbert, Seattle

UD, LA, 1143 14th Av—E 6485

Ross, Cecil Johnson, St Helena, Oregon

UD, Sci. 8603 56th Av S—Rial 207-B

Ross, Ethel A., Seattle

UD, LA, 2130 N 62nd St

Round, William Marvin, Itwaco

Sp, LA

Rowe, Adeline Lee, Seattle

Unc, Bus, 2012 E 45th St—Ken 2640

Rowe, Rhodes Blanche, Longmont, Colorado

Unc, LA, 1408 E 42nd St—N 48

Russell, Beatrice Henrietta, Seattle

Grad, 5523 15th Av NE—Ken 1702

Russell, Earl Elizabeth, Seattle

UD, LA, 5529 15th Av NE—Ken 1702

Ryan, Francis Milton, Seattle

UD, EE, 4524 Univ Blvd—Ken 721

Ryan, Katharine Grace, Seattle

Grad, 4524 10th Av NE

Sabin, Royland Glenn, Copperville

LD, Ed, 4200 6th Av NE

SchVnau, Elura, Lake Stevens

Grad, 4524 10th Av NE

Salmon, Grace, Coeur d'Alene, Idaho

Sp, LA, 4559 5th Av NE

Sanders, Elaine, Seattle

LD, LA, 2552 Glenridge Drive

Sandstedt, Etta May, Seattle

UD, LA, 5939 10th Av N—Ken 354

Sater, Gertrude Pauline, Seattle

Grad, 411 D Thomas St—Cap 768

Saunders, John, Seattle

UD, LA, 4506 18th Av NE—Ken 283

Saunders, Lucille, Seattle

Grad, 3851 Whitman Av—N 2037

Savage, June, Seattle

3rd Law, 3022 W 60th St—Bal 2709

Schickmann, Sara Isabel, Urban, Sinclair

Grad, 4208 Brooklyn Av

Schauch, Gustav Hermann, Opportunity

Grad, 4113 11th Av NE

Schauch, Neil Burger, Opportunity

Unc, LA, 4143 11th Av NE

Scheppegrell, Dolly M., Melstone, Montana

LD, LA, 4704 18th Av NE—Ken 2826

Schell, Augusta Henrietta, Pittsburgh, Pennsylvania

Unc, LA, 2612 14th Av NE

Scheettler, Miriam Chapman, Seattle

Unc, Ed, 4619 Latona Av—N 3729

Schoolfield, Effie, Olympia

LD, LA, 750 16th Av N—B 2396

Schuck, Katherine Anna, Seattle

LD, Sci, 4011 16th Av NE—Ken 1173

Schuler, Manford, Seattle

UD, Sci, 112 E Thomas St—Cap 1735

Schumacher, Edna G., Birmingham

LD, F A, 4524 14th Av NE—Ken 1032

Schutz, Carol Lilian, Bladensburgville, Illinois

Grad, 1810 E 47th St—Ken 149

Scott, Bulbo Peeta, Oakley, Kansas

UD, LA, 4504 16th Av NE—Ken 047

Scogulal, Laura, Seattle

UD, Sci., 1360 Blewett St—N 1462

Semen, Waldo Lansbury, Seattle

UD, Ch E, 4524 Corliss Av—N 698

Shaffer, Zoe A., Yakima

UD, Ed, 4524 14th Av NE—Ken 1032

Shank, Charles Howard, Seattle

LD, Sci, Barracks, Campus—N 05

Shannon, Mrs. M. E., Mt. Baker

Unc, LA, 4340 12th Av NE—Ken 813

Shepeiro, Scotland Ezra, Seattle

Unc, LA

Law, 4506 Whitman Av

Sharp, Mary Potts, Seattle

Sp, Bus, 4547 10th Av NE—Ken 23
Sue, Catherine Maud ............. Pittsburgh, Penn.
Sue, Stella .............. Kansas City, Mo.
LD, Ed. .......... 4724 16th Av NE—Ken 440
Shahan, Myrtle ............................................ Thornton
LD, Ed. ........ 1030 22nd St SW—Ken 159
Shelton, Edward M Jr .................. Seattle
UD, ScI ........ 2204 Franklin Av—Cap 1475
Shelton, Lucy Marion ............... Seattle
Grad. ................. 4502 12th Av NE—Ken 1980
Shephard, Aileen Ordel .............. Winlock
Grad.
Shields, Eva Amanda .............. Milton, Or.
UD, ScI . Clark Hall, Campus—N 262
Shimizu, Hisao ........................ Japan
Grad. .......................... 1048 Main St—Ed 5157W
Shirky, Emily Frances .......... Norborne, Mo.
Grad. .......................... 4834 Univ Blvd—Ken 2006
Shoemaker, Herbert Curtis ............ Spokane
UD, LA ........ 4650 18th Av NE—Ken 2072
Shull, Renata M ............ St Joseph, Mo.
LD, LA .................. 4110 11th Av NE
Shumway, Antoinette .............. Glendale
Grad. .......................... Black 321
Shumway, Ruth Katherine .......... Glendale
UD, Ed. .................. Kirkland—Black 321
Shumway, Ruth Katherine .............. Othello
Unc, Ed. .......................... 2012 E 45th St
Simmons, May .......................... Othello
UD, ScI .......................... 2012 E 45th St
Siers, Ruth .......................... Butte, Mont.
LD, LA ........ 4714 19th Av NE—Ken 2761
LD, Bus. ........ 319 N 8th St—N 2380
Slifer Lillie May .................. Seattle
LD, ScI ........ 604 E 45th St—N 3485
Smith, Margaretian Hannah .......... Seattle
LD, Ed. .......................... 6014 E Cherry St—E 1185
Simon, Henevette Rebecca ........ Butte, Mont.
LD, Bus. ........ 4632 21st Av NE—Ken 26
Simpson, Larline Violet ............. Seattle
UD, LA .................. 1012 10th Av N
Simpson, Kettie V .......................... Boise, Idaho
Unc, Ed. .... 4555 18th Av NE—Ken 1429
Singer, Fred John .......................... Seattle
UD, EE .................. 4103 35th Av S—Rai 205-J
Shadel, Alma .......................... Boise, Idaho
UD, LA ........ 4650 17th Av NE—Ken 3212
Skene, Lucille Blanchi ................. Portland, Or
UD, Ed .................. 4542 10th Av NE
Slack, Gwennie Hampton ................. Seattle
Grad. .......................... 6028 19th Av NE—Ken 23
Slaughter, Walter Dane ........ Cottle City
Unc, Ed. .................. 5018 19th Av NE—Ken 1147
Summers, Ethel Sherwood .............. Ellensburg
Grad. .......................... 4532 18th Av NE—Ken 2827
Small, Robert Dyer .......................... Seattle
LD, ChE .................. 5335 22nd Av NE—Ken 3604
Smith, Algidall Jean .......................... Seattle
Unc, ScI .................. 1016 E 47th St—Ken 49
Smith, Adeline Naomi .................. Spokane
Grad. .......................... 4554 18th Av NE—Ken 3212
Smith, Dorothy .......................... Gold Hill, Or
LD, LA .................. 4547 19th Av NE—Ken 23
Smith, Edith Raisdon ................. Tacoma
LD, Ed. .......................... Ellensburg
Smith, Emma .................. Twin Falls, Idaho
UD, FA .................. 2012 E 45th St
Smith, Gemmard Dexter .......................... Seattle
Sp, Bus .................. YMCA—M 5208
Smith, Hazel Lucretia ................. Redmond
Sp, ScI
Smith, Mrs. Josephine Mohn-Wallace, Idaho
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Smith, Kirby Jackson .................. Ada
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Smith, Madelein .................. South Bend
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Smith, Pearl .................. Prosser
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Spangkle, Emma A ......... Pt Orchard
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Wunderlich, Joseph Anthony...Cornellius, Or
LD, Sci...
Wyman, Mary Reynolds...........Colfax
UD, PA........4547 10th Av NE—Ken 23
Yancey, Della M................Seattle
Grad........................7706 9th Av SW
Yearian, Irene Gertrude........Lebanon, Idaho
Unco, PA.....Clark Hall, Campus—N 282
Young, James Arthur........Jersey City, N J
Grad.......................4009 9th Av NE
Young, Mrs. J Arthur...........Ontario, Or
Unco, Ed......................4009 9th Av NE
Young, Ruth Evelyn..............Seattle
UD, LA....................1606 3rd Av W
Young, Wesley George............Seattle
Grad.......................4000 12th Av NE—N 2800
Yuge, Shichiro................Japan
Grad.......................4110 12th Av NE—N 5797
Zimmerman, Chloe Anice...........Sapulpa, Okla
UD, Sci....................4723 18th Av NE—Ken 2706
Zickler, Irma Pauline.............Zilla
Grad.......................1616 E 47th St—Ken 149
Zacharias, Rose Lydia.............Seattle
Grad......Clark Hall, Campus—N 282
Puget Sound Biological Station—1919

Argets, Julia E. .................................. Anacortes
Ballaine, Florence ....................................
Brewer, Grace ........................................ Portland, Or.
Brown, Alice ........................................ Manhattan, Kan.
Brown, Anna ........................................ Stanwood
Copeeland, May ....................................... Seattle
Dunkle, Meryl B. .................................... Hope, Idaho
Gall, F. W. .......................................... Moscow, Idaho
Greguson, Judith .................................... Seattle
Harris, Ellis B. ....................................... Spokane
Heibel, Alcus ....................................... Chicago, Ill.
Hirships, Marie .................................... Olathe, Kan.
Hogue, Helen ....................................... Olathe, Kan.
Howard, Grace ....................................... Seattle
Langwill, Bertha ................................. Sweet Briar, Va.
Law, Mildred ..................................... Lawrence, Kan.
MacConline, Miss M. C. ......................... Seattle
McCullough, Anna .................................. Paola, Kan.
Powers, Pauline W. .............................. Waxahatche, Texas
Reuter, Alexia ...................................... Seattle
Roush, Lucile ...................................... Wellesley, Mass.
Sawyer, Daisa ....................................... Tacoma
Selts, Carolyn ........................................ Billings, Okla.
Smith, Catharine W. .............................. Puyallup
Spaulding, Florence ................................
Sundquist, Leona ..................................... Mt. Vernon
Watkins, Mary Kate ............................... Dallas, Tex.
White, Mary H. ..................................... Spokane

Short Course in Fisheries—1920

Alexander, C. J. ..................................... Seattle
Antilla, John ......................................... Astoria, Or.
Barrett, J. ............................................. Seattle
Brown, Harry ........................................ Tacoma
Bruce, Matthew ..................................... Anadir, Siberia
Buschmann, Lof C. ................................ Seattle
Cannen, James E. .................................. Colby
Dybwad, Peter ...................................... Seattle
Foster, Alfred S. .................................... Seattle
Friele, H. B. ......................................... Seattle
Goodman, A. J. ..................................... Seattle
Henderson, Gilbert C. .............................. Seattle
Hirsch, Robert ....................................... Seattle
Hooper, Ernest W. ................................ Seattle
Hungerford, H. H. ................................ Seattle
Iogulla, Ernest W. ................................ Seattle
Jackson, Francis S. ................................. Portland, Or.
Johanson, Arthur J. ................................. Seattle
Josephson, Morris ................................ Seattle
Mason, M. A. ........................................ Seattle
Merrick, T. P. ....................................... Seattle
Middough, Ted A. ................................. Seattle
Monge, W. A. .......................................... Seattle
Munroe, Chris ....................................... Seattle
Nielcy, Wally ........................................ Seattle
O'Brien, Bert ......................................... Seattle
O'Kelly, C. P. ......................................... Seattle
Olsen, Oreville ..................................... Seattle
Peck, Stuart Irving ................................... Seattle
Sherman, Sam S. .................................... Coronado, Calif.
Short, C. Paul ....................................... Seattle
Sorensen, Fred J. .................................. Seattle
Sorvik, H. D. ......................................... Seattle
Stockert, Rudolph .................................. Seattle
Sundt, C. .............................................. Seattle
Wolf, Arthur Philip ................................ Seattle

Short Course in Forestry—1920

Blake, J. R. ......................................... Seattle
Bordeaux, Wilfred H. .............................. Seattle
Carson, C. H. ...................................... Fredericktown, Ohio
Creaney, William G. ............................. Seattle
English, Clifton ..................................... Seattle
Grant, I. S. ......................................... Vancouver, B. C.
Haddow, George .................................... Seattle
Hart, Henry M. ...................................... Portland, Or.
Heath, Ray J. ........................................ Seattle
Lake, Rudolph K. .................................. Lake Charles, La.
Lewis, Raymond .....................................
Mollinet, E. L. ..................................... Parkville, Vancouver Island
Rees, L. A. ........................................... Duncan, Vancouver Island
Simpson, Lewis L. ................................. Chicago, Ill.
Stevens, H. E. ....................................... Courtenay, B. C.
Stowell, William H. .............................. Seattle
Tucker, George ...................................... Seattle
Tusinger, Harold ..................................... Darrington
Williamson, William H. ........................ Seattle
Wilkinson, Thomas H. .............................. Victoria, B. C.

Short Course in Mines—1920

Rebsenkamp, W. H. ............................... La Grande, Or.
Cathro, Samuel P. ................................ Portland, Or.
Clark, George Arthur ............................ Seattle
Crane, Earl B. ....................................... Spokane
Daley, J. E. .......................................... Republic
Huseman, Walter George ........................ Renton
Johnson, Gustavus Adolphus .................... Lake Bay
Kent, Simon E. ...................................... Milton
Lapage, James Roger .............................. Tacoma
Lauritsen, Laurits Hansen ........................ Seward, Alaska
Major, Sidney ....................................... Seattle
Pearson, Eugene ..................................... Pullman
Peters, John Charles .............................. Butte, Mont.
Regan, Leonard ..................................... Seattle
Schultebeet, Leland H. T. ........................ Hood River, Or.
Schuetz, Hans W. .................................. Seattle
Staupe, Alfred ....................................... Seattle
Stewart, Arthur A. ................................ USk, B. C.
Wick, Carl Irving ................................ Everett

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### UNIVERSITY OF WASHINGTON

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*This course is offered to new students each month.

**Notes**—Columns 1, 2, 4, 5 and 6 represent census figures—i.e. the enrollment taken on a stated day within the first month of a term or quarter. Columns 3 and 7 show figures representing the number of different individuals; columns 3 the number registered during the summer quarter, column 7 the number registered during the regular academic year. For comparison with other institutions the figures in columns 3 and 7 should be used, as these are the customary catalogue figures.
### SUMMARY OF ENROLLMENT

#### Br Classes

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Total: 1145 | 928 | 2073 | 5082 | 4095 | 9178 |

*This course is offered to new students each month.

#### UNIVERSITY STUDENTS IN RESIDENCE

- **During regular academic year:** 5058
- **During summer quarter:** 1527

#### Deduct summer quarter duplicates: 7485

#### Net total for the year: 7135

#### EXTENSION STUDENTS

- **Correspondence:** 277
- **Men:** 125
- **Women:** 152
- **Extension Classes:** 1322
- **Men:** 679
- **Women:** 643

Total Extension: 1590

Note: Column 1, 2, 4, 5 and 6 represent census figures—i.e., the enrollment taken on a stated day within the first month of a term or quarter. Columns 3 and 7 show figures representing the number of different individuals; column 8 the number registered during the summer quarter, column 9 the number registered during the regular academic year. For comparison with other institutions the figures in columns 3 and 7 should be used, as these are the customary catalogue figures.

Note: The Extension Service enrolls students at any time during the twelve months, so that its enrollment is constantly changing. The figures given above represent the number actually studying by correspondence, or in 51 extension classes, during the year beginning July 1, 1919.

Of the correspondence students an average of about 75 per cent. are working for a degree and of the class students approximately 50 per cent.
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